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Essays in honour of Palle S Andersen

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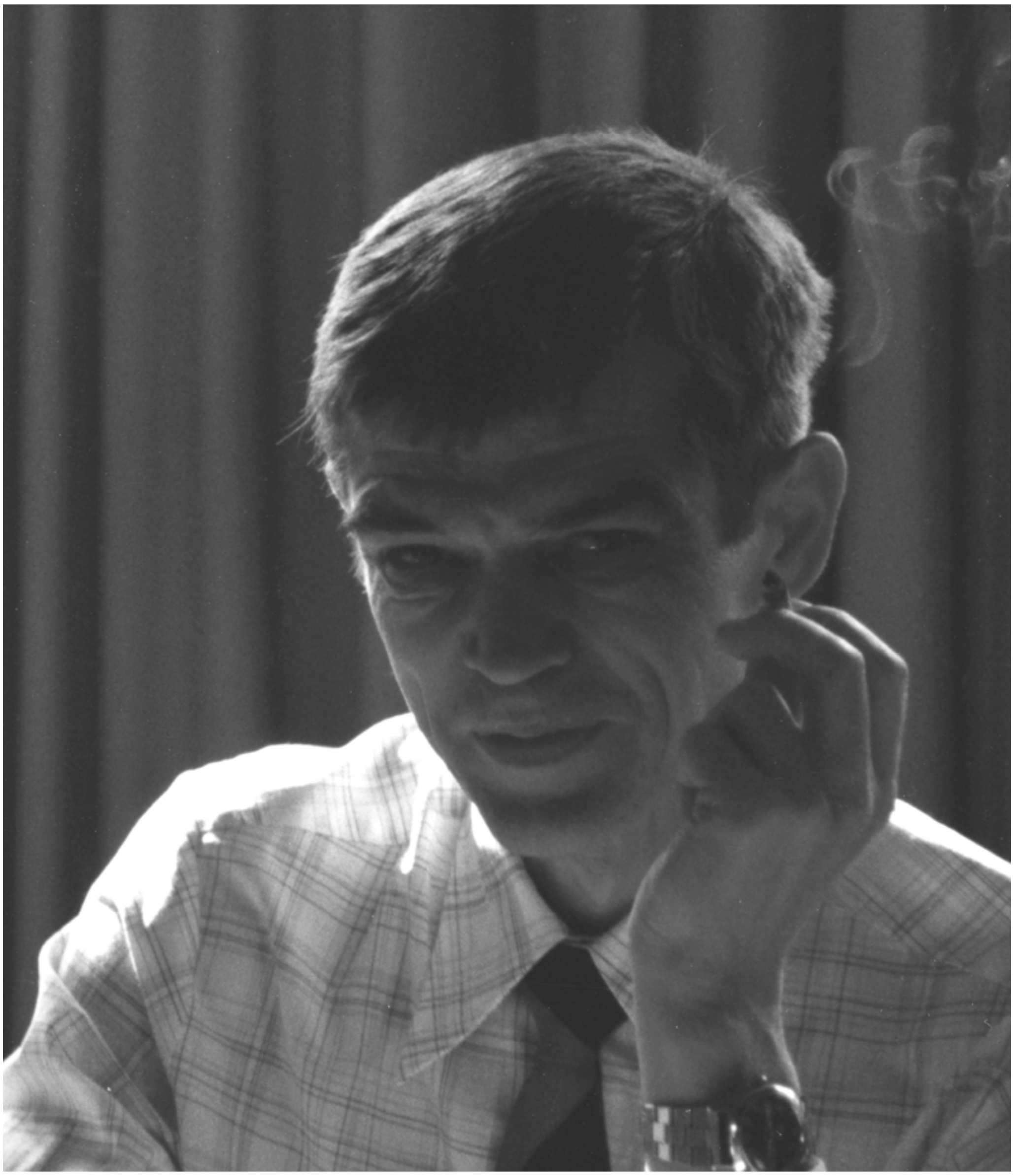

Palle Schelde Andersen

Preface

This book celebrates the life and work of Palle Schelde Andersen, a Danish economist who spent the last 23 years of his career in the Monetary and Economic Department of the Bank for International Settlements (BIS). Palle died at the age of 65 on 13 April 2005, only a few months after his retirement from the BIS. The book contains the papers and proceedings of a conference that was held at the BIS in Palle's honour on 3 December 2007, along with a survey of his work and one of his papers.

There were sad undertones at the conference, as many of the participants were friends and colleagues of Palle's. But it was mostly a joyous affair with rich intellectual content – just as Palle would have wanted. The participants told stories about the man himself as they explored a difficult topic of great importance: the implications of globalisation and population growth for labour markets and inflation. The tone for this mix of intellectual content and personal feelings was set by Bill White during the opening dinner in a speech in which he discussed both Palle's contributions to economics and policymaking and Palle the man. The luncheon speech by Kazumasa Iwata, Deputy Governor of the Bank of Japan and a former OECD colleague of Palle's, also blended humorous memories of Palle with a discussion of his contribution to the research on real wage adjustments, productivity gains and terms-of-trade effects. I think that the participants will long remember this conference for its unique atmosphere.

The paper by Philip Turner in Chapter 1 of this book gives a good overview of Palle's career and his contributions to economics. Palle worked for just over three decades in international organisations. He began his career in 1966 at the University of Århus, first as an assistant and then as an associate professor. He was at the OECD from 1974 to 1982, except for one winter (1979–80) when he went on a Reserve Bank of Australia fellowship at the University of Sydney. At the OECD, he became the head of the General Economics Division after first serving on the country desks for the Scandinavian countries and the United States. He came to the BIS in 1982 and stayed there until retirement, except for the period 1994–95 when he was acting Head of Research at the Reserve Bank of Australia.

At the BIS, Palle was in charge of general economic analysis. He was the macroeconomic powerhouse of the Bank. Among his many duties was to write the background current assessment note, first for the G10 central bank Governors and then for the bimonthly Global Economy Meeting. It was short and to the point, occasionally a little masterpiece in its own right. Many comments show that it was highly appreciated by the Governors, whose respect for Palle can be gauged by the fact that the Global Economy Meeting observed a minute's silence in his memory in May 2005.

Those who have worked in domestic or international public organisations know that a significant part of the output of the economists in these institutions does not appear in their name. That was probably even more so during Palle's career than might be the case nowadays. But Palle was a hard-working man. He wrote 40 substantive economic papers in his own name, which are listed at the end of the overview by Philip Turner. He also played a big role in organising various meetings of central bankers, both at the BIS in Basel and in other parts of the world. And then he was gracious with his time, helping colleagues, guiding younger economists and discussing with policymakers. Palle was a man of deep intellect and wisdom. His knowledge of macroeconomic developments and history was vast. In spite of all these qualities, Palle was a modest and unpretentious man.

Palle was well known and highly respected in the central banking community. My first encounter with him came during a meeting of Nordic central bank economists in Stockholm in 1982. He had just started at the BIS and was probably therefore invited to that meeting as a keynote speaker. The Nordics were proud of their man. It was only later, however, when we worked together on a paper on disinflation in Iceland that I got to know Palle. It was then that I began to really appreciate his great intellect and deep knowledge. I also began to realise how extensive his network in the central banking community was. My family and I spent some time in Basel, and he and Elsebeth came to Iceland. We developed a friendship that lasted to the end.

When I later started working at the BIS, it became clear that I was in the company of many when it came to knowing and collaborating with Palle. He was particularly well connected in central and eastern Europe, where he had organised an annual BIS Working Party on Monetary Policy from the beginning. I consider myself lucky to have chaired the last such meeting that Palle attended in February 2005, just a few weeks before his death. The participants were all full of warmth and admiration when they thanked him for his contributions to central banking in the region.

Palle was for years the main macroeconomist of the BIS. As such, he worked on many issues. However, I think that it is fair to say that wage determination and inflation dynamics were his biggest topic. It was with that in mind that it was decided that the theme of the conference in his honour should be “Globalisation, labour markets and international adjustment”. First-rate academics and researchers were commissioned to write papers on three topics. These were: Stephen Nickell, professor at the University of Oxford, with a paper entitled *Immigration: trends and macroeconomic implications*; Jill Rubery, professor at the University of Manchester, who, with co-authors Annamaria Simonazzi and Kevin Ward, wrote *Exploring international migration and outsourcing through an institutional lens*; and Suresh Tendulkar, professor (retired) at the Delhi School of Economics, who submitted *Labour markets in newly integrating emerging economies such as India and China: are they different?* The discussants and most of the panellists were Palle’s friends and former colleagues – like the chair of the panel on the implications of the globalisation of labour markets for central banks, Frederic Mishkin, at the time a Governor on the Federal Reserve Board.

We are all grateful to Malcolm D Knight, the then BIS General Manager, for his decision to honour Palle in this way, and for giving the opening address at the conference. There were four main organisers: Philip Turner, Dubravko Mihaljek, Dietrich Domanski and myself, being at the time still at the BIS. Throughout the process, we received encouragement and guidance from Bill White, then the Economic Adviser of the BIS. Dubravko bore most of the burden of editing the book, while Marcela Valdez-Komatsudani was in charge of the logistics for the conference and the preparation of texts. I thank them and all the others who contributed to the conference and the book.

This book deals with some key issues which should be of interest to researchers and policymakers alike. What are the macroeconomic effects of increased flows of labour across borders? How significant was the dampening effect on global inflation of the integration of labour from former command economies into the global market economy? How has globalisation changed the inflation process or the transmission mechanism of monetary policy? What has been the role of emerging Asia in the build-up of global current account imbalances? What can policy do about the resulting problems? It is our hope that this book will be seen as an important contribution to the analytical debate on issues that are very much alive today.

Már Gudmundsson
Governor
Central Bank of Iceland

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Opening address
at the BIS Conference in Honour of Palle S Andersen

Malcolm D Knight

Good morning, ladies and gentlemen, and a warm welcome to Basel and the BIS. It is a great pleasure for me to open this Conference on “Globalisation and population trends and their implications for labour markets and inflation”. As you know, we have organised this conference to honour the late Palle Andersen. Palle was a leading BIS macroeconomist for over two decades, and he made many important contributions to the topics you will be discussing here today. Let me note that here at the BIS we have missed and continue to miss Palle’s deep insight and enormous knowledge about the global economy, particularly in this time of heightened financial and macroeconomic uncertainty.

Conference theme

The theme of this conference is the impact of globalisation and population trends, in particular various forms of labour mobility, on labour markets and inflation. Of course, labour has always been mobile, to a greater or lesser degree. But for a long while the macroeconomic impact of labour mobility did not seem to spill over across national borders. Countries where workers were more willing to move in search for jobs tended, other things equal, to have more flexible labour markets and lower structural unemployment. This has been the case, for instance, with the United States in the recent decades. Countries where workers were less ready to move in search of jobs, either because of their own preferences or because of the limitations on mobility resulting from welfare policies or housing markets, tended to have more rigid labour markets and labour costs. For a long time, this has been considered to be *the* major structural weakness of many European economies. In either case, the macroeconomic effects of labour mobility (or immobility) were felt locally, not globally.

Over the past decade and a half, however, we have started to experience more widespread *global* effects of labour mobility. In addition, new forms of factor mobility, such as outsourcing, cross-country commuting and the internet trade have spread. Large-scale migration of workers from rural areas of China into urban manufacturing centres; outsourcing of service tasks from the United States to India; and “commuting” by Polish and Baltic countries’ service workers to western Europe are some prominent examples of labour mobility that have started to affect labour markets and prices of goods and services in both industrial countries and emerging market economies.

Major drivers of these changes seem to have been growing integration of the emerging markets such as China, India and central and eastern Europe into the global economy, and technological innovations that have significantly reduced the costs of transportation and telecommunications.

The integration of emerging market economies into global production processes has, by some estimates, effectively doubled the supply of active workers engaged in the global production of tradable goods. Together with other aspects of globalisation, this has arguably influenced labour market policies and wage setting behaviour in advanced industrial countries. At least three channels seem to have played a role in this process.

First, increased international labour mobility has helped to ease supply constraints in industrial country labour markets. This seems to have mitigated upward pressures on wages, especially for low-skilled workers. In western Europe, the average annual ratio of immigrants to population has essentially doubled since the fall of the Iron Curtain in 1989. The effect of cross-border labour mobility on wages within Europe has increased in particular since the EU enlargement in 2004, with countries that opened their domestic markets fully, such as the United Kingdom and Ireland, experiencing the largest inflows and moderating effects on wages.

Second, the relocation of production – actual or anticipated – has curtailed the bargaining power of workers and trade unions in many industrial countries. The rapid growth of trade in material inputs, such as parts and components, has been accompanied by a growing vertical integration of production processes at the global level, enabling the relocation of production from one country to another. While the effect to date has mostly been felt in the manufacturing sector, jobs in the services sectors are becoming more and more contestable internationally.

Third, the opening of markets for goods and, increasingly, services to international competition has intensified competitive pressures on producers in advanced industrial countries. The greater contestability in goods markets has forced firms that were previously dominant in the domestic market to step up their efforts to cut costs, including the costs of labour.

Increased labour mobility could have been a factor triggering the observed decline in the share of GDP that goes to wages. Since the early 1980s, wage shares in the advanced industrial economies have fallen by about 4 percentage points. This downward trend cannot be explained by cyclical factors. Statistical evidence suggests that globalisation and technological progress could have contributed to a structurally lower wage share in advanced industrial countries.

One way they could have done so is by curtailing the bargaining power of workers and, thereby, lowering the remuneration of labour relative to the remuneration of capital. A second possibility is that the global integration of goods and factor markets could have kept down the wages asked by workers in advanced industrial countries by lowering the prices of labour-intensive products increasingly imported from emerging market economies, especially in the last decade or so. Third, and as already noted, greater international labour mobility and the credible threat of relocating production might have helped to ease supply constraints in domestic labour markets.

These developments have started to affect the conduct of monetary policy. One effect, frequently noted at meetings at the BIS over the past few years, has been increased uncertainty about the state of the economy. For instance, when some indicators – activity, employment, capacity utilisation, asset prices – have been pointing to possible signs of overheating, others, such as wage developments, have remained more stable. A further source of uncertainty has been our lack of understanding of wage and price formation and the workings of labour markets in the newly globalising emerging economies.

Another effect has been the uncertainty about possible changes in the inflation process. For instance, the sensitivity of inflation to domestic slack – measured by either the output gap or the unemployment gap – is reported to have declined across a wide range of countries in the past two decades. One interpretation is that Phillips curves have flattened and that unemployment might have to rise more than in the past to reduce inflation. Another possibility is that these estimates might unduly (and spuriously) reflect recent periods of high global growth, which failed to ignite higher inflation in large part because of the big increase in the effective global labour supply. Yet another view is that Phillips curves might have become more difficult to interpret in the recent period, characterised – as it has been – by inflation expectations that have been better anchored at low levels and more credible monetary policies globally.

Overview of sessions

This conference will explore the effects of globalisation and labour market trends in three sessions and a policy panel.

For the first morning session, we will discuss a paper by Steve Nickell from Oxford University on trends and macroeconomic implications of immigration, cross-country commuting and other forms of labour mobility. In the second morning session, Jill Rubery from the University of Manchester will present her research on international migration and outsourcing, as seen through an institutional lens.

During lunchtime, Kazumasa Iwata, Deputy Governor of the Bank of Japan, who was a good friend of Palle Andersen, has kindly accepted our invitation to share his thoughts on the theme of this conference from Japan's perspective.

For the afternoon session we invited Suresh Tendulkar from the Delhi School of Economics to give us an emerging market perspective on these issues. His paper explores whether labour markets in countries such as India, China and other newly integrating economies are different from those in industrial countries and, if so, where the differences may lie.

We will conclude the conference with a policy panel on the implications of globalisation and labour markets for central banks. Governor Frederic Mishkin has kindly offered to chair this panel, which will also include Kazumasa Iwata, Assistant Governor Anders Christensen from the National Bank of Denmark, and Leif Pagrotsky, Vice Chairman of the General Council of Sveriges Riksbank.

Let me note again in concluding that Palle Andersen had a keen interest in all the issues that are on the agenda of this conference throughout his long and productive career. For a number of years he was responsible for developing the OECD's analysis of labour markets, working particularly on wage developments. He continued to do this for the BIS. From the first research papers he published at the BIS in the early 1980s, to the last one completed in early 2005, entitled "On the role of the labour share of income in the dynamics of prices and wages", a leitmotif of Palle Andersen's oeuvre was the implications of globalisation and population trends for labour markets and inflation. This is also the reason why we chose this topic to honour him at this conference.

I believe that you will have a fruitful exchange of views during the conference.

Luncheon speech at the BIS Conference in Honour of Palle S Andersen

Kazumasa Iwata

I am very much honoured and pleased to be invited here to talk to the guests, including former OECD staff, who have gathered for the conference to honour and commemorate Mr Palle Schelde Andersen and his work at the OECD and the BIS.

Let me start with my personal connection with Palle. I had the chance to work for the OECD Secretariat in the latter half of the 1970s. At that time, Palle was the Head of the General Economic Division. I belonged to the Monetary and Fiscal Division headed by Mr Hermann Dudler, who joined the Deutsche Bundesbank after he had left the OECD. At that time, Mr Philip Turner of the BIS was also at the OECD, working under Palle's direction as the youngest economist in the Department of Economics and Statistics.

Although I belonged to a different division, there were several occasions when we were engaged in joint projects. A memorandum written and circulated by Mr Guess Who during my stay at the OECD illustrates how the joint project on inflation expectations was implemented. In this memo Palle was portrayed as a puppy which encouraged the project by feeding coal into the fire. I was identified as a banker, although I was not working for the Bank of Japan at that time. Mr Guess Who was a good fortune teller.

Palle was mature and reticent, but with a strong intellectual spirit. I loved his modest and calm personality in tackling challenging research work. My first major task at the OECD was to reconstruct the Budget Indicators which had been initiated by Professor Bent Hansen in the early 1960s. The Budget Indicators were taken up again in the McCracken Report in 1976 in order to show that the automatic stabiliser effect dominates the discretionary effect. Palle played a leading role in reconstructing the Budget Indicators.

My assignment was to add the financing aspect of fiscal actions to the Budget Indicators by incorporating the LM curve into the IS curve alone model prepared by Palle's memorandum, and to facilitate the analysis on the crowding-out effect of budget deficits. The material was used for the discussions of the Monetary Expert Meeting. In embarking on this joint project, my boss, Hermann, succeeded in transforming the Monetary Policy Division into the Monetary and Fiscal Policy Division.

Another impressive piece of work by Palle was an excellent survey on the measurement of the terms-of-trade effect. I benefited a great deal from his memorandum on the treatment of the issue based on ideas rooted in the traditions of the Scandinavian school of economics. The Scandinavian school model of an open economy is attractive and provides important insights for the analysis of wage and price performance in the postwar Japanese economy. For instance, the inflation rate of the consumer price index exceeded that of the corporate price index by a wide margin during the high growth era under the fixed exchange rate regime, while the significant differential in terms of consumer price level between Japan and other countries emerged under the flexible exchange rate system after the mid-1980s. Both of them reflected the productivity differential between non-tradable and tradable goods since the modernisation of the Japanese economy.

After digesting Palle's memorandum, I incorporated the technical progress into the measurement of the terms-of-trade effect on economic welfare in a paper jointly written with Professor Koichi Hamada at Yale University (Hamada and Iwata (1984)). We showed that even when an economy is growing, there may be cases where a terms-of-trade deterioration will worsen the national welfare, as in the case of "immiserising growth" noted by Professor Jagdish Bhagwati.

Today we also face issues arising from a terms-of-trade deterioration. The rise in the price of oil since 2004 has been remarkable. The size of the terms-of-trade deterioration is now almost comparable to the oil price hike of 1979–80. For instance, Mr Ulrich Kohli, alternate Governing Board member of the Swiss National Bank, discussed this issue employing the GNP/GDP function, and argued that the terms-of-trade deterioration can be measured by the difference in the of rate of change between the domestic deflator and the GDP deflator (Kohli (2004)). Professor Hamada and I pointed out that the difference matters in the absence of technological progress.

The motivation of Palle's memorandum was to carry out an analysis of real wage adjustments in the face of an oil price hike, because the terms-of-trade deterioration exerts an effect on the economy similar to technical regress or productivity decline. It worsens not only the national welfare, but also the trade-off between unemployment and inflation. It works to push the Phillips curve upward and raise the natural unemployment rate in the adjustment period to the long-run equilibrium.

After I left the OECD in 1979 and moved to the University of Tokyo in 1986, I met Palle again at the BIS in December 2000. I was not sure whether he remembered me. However, he seemed unchanged after 20 years and he recognised me easily.

Actually, in 1990 he had written an interesting working paper on external and internal balance (Andersen (1990)), in which he cited my short comments on Paul Krugman's 45-degree line (Iwata (1989)). I concur with his conclusion on the future development of the external imbalance among major countries. He noted that "For instance at current values of domestic and foreign demand, real exchange rates and the terms of trade, the long-run external accounts (in % of GNP) for the United States, Japan and Germany are, –1.95, 1.35 and 4.35 respectively".

Although the size of the United States' current account deficit has increased significantly in recent years, I feel that a large portion of the external imbalance reflects the fundamental factors needed to sustain economic growth. In growing economies, a significant difference in national saving ratios, labour force growth and technical progress among major economies may lead to large external imbalances under the circumstance of financial integration proceeding across borders.

The last time I met Palle was on the occasion of the international conference organised by the BOJ's Institute for Monetary and Economic Studies in 2004. He made comments on a paper entitled "Sustained Economic Growth and the Financial System" presented by Franklin Allen and Hiroko Oura. He provided a balanced view on the comparison of market- and bank-dominated financial systems: namely, that leaning toward markets does not necessarily enhance growth. He noted that in the United States, the shift from bank to market had been accompanied by a marked rise in productivity, while in the United Kingdom, productivity growth had stagnated at a low level.

I listened to his comments with sympathy. Still, my impression was that he seemed a little tired, with his voice hoarsening. Later I was informed that his condition had already taken its toll on his health.

I believe that throughout his career at the OECD and the BIS, Palle was deeply interested in the issue of real wage adjustments in comparison with productivity gains and the terms-of-trade effect. I would therefore like to extend my talk to this issue, based on Japan's recent experience.

During the flight on the way back from the Jackson Hole conference this year, OECD Chief Economist Jean-Philippe Cotis, who sat next to me, raised the following point: "Only you may know why the wage per worker in Japan has moved down into negative territory again since the end of 2006, after recording a positive rate of change in 2005 and 2006". I found his point reasonable and understandable, because I myself had doubted the statistics when I looked at the negative sign in January this year. I could not really understand why wages had started to decline after five years' expansion of economic activity. Particularly given a sharp oil price hike, the conventional wisdom in the light of two past experiences of oil price hikes tells us that the short-run Phillips curve will shift upward rather than downward.

A flattening of the Phillips curve is commonly observed among major economies. Palle had already confirmed the trend increase of the sacrifice ratio after the mid-1980s in a working paper, jointly written with Mr William Wascher in 1999, employing the estimation of aggregate supply curve and the wage-price equations (Andersen and Wascher (1999)).

The increase in the sacrifice ratio brings with it far-reaching implications for the conduct of monetary policy, especially if we want to implement policy in an optimal way to minimise the future deviation of the inflation rate and the GDP gap from the desired values. The sensitivity of price changes to changes in the GDP gap, coupled with the relative weight attached to the inflation rate and GDP gap in the loss function of central banks, constitutes one of the most important parameters here.

Professor Lars Svensson, who became a Deputy Governor of Sveriges Riksbank about six months ago, has advocated the "targeting rule" in terms of the objective variables, instead of the "instrument rule" in terms of the policy interest rate, in implementing an optimal monetary policy. He puts emphasis on the fact that the marginal rate of transformation between the two objective variables is equal to the ratio of the relative weight to the sensitivity of price changes to the change in the GDP gap on the optimal path of policy interest rates. Despite the importance of these two parameters, I find it unfortunate that there still exists a difference in estimation results between the macroeconomic (or the reduced form equation) and the microeconomic (or the structural equation) analysis.

Now let me return to the issue of the downturn in the wage per worker in Japan since the end of 2006. We can mention several factors which were instrumental in bringing about this situation.

First, demographic changes have been working to dampen wage increases, due to the retirement of the first 6 million or so baby boomers which began in 2006 and will continue until 2008. Retired senior workers are being replaced by young workers whose annual salaries are much lower, or the retired workers are later being re-employed as part-time workers.

There has been a significant upward long-term trend in the proportion of part-time workers since the end of the 1990s. The proportion of part-time workers in total employment increased from 19% to 25% during the period from 1998 to 2006. This has tended to depress bonus payments.

Second, an institutional change has emerged, from the seniority-based wage payment and lifelong employment system to a performance-based wage payment system. The traditional system has become unsustainable in the face of rapid demographic changes and international competition. This implies a flattening of the age profile of wage payment; younger workers' salaries going up while those of senior workers move down. Given the humped distribution of employees by age, this works to reduce the wage per worker.

Another implication of this flattening age profile of wage payment is the lapse of the norm that "employees should not take wage cuts, while employers should not make such cuts". Professor George Akerlof argued that such norms directly enter the utility function of consumers and reinforce nominal wage rigidity, which leads to a long-term downward sloping trade-off relation between inflation and employment (Akerlof (2007)). Professor Akerlof cited empirical studies by the Bank of Japan as evidence of nominal wage rigidity. Yet these studies demonstrate that rigidity was gradually eroded, notably after 1998, as stagnant deflationary development persisted for a long period of time. In 2001 the scheduled wage payment started to register negative rates of change. It seems that even the norm can change under severe labour market conditions exposed to rapid demographic changes. Now employers are making wage cuts, although they are also increasing employment. Apparently the priority has been shifted from wages to employment.

Third, the profits of smaller firms have been squeezed due to the sharp increase in the price of oil and raw materials, notably after 2004. Given limited market power to transmit the rising costs to selling prices as well as low productivity growth, the managers of smaller firms, particularly in the non-manufacturing sector, have been forced to cut wage payments. The remarkable discrepancy in productivity performance between big manufacturing firms and smaller non-manufacturing firms with respect to the levels and the rates of change has caused a shift in the short-run Phillips curve in reaction to the sharp oil price rise of recent years. The delay of real wage adjustments to the equilibrium real wage in smaller firms seems to have reinforced the effect of the terms-of-trade deterioration. We must note that having real wages higher than the equilibrium level can push up the inflation rate, while lowering the wage rate. Namely, the price Phillips curve will shift upward, while the wage Phillips curve moves downward. This is not only a theoretical possibility (Erceg et al (2000)), but may also be actually the case in Japan.

Finally, a cut in personnel expenses in the public sector was announced in summer 2006, aimed at consolidating the budget balance (a 5% cut in five years). Unfortunately, the BOJ is no exception. This has also worked to dampen wage increases in the education and social services sectors.

Palle carried out an empirical study of rising profit shares in 1999 (Andersen et al (1999)). He found that the profits share tended to increase during the period from 1981 to 1996, in sharp contrast to the declining tendency in the period from 1966 to 1981. He attributed the difference mainly to the decline in capital prices and the disappearance of the real wage gap between the productivity gain and real wages in the previous period.

In the current recovery phase in Japan, the labour income share has declined sharply in big firms, reflecting improvements in productivity, while that of smaller firms has shown a limited decline. This suggests that real wage adjustments to the equilibrium level have been delayed and have thus exerted downward pressure on the wages of smaller firms.

From the medium- and long-term perspective we can mention the impact of globalisation and the requirement to promote capital accumulation. However, I would like to leave these factors for the panel discussion.

Having reviewed various hypotheses on developments in the Japanese labour market, let me conclude my talk by saying that real wage adjustments combined with terms-of-trade changes, a major area of focus for Palle Schelde Andersen, play an important role in determining the trade-off between inflation and unemployment. The worsening trade-off complicates the conduct of monetary policy. This is particularly true in the light of the recent financial market turmoil triggered by the subprime mortgage loan problem in the United States.

References

Akerlof, G (2007): "The missing motivation in macroeconomics", *American Economic Review*, vol 97, no 1, March.

Andersen, P S (1990): "Developments in external and internal balances: a selective and eclectic review", *BIS Economic Papers*, no 29, October.

Andersen, P S, M Klau and E Yndgaard (1999): "Higher profits and lower capital prices: is factor allocation optimal?", *BIS Working Papers*, no 65, April.

Andersen, P S and W Wascher (1999): "Sacrifice ratios and the conduct of monetary policy in conditions of low inflation", *BIS Working Papers*, no 82, November.

Erceg, C J, D W Henderson and A T Levin (2000): "Optimal monetary policy with staggered wage and price contracts", *Journal of Monetary Economics*, vol 46, issue 2, October.

Hamada, K and K Iwata (1984): "National income, terms of trade and economic welfare", *The Economic Journal*, vol 94, no 376, December.

Iwata, K (1989): "Comments on differences in income elasticities and trends in real exchange rates by P Krugman", *European Economic Review*, vol 33, issue 5, May.

Kohli, U (2004): "Real GDP, real domestic income and terms-of-trade changes", *International Economic Review*, vol 62, no 1, January.

Speech at the opening dinner of the BIS Conference in Honour of Palle S Andersen

William R White

Elsebeth Andersen, other invited guests, ladies and gentlemen

It is a pleasure to welcome you all here to this conference dedicated to the memory of Palle Andersen. The chosen topic, “Globalisation and population trends: implications for labour markets and inflation”, would have been of enormous interest to him. Sadly, this is perhaps the least of many reasons why we must regret that Palle is not here among us tonight. I will make reference in a moment to the wide range of topics that Palle was interested in, but supply side issues, and in particular the inflation process, were at the very core of his work over many years. And, of course, the topic is given heightened significance by the fact that we are fast approaching the 50th anniversary of the seminal paper published in that area by Bill Phillips.

It is a further pleasure to thank all of you who have come to this conference, particularly those who have prepared papers or are discussants. But in addition, let me also thank those of the BIS staff who have put together this “labour of love”, and I do not think that is too strong a term. In particular, let me mention Dubravko Mihaljek, Philip Turner and Már Gudmundsson, each of whom worked closely with Palle (though in different ways) over many years. And finally, of course, thanks to Marcela Valdez-Komatsudani, who was in charge of all the logistics.

I am pleased to have been asked to say a few words about Palle tonight. To the participants in this conference who were his friends, and I see there are many here tonight, some of my positive observations about him might seem self-evident. I hope that they are worth repeating nonetheless. And for those of you who did not know Palle, or knew him only by academic reputation, let me introduce you to a complex and endearing character who contributed a lot to macroeconomics, to the formulation of better economic polices, to the more harmonious functioning of the Monetary and Economic Department of the BIS, and to me personally. He was a big man, in every way but size. Let me say something about each of those contributions in turn.

Contributions to economics

A very preliminary assessment of Palle’s published work – that is, work published under his own name – yields a list of over 40 substantial pieces. As one who has “lived the life” of an international civil servant, I find this very impressive, since one has also to consider (as I will do shortly) the hundreds, if not more, of notes he drafted for internal analysis or to be published under the “brand names” of the OECD and the BIS. Moreover, the quality of that work is attested to by the fact that one of his products won the David Davidson Prize in 1971, and another was on the shortlist for the Amex Bank Review Prize in 1993. And, as a further sign of quality, in rereading his work I found some recent, rather good thoughts of mine. Unfortunately, I found them in publications that predated mine by a decade and sometimes even more.

Palle’s interests were wide, and he published single articles on the demand for money, household wealth and aggregate savings, macroeconomic forecasting performance and a whole host of other topics. But the big themes that engaged him, and to which he kept coming back, were three in number. First, as already mentioned, anything to do with the supply side of the economy, but especially the inflation process. Second, the issue of fiscal policy and its relation to external imbalances. And third, the determinants of economic growth: in particular, the possible effects of economic openness, macroeconomic policies and, of most recent interest to him, financial reform and financial structure.

Now, the single observation I wish to make about all three of these analytical areas is that they defy easy conclusions. Consider the inflation process: should we begin by assuming traditional Phillips curves or rather the New Keynesian approach? Further, considering that each focuses on domestic sources of inflationary pressures, should we reject both on the grounds that they have been overtaken in recent years by global forces driving inflation? Consider next the role of fiscal policy: is the effect of stimulative fiscal policy large (traditional Keynesian view), small (reflecting the insights of Milton Friedman), zero (Ricardian equivalence), or actually negative as expected future deadweight losses associated with higher taxes cause interest rates to rise today? And finally, consider the issue of economic growth. The fact that the unexplained element in regressions continues to exceed the explained bits, and by a hefty margin, makes one point very clear: we economists know less than we would like to, and probably less than we think.

In the face of this continuing ignorance on all three fronts, Palle's enthusiasm was boundless and therefore inspiring to all his colleagues, but especially the younger ones. He was always open to new ideas and approaches, which perhaps explains why he co-authored so many pieces (including one with me). And, to the end, Palle continued to maintain the high standards of a typical European academic. He loved data, but hated data mining, and was always suspicious of inductive rather than deductive methods. His approach is well summed up in a quote from a paper he once wrote with Willy Fritz: "Faced with the choice between using data to provide a structure for economic theory and using theory to put structure in the data, we lean toward the latter".

With this sentiment, I am wholly in agreement.

In speaking of Palle's contributions to economics, I would be remiss if I did not mention their international flavour. Having conducted research for many years at the OECD and then the BIS, it was perfectly natural that international comparisons would play a big role in his work. Of course he had his favourite countries. Being a Dane, he maintained a lifelong interest in the Nordic countries, and the Governors of the Norwegian and Icelandic central banks always tried to get his views when they were in Basel for meetings. Indeed, he was more than pleased, honoured even, when he was invited shortly before his retirement to act as a visiting professor at the University of Aarhus, where he had received his PhD. And finally, speaking as a Canadian, I am pleased to note that Palle had a special affection for Canada and Canadians and was an avid reader of the Toronto *Globe and Mail* (the sport section as well as the business section). In this context, it bothers me a lot that he freely admitted that he was interested in Australia even more.

Contributions to policymaking

Palle's potential for contributing to policy issues was recognised early, when he left Aarhus to join the OECD and become head of the desk responsible for the United States, Norway and Denmark, and then became head of the General Economics Division not long after. In that capacity he contributed to innumerable documents and provided services to two working groups known as WP2 and WP4. Palle once told me that he could have managed to service WP1 as well, but, unfortunately, there wasn't one. Then, in 1983, Palle moved to the BIS where, in effect, he became the General Economics Division of the Monetary and Economic Department, all by himself. It was, and still is, a very small shop here.

Yet there are often misconceptions about this, as made evident by what is now a famous BIS story. At a dinner a number of years ago, a visiting central banker asked the BIS to write a paper on the prospects for the oil market. As quick as a flash, Andrew Crockett (then the General Manager of the BIS) said he would get our oil department on it immediately. There was a pause, and then someone asked how many economists were in the oil department. Again quick as a flash, Andrew said “about 40”. And then there was another pause as those at the dinner seemed by their silence to accept this as fact. Astonished, Andrew then had to point out that there were hardly 40 economists in the entire BIS, and they had to cover everything: real, nominal, financial and, not least, oil.

How could such a misconception arise? In part, it was because of the enormous output of Palle, and of course other colleagues, over the course of the years. I could not begin to count the ad hoc notes he prepared for meetings of Governors, Deputy Governors and economists. But I would draw attention to one of the last things that Palle did. A few years ago, he and Karen Johnson of the Federal Reserve Board held the pen for a study into global imbalances, and the particular role of Asia in that regard. It was a sensitive issue, given our new shareholders from emerging market countries, and had to be treated in a sensitive manner. And it was. That paper, in fact, provided the basis for a number of discussions among central bank officials where analysis was kept central and finger-pointing was wholly avoided. I am particularly pleased to say that this paper will now be published, along with the other documents from this conference.

Palle was also personally responsible for the principal macroeconomic monitoring paper given to the Governors at their regular meetings in Basel. This paper, now bimonthly, describes what has been going on in the world economy, asks why, and always finishes with pertinent questions to promote discussion. Its quality was attested to by Mervyn King, who went over to Palle at the end of one meeting to say, “I am really impressed by how much insight you can compress into only six pages”. That was quite a compliment from a man who is known to be both very smart and very demanding. And perhaps even more astonishing, Palle produced more than 80 such papers, over more than a decade, and I cannot recall one case where a Governor found a factual error.

Finally, and this ties back into my earlier comments about Palle’s research findings, he was never dogmatic in his policy analysis. He could always see the two sides of every argument and the way changing circumstances might alter the balance between them. This was a great quality to have in working for a cooperative institution like the BIS. Our mission, after all, is not to tell people what to do but rather to help our clients understand better both their own options and the options open to other central banks. Palle did this splendidly.

Contributions to how MED functioned

I want to finish with a few words about Palle’s personal qualities, qualities which contributed materially to the functioning of MED and to the pleasure that I took personally in the work that I did at the BIS. For all of the praise that I have heaped upon him, Palle was not an easy man. He could be overtly intolerant of those he considered as too big for their boots, time wasters, or interested in their own advantage at the expense of the best interests of the department. And his disdain for modern management methods, consciousness-raising, performance appraisals and the like presented a problem for those, like me, who were responsible for such processes.

But Palle got away with it, because everyone knew that he was both extraordinarily conscientious about his work and extraordinarily kind to almost everyone. On many occasions Palle came to me to tell me that someone on the staff was ill, or overworked, or needed a talk for motivation. And I know for a fact that he often offered such help himself, and sometimes to the most unlikely persons. It was characteristic of him that the last note he ever prepared for the BIS was one for the Global Economy Meeting in January – a meeting that Palle (having just retired) would not attend. His rationale was simple: the note had to be prepared over the Christmas season, and the much younger member of staff who would otherwise have to do it would be much better occupied at home with his family.

Well, that is all I wish to say. I hope you all now understand better why we are having this conference in Palle's honour. And I hope you will find it a fruitful occasion professionally as well, as Palle would certainly have wanted.

Palle Schelde Andersen: a practical economist

Philip Turner[1]

Introduction

Palle Schelde Andersen had prodigious abilities as an economist, as an econometric practitioner and as an astute observer of economic developments. A man of modest demeanour, with a wicked sense of humour frequently aimed at the self-important, he often dominated the internal debates on macroeconomic analysis at both the OECD and the BIS. Those who worked with him know that his anonymous inputs to the unpublished and published work of both institutions were extensive. The list of his publications that appears in this book is but the tip of the iceberg.

We were close colleagues for almost 30 years. Just after completing my studies in the United States, I began working with him in the Economics Department of the OECD in 1976, first as his assistant on the US Desk and then in the General Economics Division. He left the OECD for the BIS in 1982, and was instrumental in my coming to the BIS in 1989. He was a great colleague and leader who had the capacity to stimulate, to encourage and to learn from younger economists. He would often give credit to staff for work that was really his. His kindness brightened the life of many. And how hospitable were Elsebeth and Palle, often inviting travelling economists to stay!

1. The University of Århus and the Nordic connection

His first academic appointment was in 1966 at the University of Århus in Denmark, where he was first an Assistant and then Associate Professor. His pedagogical skills were much appreciated by his students. The first major publication was in 1969, when he contributed to a report that estimated price and income elasticities of demand for a large number of agricultural commodities (PSA et al (1969)).

Next came an impressive book on a theoretical topic that has long exercised economists: the welfare economics of the choice between direct and indirect taxes (PSA (1971)). This was a product of a year or so in the United States, first as a Visiting Professor lecturing on public finance at Hamilton College (New York) and then as a Visiting Scholar at MIT. It was unusual at that time for a course in public finance to start squarely as he did with Ramsey's Rule: welfare losses from taxes are minimised if prices change so that the relative quantities of goods consumed are held constant. If goods are produced with labour as the sole input and all commodities are perfect substitutes in production, then an optimum tax rate must be the same for all goods. Palle showed, among other things, that this conclusion of equal tax rates for all commodities breaks down once account is taken of the fact that leisure (or indeed any other good) is not taxable: in such circumstances, the second best solution is to subject goods that are complementary to leisure to a higher rate. The demonstration of this, republished in PSA (1972), won him the David Davidson Prize in Economics.

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[1] I am indebted to former colleagues of Palle, some mentioned here, who made so many useful suggestions for this note. The need for brevity has forced me to omit mention of many of the colleagues and friends who played big parts in his professional life.

From 1972, he worked extensively with Svend Hylleberg on a macroeconomic model of the Danish economy. Although the project was not completed before Palle's departure for the OECD, three working papers that resulted are listed in the bibliography. At about this time, he began to explore a topic that he was to work on extensively at the OECD: the macroeconomic stabilisation properties of fiscal policy. One theoretical paper (PSA (1973a)) approached the issue of automatic stabilisation by comparing simple static and dynamic models. He showed that the conclusion from static models that higher marginal tax rates would increase the usual measures of automatic fiscal stabilisation did not necessarily extend to simple dynamic models. This was particularly the case once fiscal policy influenced, via fixed investment, the growth of the capital stock and thus potential output. A second, and related, paper on the Danish tax system (PSA (1973b)) is a model for what careful research can extract from very limited data (less than 20 observations of annual data). He measured the elasticity of tax payments with respect to GDP in Denmark and found it was much higher than in other countries. But he also found that taxes in Denmark responded with a considerable lag, which could compromise the automatic stabilising properties. He maintained his contacts with Århus over the years, being appointed in 1998, after a positive evaluation from an international panel of experts, to an Honorary Professorship.

2. The OECD

He joined the OECD in January 1974 as the Head of the Scandinavian Desk, in Friedrich Klau's division. He was responsible, with Niels Westerlund, for writing the OECD country surveys on Denmark, Norway and Sweden.

This period was in the middle of the first oil shock, the most significant macroeconomic disturbance since the Korean war. The coincidence of high inflation, a sharp rise in unemployment and very large budget deficits forced a radical re-examination of many well accepted beliefs about macroeconomic theory and policy. Because the international transmission of shocks was central, this period was in many ways the heyday of the Economics Department at the OECD. In those days, the forecasts published twice yearly were the most authoritative global economic projections. The OECD's evolving assessments of demand trends were keenly watched by economists everywhere.

In 1976, he was asked by Kjell Andersen to head the United States country desk. This assignment gave him a key role in the preparation of the OECD's projections; in practice, his influence on the Department was becoming even wider. He took these forecasting responsibilities very seriously. He was constantly alert to the possibility of change in well established relations embedded in macroeconomic models we used in the preparation of our forecasts. He re-tested key model relations and attempted to distil the possible implications of alternative specifications. The annexes to the OECD Country Surveys he drafted frequently contained econometric analysis to back up points made in the main text – which was rather unusual in those days! At the same time, he built up a formidable knowledge of macroeconomic data, learning a great deal about the relative strengths and weaknesses of various data. He often knew which data releases to discount.

His evident capacity not only to do economic research himself but also to encourage others made him an obvious choice for promotion to Head of the General Economics Division towards the end of 1977. Under the direction of Chris Higgins, Stephen Potter and Yves Ullmo, the general branch of the Economics Department at that time began path-breaking work on the quantification and modelling of macroeconomic relationships. Palle played a key role in much of this.

His division serviced in particular Working Parties (WP) 2 and 4 of the Economic Policy Committee. During this period, one WP essentially examined inflation and the other growth issues. Many felt that the "old" analyses of inflation and growth no longer fitted the post-oil-shock world. Faced with this uncertainty about macroeconomic mechanisms, some academics sought comfort in simple prescriptions that self-consciously reversed the conventional macroeconomic wisdom based on the income and expenditure models of the 1950s and 1960s. Monetarism, rational expectations, new classical models and so on were all part of what can only be described as a ferment of macroeconomic theorising. Palle certainly read these theoretical papers with great interest. He always believed that simple models in economics could help clear thinking. And he was uncomfortable with a certain Keynesian complacency that afflicted many in the early 1970s.

But he was too honest and practical a man to fall into the trap of beguiling simplicity – either in research strategy or in sweeping policy prescriptions. In his research, he always tried to frame alternative hypotheses clearly; but did not delude himself into thinking that major controversies could be settled by constructing highly aggregate models or by inappropriate generalisations from simple microeconomic theory.

Larry Summers (Summers (1987)), arguing against what he termed "the scientific illusion in macroeconomics", viewed

> "pragmatic empirical research [in macroeconomics] as providing striking facts to be explained, or demonstrating the existence and magnitude of causal relationships between economic variables. It seeks evidence whenever it can and makes little pretence of estimating full-blown models [based on microeconomic optimising behaviour]. The final product of successful empirical work is a persuasive collage".

This description fits perfectly Palle's approach to macroeconomic analysis and research. He felt that it was essential to understand and to quantify the many mechanisms of economic processes. Typically, he sought to do this for as many countries as possible simultaneously. For Palle, an important test of the robustness of any empirical generalisation (eg based on US data) was whether it could be replicated with the data of different countries. When he noted differences across countries, he asked, "Why?". His grasp of international economic "factuals" was legendary.

Let me cite one example of this. He believed that the actual operation of labour and product markets – which differed across countries – was key to understanding the *dynamics* of inflation. It was needed to analyse not only changes in fundamental macroeconomic determinants, but also the changes in distribution of income between wages and profits. These are huge, controversial questions, which are still far from settled. Inflation and wage determination was probably Palle's most important research interest at both the BIS and the OECD. The following section very briefly summarises some of his work in this area.

Much of the policy debate about macroeconomic issues depends on questions of which broad empirical generalisation is best supported by the evidence. The debate depends rather less on the logical consistency of rival views. An important research skill in this area is therefore the ability to construct variables that correspond adequately to theoretical concepts. At both the OECD and the BIS, he made major contributions to the measurement of key macroeconomic forces from imperfect or incomplete economic data. A very large number of researchers and policy analysts have since used these constructs. Three examples will serve as illustrations.

The first was the measurement of the stance of fiscal policy. Sizeable increases in government budget deficits after the first oil shock in the mid-1970s were partly the result of recession. In order to quantify the impact of fiscal policy changes, it was essential to decompose changes in budget balances into the operation of (a) built-in stabilisers (that is, changes in balances resulting when different marginal tax or benefit rates were applied to the difference between actual and potential growth) and (b) the effect of discretionary policy changes. Everybody knew this. But, for most OECD countries at that time, such calculations simply did not exist; and the national computations that were available were not comparable in methodology. Although beyond the area of his direct responsibility, Palle was put in charge of the technical fiscal policy analysis in the McCracken report. He played a major role in helping Hermann Dudler to develop the OECD budget impact measures. He worked on this issue closely with Fabrizio Galimberti, Ebbe Yndgaard (a colleague from the University of Århus) and Kasumasa Iwata, among others. The methodology is described with great lucidity in OECD (1978). The desire to cover as many OECD countries as possible created a severe data constraint. As only the budgetary data in the OECD national accounts were used, they restricted themselves to two identities, two behavioural equations and just 14 variables. Their approach was elegant, simple and of great policy use. These measures have been subsequently refined by later generations of OECD economists, but the basic framework remains the same. They are still a standard international reference today.

The second example was the calculation of effective exchange rates. He drew on the earlier work of Paul Masson at the OECD to develop, with Elmar Koch, the BIS's indicators of competitiveness. These indicators used the exchange rates of 21 currencies weighted according to the bilateral import shares and the bilateral and multilateral export shares of 21 industrial countries and 10 developing countries. Their novelty was in using broader trade and output concepts than in the indicators computed at the OECD and the IMF. This methodology has since been adapted by several other institutions. It was, for instance, taken over by the European Monetary Institute (and then by the European Central Bank). The framework Palle helped to develop proved to be highly adaptable to changing trade patterns. The BIS has updated this approach on several occasions, and it is still in use.

The third example was the real wage gap. This excellent simplification for measuring the impact of a major supply shock was developed after the 1970s oil shock. The slowdown in the growth of output per employee and changes in the terms of trade determined a so-called "warranted" rate of growth of real wages – that is, the wage growth that a country could "afford" in the sense of keeping the labour share of national income constant. In the late 1970s, however, real wages grew much faster than this warranted rate. This reduced profit shares in many countries and, in the view of many, led to much-increased unemployment. Much of Palle's work addressed this question: once again, he developed measures of the wage gap for a large number of countries.

3. Inflation, wage determination and the distribution of income

Palle made major contributions to the analysis of inflation. It was central to the work of WP4 at the OECD and to the BIS *Annual Reports* in the 1980s. His work in this area is too large and too varied to summarise. One paper, however, brought together a good deal of the analysis he did both at the OECD and at the BIS: his 1989 review of the wage-price mechanism, which remains to this day an excellent survey of empirical research on this topic (PSA (1989)). The theoretical section of this paper expounds several models with great clarity, explaining the strengths and the shortcomings of each. He saw the strengths of the new classical model over simple short-run Phillips curve approaches: the focus on long-run equilibrium conditions; the forward-looking nature and expectations; and the recognition that the adoption of credible policy regimes could directly affect behavioural parameters. Nevertheless, he argued that models based on non-market clearing (or "sticky") wages and prices better illuminated the transmission of policy changes to the real economy. The evidence he marshalled suggested that early signs of inflationary pressures are to be found in labour and raw materials markets, and not in markets for finished goods. Over periods as long as four to five years, he found, there is a trade-off between output and inflation – not well determined (large standard errors) but still quite clear. As this is well within the time horizon of most elected governments, there is a danger that policy decisions will be myopic. Furthermore, there were grounds for following Keynes in believing that, when shocks originated from the demand side, real wage rigidities could be less destabilising than flexible wages.

Another article worthy of note is his 1999 paper with Bill Wascher of the Federal Reserve Board (PSA and Wascher (1999)). This paper explored a topic of great importance: whether the greater prevalence of nominal and real rigidities at low rates of inflation had increased the "sacrifice ratio".[2] This is a question of considerable importance to monetary policymakers. Using several alternative approaches to estimating sacrifice ratios, their analysis of 19 industrial countries found that sacrifice ratios had increased between the 1980s and the 1990s in nearly every country in their sample, and that the average sacrifice ratio had risen from around 1.5 to 2.5. Because aggregate supply curves are thus flatter at low rates of inflation, a tightening or easing of monetary policy has stronger real output effects than in the past, while the adjustment of prices takes somewhat longer. He contributed many articles on the determination of inflation in the Nordic countries.

Another question related to issues of price and wage determination that Palle pursued over the years was what caused changes in the distribution of income between wages and profits. A good example of this genre is his 1999 paper with Marc Klau and Ebbe Yndgaard. The paradox was the simultaneous rise over many years in both unemployment and the profit share/return to capital in Europe. This is a puzzle because a parallel rise in both profits and unemployment should not be sustainable. In theory, higher returns to capital should lead firms to increase output and capital/labour ratios. Both profit shares and unemployment should therefore fall back to the equilibrium levels. Their explanation of this paradox was that firms adjusted capital/labour ratios to changes in relative factor prices (putty-clay production functions) only very slowly. Firms remained in disequilibrium for many years, preferring to invest their profits in financial assets rather than to expand their own real assets.

4. The Reserve Bank of Australia

While at the BIS and the OECD, Palle took two extended periods of leave to take up positions related to the Reserve Bank of Australia (RBA). He found Australia most congenial for many reasons. During his time at the OECD, he had worked with an unusually large number of good economists from Australia. Ian Macfarlane and Mike Keating were early OECD colleagues and many others followed: Victor Argy; Adrian Blundell-Wignall; Steve Grenville; and Chris Higgins (an equally assiduous cross-country runner!). At the BIS, he had many exchanges with John Hawkins, Warren Hogan, Philip Lowe and Glenn Stevens. He very much liked the straight-talking and egalitarian approach of the Australians.

His first stay in Australia was in 1979–80. Ian Macfarlane encouraged him to apply for an RBA fellowship tenable at an Australian university. He won one and chose the University of Sydney so that he could be near the RBA. At the invitation of Steve Grenville, he returned in 1994 to be interim Head of Research at the RBA. Once again, he demonstrated his ability to stimulate and guide younger economists and, simultaneously, to learn from them. He was instrumental in deepening the relationship between the RBA and the BIS, which in the mid-1990s was much more Europe-centred than it is now. The strong links he forged have been maintained – in no small part thanks to the economists who worked with Palle.

The paper he wrote at the RBA with David Gruen (PSA and Gruen (1995)) examined how far macroeconomic and other policies could lift growth. They found little evidence of the positive

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[2] That is, on Okun's original definition, the cumulative loss of GNP to bring about a permanent point reduction in the inflation rate.

externalities of capital formation assumed by some endogenous growth models; hence special measures to boost investment were not justified. Because a low domestic saving rate had become less of a constraint on domestic investment in a world of liberalised capital movements, they were sceptical about measures to boost saving. They argued that foreign investors would view Australia, with abundant natural resources and a stable political environment, as a good bet; there was also evidence that stronger growth would itself raise the saving rate. They were agnostic on whether small differences within a range of moderate inflation had any influence on growth at all.

5. The BIS

It was Warren McClam, Head of the Domestic Economy and Statistics branch of MED, who lured Palle to the BIS. Warren was in charge of research and he used to represent the BIS at many macroeconomic and research-oriented meetings at the OECD (notably the Economic Policy Committee and its Working Parties). He was therefore well aware that research at the OECD prepared under Palle's direction led to many lucid papers that were of great interest to the senior policymakers who attended such meetings – even if comparatively little was published. Palle took up his post as Head of Statistics and Research in the Monetary and Economic Department of the BIS in April 1982.

In this function, he became something of the macroeconomic brain of MED. His post initially involved overseeing, as an economist, the development of an increasingly ambitious data bank of macroeconomic and financial statistics. As this work later was carried forward by a number of first-rate BIS statisticians and computer experts, Palle spent more time on his forte – macroeconomic analysis. He was responsible for the documentation on macroeconomic issues for each monthly meeting of the G10 Governors, for the organisation of the twice-yearly meetings of central bank economists, and for writing the real economy chapter of the BIS *Annual Report*. He was delighted by this move from an institution that had become a redoubtable treadmill of long papers for committees to a smaller, very collegial institution that produced short notes focused on questions of interest to central banks. He loved too the move to Switzerland and was very happy about the better employment opportunities for Elsebeth, who, as a research biologist, thrived in Basel.

His combination of macroeconomic sophistication and deep knowledge of economic statistics, unrivalled at both the OECD and the BIS, equipped him perfectly for this job. Convinced that answers to economic policy questions were to be found in analysis based on good economic theory and honest, careful, empirical investigation, he continued to work hard on his research. I never managed to find out how he managed to combine his day-to-day work following economic developments with extensive reading of macroeconomic research articles. He was always wary about jumping to facile conclusions about current economic developments. Equally, he was imaginative about how to present macroeconomic analysis in a convincing way to busy people.

He never seemed to miss any economic trend of importance in his reading of the financial press. He took pains to be objective. In a conscious effort to inoculate himself against the biases of the anglophone press, for instance, he was also most assiduous in his reading of the *Neue Zürcher Zeitung*, *Le Monde* and the Scandinavian press. He was, in addition, a noted connoisseur of commentary on international football matches … but that is quite another story.

Economists in policy institutions are often tempted to overstate how far research – often their own research! – supports the positions their institutions wish to take in the wider policy debate. Palle had too much integrity to accept this. Those writing policy papers could sometimes find his unbending attitude to what logic and evidence really supported quite frustrating. But, as one senior official remarked: "He keeps us honest!"

The regular assessment of current macroeconomic trends was central to his responsibilities. Such trends were a main subject of the discussions of G10 Governors at their monthly meetings in Basel. Until the mid-1990s, the BIS provided for this meeting only background statistics supplemented by occasional analyses of specific topics. Andrew Crockett, who became General Manager in 1994, felt that BIS economists could contribute more to such meetings. With the agreement of the Chairman of the G10 Governors, it was therefore decided that the BIS would prepare short confidential notes on global economic and financial developments. The task of writing such notes fell to Palle. Much analysis went into these notes; he was most scrupulous with data and balanced in his assessments. In time, these notes would be addressed to the Global Economy Meeting of Governors, including the major emerging countries as well as the G10 countries. It was these notes that earned the favourable comment from Mervyn King that Bill White noted in his address. In the years just before his retirement, he built a small but formidable team of global macroeconomics – Dubravko Mihaljek, Madhusudan Mohanty, Bruno Tissot and Agustín Villar.

A second major contribution of Palle's known mainly to central bank insiders was in the organisation of many of the autumn meetings of central bank economists. These meetings brought together central bank research on particular themes.[3] The papers written by central bank economists were published in the BIS's *Central Banking* series. Each volume contained an anonymous short survey by BIS staff that put the central bank contributions into perspective. Palle was usually an author, with Warren McClam and Joe Bisignano, of those that had dealt with real macroeconomic topics, notably business cycle theories and fiscal policy. He also worked hard editing the central bank papers. Many of these volumes are still highly instructive today.

A third major contribution was the organisation of several meetings on monetary policy. One was the Working Party on Monetary Policy in Central and Eastern Europe. These meetings, organised with Dubravko Mihaljek, have become a very popular annual meeting in the BIS calendar. Many participants from the region said this is the best forum for discussing monetary policy that they had. Another was the occasional meeting on monetary policy challenges in Africa. There were several meetings for the Nordic central banks: for instance, Stefan Gerlach and he organised an illuminating meeting on the management of monetary policy during the 1992–93 crisis.

Finally, Palle wrote very many articles in the *BIS Economic Papers* (more policy-oriented) and *BIS Working Papers* (more technical) series. They are included in the bibliography. The areas covered are too vast to summarise. They also deal with some complex, hard to understand subjects – as Joe Bisignano once put it: "Whenever I read an article by Palle, I have to take my wits for a walk." Nevertheless, brief mention might be made of three themes: international imbalances; the macroeconomic impact of higher energy prices; and the impact of financial intermediation on macroeconomic mechanisms.

International balances

The scale and persistence of international current account imbalances since the early 1990s took most economists by surprise. A major part of Palle's research at the BIS was spent in analysing the macroeconomics of this phenomenon. He felt that any convincing macroeconomic analysis had to go beyond the computation of price and income elasticities derived from trade equations. With free capital flows, there was no reason for current account positions to be in balance. What mattered were the saving and investment decisions that lay behind current account balances. He therefore preferred to start analysis from the

[3] The volumes it can be assumed Palle contributed to are listed in the bibliography. These volumes are available from the BIS on request.

identity that a current account surplus represented an excess of saving over investment. Using standard national income account identities:[4]

$(S_H - I_H) + (S_C - I_C) + (S_G - I_G) = X - M$

In an ambitious 1990 paper, he reviewed the saving and investment balances of each sector (households, firms and government) and the interrelations between the saving/investment plans of these three sectors. He found that saving and investment equations (which are hardly ever used) outperformed standard trade equations in explaining balance of payments developments in 16 industrial countries. One original aspect of this paper is his inclusion of exchange rate as well as interest rate and cyclical effects in saving and investment equations. Another is the search for empirical relationships across sectors (eg increased corporate saving should enrich the households that own the firms). He was aware that the absence of statistically significant stock variables (eg stock of foreign assets or liabilities, household or corporate balance sheets) in such questions was a serious drawback. He tried to address this in some later papers that examined the role of balance sheet variables in some components of saving-investment flows. Much more work is needed in this area.

His 2004 paper with Karen Johnson of the Federal Reserve Board was prepared for an internal central bank meeting at the BIS. It analyses the possible macroeconomic implications of the increased supply of low-cost goods from Asia and the accumulation of foreign exchange reserves on an unprecedented scale. It also considers the pros and cons of alternative policies. This paper, which is published for the first time in this book, used a savings and investment framework to analyse global imbalances in the 2000s. The issues they identified in that paper are clearly relevant for current discussions about the international macroeconomic dimensions of the current financial crisis. The speculative excesses encouraged by such a long period of low long-term interest rates created a very difficult background for the regulation of risk and the setting of monetary policy for much of the 2000s. The question of the resilience of domestic demand once exports weaken could not be more relevant than it is now.

Macroeconomic impact of energy prices

Another issue of interest to Palle from his OECD days was the macroeconomic impact of large changes in oil prices. The earliest projections prepared in the late 1970s implicitly assumed that the demand for oil was completely price-inelastic. He was always very uncomfortable with that perspective. Using only aggregate data, he demonstrated that the long-run price elasticity of demand, while small (0.2 for industrial energy demand and lower for transport), was not insignificant. His 1991 paper with Henri Bernard provided evidence that demand responsiveness to oil price increases required investment in more energy-efficient machines, which took time.

Financial intermediation and macroeconomic mechanisms

Palle's contacts over many years with central bankers kindled a sustained interest in the relationship between macroeconomic developments and financial variables. He thought very hard about how to extract information of interest to macroeconomists from financial market variables. His *BIS Working Paper* in 1999 on alternative measures of real bond rates in 17 countries is an excellent example. He constructed an error-correction model that allowed not only for "long memories" in the formation of inflation expectations but also for international linkages. Echoing the views of Fisher, he found that memory lags for the

[4] The subscripts are for sub-sectors: corporates, households and government.

17 countries appeared to average almost four years.[5] Transitory foreign influences were important in virtually all countries. He showed that real rates defined by the use of an appropriate deflation mechanism were less volatile over time than when more simplistic deflation was used.

In 1993, a paper on the relationship between economic growth and financial market liberalisation in four Asian countries won him the Bronze Medal in American Express's annual competition. This paper marshals extensive macroeconomic evidence to support the view that the need for liberal financial markets depended in part on a country's stage of development. In the early phases of development, when countries were shifting labour from subsistence agriculture to new manufacturing industries geared to exports, government control could generate high domestic savings and direct it to investments with high returns. But once industrialisation had taken hold, liberal financial markets offered the best chance of allowing output to adjust to the changing demands of a more complex mature economy. Deeper and more liquid financial markets could also strengthen household spending. This theme is still highly relevant today – witness the debate about domestic demand in China.

A 1994 paper written with Neale Kennedy challenged the then fashionable view that house price inflation drove down the personal saving rate, by estimating a life-cycle model of consumption for 15 industrial countries. They found that, although current owners of houses would have incentives to save less during periods of rising house prices (and their ability to extract the equity stored in housing could ease credit constraints), current renters would be likely to save more. Hence the net impact of higher house prices on household saving could be small or even positive. But they then explained that higher property prices were more likely to lower the household saving rate where non-residents were free to buy houses and where household access to credit had been liberalised. Scores of papers have since been written further analysing this topic, but Palle and his co-author's analysis foreshadowed the main conclusions.

Perhaps the paper that best showed Palle's ability to identify a major issue early had the somewhat unappetising title "Forecast errors and financial developments" (PSA (1997)). Financial variables (such as money or credit aggregates, financial asset prices, banking system stress) are not easy to incorporate into the macroeconomic models that are used for forecasting. The question he asked was simple: is there any relationship between the errors in forecasts (heavily reliant on macroeconomic models) and the development of financial variables? He divided his sample into two periods – those when growth fell below forecasts ("bad" times) and those when growth exceeded forecasts ("good" times). He found that adverse financial developments could account for about one half of error margin in "bad" times. But he found no such relationship in "good" times. Hence it is in "bad" times – when financial variables turn adverse – that forecasters using macroeconomic models need to be aware that their projections are likely to be too optimistic. Did forecasters understand this during 2008, when major errors were made?

6. Epilogue

Palle worked cheerfully to the end, despite deteriorating health. He died only a few months after retirement. At the bimonthly BIS meetings that followed, the Governors observed a minute's silence at the beginning of the Global Economy Meeting in his memory. This was a unique tribute to a man who had served them and the BIS with devotion and distinction.

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[5] He noted with approval Mishkin's (1992) observation that "Fisher did not state that there should be a strong short-run relationship between expected inflation and interest rates. Rather he viewed the positive relationship between inflation and interest rates as a long-run phenomenon".

References

Organisation for Economic Co-operation and Development (1978): "Budget indicators", in OECD, *Economic Outlook Occasional Studies*, Paris, July.

Summers, Lawrence (1987): "The scientific illusion in macroeconomics", NBER *Conference on Macroeconomics*, Cambridge, Massachusetts, March.

Palle Schelde Andersen: bibliography

PSA and Ramon Moreno (2005): "Financial integration: an overview", in *Globalisation and monetary policy in emerging markets*, *BIS Papers*, no 23, May, pp 1–8.

PSA (2004): "Sustained economic growth and the financial system: comment", in Bank of Japan, *Monetary and Economic Studies*, Special Edition, December, vol 22, issue S1, pp 119–23.

PSA and William L Wascher (2001): "Understanding the recent behaviour of inflation: an empirical study of wage and price developments in eight countries", in *Empirical studies of structural changes and inflation*, *BIS Papers*, no 3, August, pp 267–302.

PSA (1999): "A note on alternative measures of real bond rates", University of Århus, Department of Economics, *Working Papers*, no 25 (also published as *BIS Working Papers*, no 80, November).

PSA and William L Wascher (1999): "Sacrifice ratios and the conduct of monetary policy in conditions of low inflation", *BIS Working Papers*, no 82, November.

PSA, Marc Klau and Ebbe Yndgaard (1999): "Higher profits and lower capital prices: is factor allocation optimal?", University of Århus, Department of Economics, *Working Papers*, no 2 (also published as *BIS Working Papers*, no 65, April).

PSA and Philippe Hainaut (1998): "Foreign direct investment and employment in the industrial countries", *BIS Working Papers*, no 61, November.

PSA and Már Gudmundsson (1998): "Inflation and disinflation in Iceland", *BIS Working Papers*, no 52, January (also published as Central Bank of Iceland, *Working Papers*, no 1, January).

PSA (1997): "Forecast errors and financial developments", *BIS Working Papers*, no 51, November.

PSA (1997): "Macroeconomic developments in the Nordic countries", in *Monetary policy in the Nordic countries: experiences since 1992*, *BIS Policy Papers*, no 2, October, pp 188–229.

PSA and William R White (1996): "The macroeconomic effects of financial sector reforms: an overview of industrial countries", in *Macroeconomic policies and structural reform*, proceedings of a conference held at the OECD, 18–19 January, pp 59–82.

PSA and David Gruen (1995): "Macroeconomic policies and growth", in *Productivity and growth*, proceedings of a conference held at the H C Coombs Centre for Financial Studies, Kirribilli, 10–11 July, Sydney: Reserve Bank of Australia, Economic Group, pp 279–319.

PSA and Peter Dittus (1994): "Trade and employment: can we afford better market access for eastern Europe?", *OeNB Working Paper*, no 17, September.

PSA (1994): "Openness and growth: discussion", in *International integration of the Australian economy*, proceedings of a conference held at the H C Coombs Centre for Financial Studies, Kirribilli, 11–12 July, Sydney: Reserve Bank of Australia, Economic Group, pp 42–5.

PSA and Neale Kennedy (1994): "Household saving and real house prices: an international perspective", *BIS Working Papers*, no 20, January.

PSA (1993): "Economic growth and financial markets: the experience of four Asian countries", in *Finance and the international economy*, vol 7, *The Amex Bank Review Prize Essays*, in memory of Richard Marjolin, Oxford and New York: Oxford University Press for *The Amex Bank Review*, pp 66–91.

PSA (1993): "Economic growth and financial markets in selected Asian countries", in *Global change and transformation: economic essays in honour of Karsten Laursen*, Series A, *Copenhagen Studies in Economics and Management*, no 1, Copenhagen, Handelshøjskolen, distributed by Munksgaard International, Copenhagen, pp 19–42.

PSA (1993): "National saving in developing and reforming countries", in *The new Europe: evolving economic and financial systems in East and West*, *Financial and Monetary Policy Studies*, vol 26, Norwell, Mass and Dordrecht, Kluwer Academic, pp 307–45.

PSA (1993): "A re-examination of the business cycle", in BIS, *Central Bank Series*, no 392, April, pp i–xii.

PSA (1992): "Some current issues in fiscal policy and their implications for the conduct of monetary policy", in BIS, *Central Bank Series*, no 391, March, pp i–xvii.

PSA and Henri J Bernard (1991): "Energy shocks and the demand for energy", *BIS Working Papers*, no 17, July.

PSA (1991): "The scope for incomes policies", in *Economic policies for the 1990s*, Oxford and Cambridge, Blackwell, pp 206–33.

PSA and Wilhelm Fritz (1991): "Empirical work at the OECD and the BIS", *Scandinavian Journal of Economics*, 93 (2), pp 339–48.

PSA (1990): "Developments in external and internal balances", *BIS Economic Papers*, no 29, October.

PSA (1990): "International capital flows, exchange rate determination and persistent current account imbalances", in BIS, *Central Bank Series*, no 389, June, pp i–ix.

PSA (1989): "Inflation and output: a review of the wage-price mechanism", *BIS Economic Papers*, no 24, January.

PSA (1987): "Profit shares, investment and output capacity", *BIS Working Papers*, no 12, July.

PSA (1985): "The stability of money demand functions: an alternative approach", *BIS Economic Papers*, no 14, April.

PSA and Warren D McClam (1983): "Adjustment performance of open economies: some international comparisons", *BIS Economic Papers*, no 10, December.

PSA (1983): "The productivity slowdown and its policy implications", *BIS Working Papers*, no 8, March.

PSA and Philip Turner (1981): "Incomes policy: the overseas experience", in Keith Hancock (ed), *Incomes policy in Australia*, Harcourt Brace Jovanovich (Australia), Sydney.

PSA and Philip Turner (1980): "Incomes policy in theory and practice", OECD, *Economic Outlook Occasional Studies*, July

PSA and Svend Hylleberg (1976a): "Central government expenditures and revenues", Memo 1976–4, Institute of Economics, University of Århus.

PSA and Svend Hylleberg (1976b): "Local government expenditures and revenues", Memo 1976–7, Institute of Economics, University of Århus.

PSA and Svend Hylleberg (1975): "Private consumption", Memo 1975–6, Institute of Economics, University of Århus.

PSA (1973): "Automatic stabilisation in static and dynamic models", *Nationaløkonomisk Tidsskrift*, vol 111, issue 1, pp 60–85.

PSA (1973): "Built-in flexibility and sensitivity of the personal income tax in Denmark", *Swedish Journal of Economics*, March, vol 75, issue 1, pp 1–18.

PSA (1972): "The optimum tax structure in a three-good one-consumer economy", *Swedish Journal of Economics*, June, vol 74, issue 2, pp 185–200.

PSA (1971): "Direct versus indirect taxes: a survey", University of Århus, *Institute of Economics Working Paper*, no 25.

PSA et al (1969): "Projections of supply and demand for agricultural products in Denmark (1970–1980)", *Skrifter fra Århus universitets Økonomiske institut*, nr 21, Akademisk Boghandel, Århus.

Global imbalances and the emergence of Asia

Palle S Andersen and Karen Johnson[1]

Introduction

Several interrelated factors appear to explain the significant build-up of global current account imbalances seen over the past four to five years. Faster GDP growth in the United States than in its trading partners – more recently sustained by a marked deterioration in the US fiscal position – along with an appreciating US dollar, contributed to much more rapid growth of US imports than of exports. Those external imbalances are generally expected to remain large. According to IMF projections, even if all countries were to grow at their potential and current exchange rates were maintained, US net foreign liabilities would increase from around 25% of GDP today to above 40% in 2008.

The world has also witnessed rapid export-led growth in emerging Asia and the increased integration of these countries (notably China and India) into the global economy. At present, both China and India have small current account surpluses. Any future change is hard to predict. Continued rapid expansion of their exports could result in growth paths with large external surpluses; alternatively, high growth facilitated by continuing capital inflows could give rise to sizeable current account deficits in China and India. Whatever the outcome, the increased supply of low-cost goods and services from China and India will surely entail significant changes in global patterns of production, trade and relative prices.

The combined challenge of adjusting external imbalances and integrating emerging Asia into the global economy is the principal subject of this paper. Two adjustment processes are at play. The first concerns the correction of global imbalances; the second involves the pressures that would arise even if trade were perfectly balanced. Given the potentially very large impact of China and India, their further integration into the global economy and the policies they choose will raise some additional challenges for adjusting global imbalances smoothly. Likewise, the need for deficit countries to shift resources into the production of tradables could complicate a successful integration of China and India into the global economy.

This paper attempts to analyse these processes by first examining the widening of the US current account deficit from complementary analytical perspectives and documenting changes in the financing of the deficit in terms of financial instruments, investor type and investor residence. It also notes the implications of these changes for international investment positions.

The paper then reviews elements of the growth strategy pursued by most Asian countries, including their exchange rate regimes and reserve management. To a large extent, that strategy resembles the dollar-oriented, export-led strategy adopted by western Europe and Japan in the 1950s and 1960s and later by the Asian newly industrialised economies (NIEs – Hong Kong SAR, Korea, Singapore and Taiwan (China)). Yet the export-led growth model does not adequately describe the growth strategies of China and India because strong import demand has kept their current account surpluses small. Nevertheless, the sheer size of China and India means that the global economy is facing a potential adjustment challenge of an entirely different order of magnitude. In addition, because the adjustment process is likely to be uneven, it may be accompanied by economic and political tensions among those countries' trading partners.

[1] This paper was written for the BIS in May 2004. It benefited from comments and suggestions from Bruno Tissot and Bill White as well as former colleagues in several central banks, in particular Shuji Kobayakawa, Gilles Möec, John Murray and Christian Thimann.

Next, the paper addresses key aspects of adjustment to these two challenges. First is the need for real economic adjustment over the medium term posed by the emergence of Asia. Next are issues related to the adjustment of external imbalances and global financial positions, including policies with respect to exchange rate and reserve management. Moreover, meeting the two global challenges more or less simultaneously presents special complexities that might make it more difficult to frame and implement sound policies.

Last, the paper addresses possible policies to facilitate adjustment. These approaches, on which views differ widely across countries, include fiscal, monetary and exchange rate policies as well as structural policies.

1. Global imbalances: how did we get to the present situation?

Current account imbalances have widened considerably over the past several years and are likely to persist over the medium term. Between the mid-1990s and 2003, the US current account deficit as a percentage of GDP more than tripled to about 5% (Table 1). Led by the NIEs, emerging Asian economies have witnessed a sizeable increase in their surplus positions, and Latin America and Russia have moved from deficit to surplus over this period. Most of these current account positions are projected to remain broadly unchanged or to widen further over the medium term.

Table 1

Current account balances

In billions of US dollars, except as noted

	1997	**1998**	**1999**	**2000**	**2001**	**2002**	**2003**		**Change 1997–2003**	
							USD billions	Per cent of GDP	USD billions	USD billions
United States	–136	–210	–297	–413	–386	–474	–531	–4.8	–395	–3.2
Euro area	96	66	27	–30	10	58	29	0.4	–66	–1.1
Japan	97	119	115	119	88	113	135	3.1	38	0.9
Other industrialised countries	15	–2	–13	34	33	32	24	0.6	9	0.4
Emerging Asia	25	117	119	91	88	130	165	0.9	140	1.5
China	37	31	21	21	17	35	46	3.3	9	–0.8
Hong Kong SAR	–6	2	9	6	6	12	14	8.7	20	12.1
India	–3	–7	–3	–4	0	5	4	0.8	7	1.5
Korea	–8	40	24	12	8	6	12	2.4	20	4.1
Singapore	15	18	22	16	16	19	28	30.8	13	15.2
Taiwan, China	7	3	8	9	18	26	29	10.2	22	7.7
Other Asia	–17	29	38	32	22	26	32	5.9	48	9.0
Latin America	–67	–91	–57	–47	–55	–16	4	0.2	71	3.5
Transition economies	–25	–30	–2	25	13	10	10	0.9	35	3.7
Rest of the world	–4	–52	–19	59	48	44	54	3.6	58	3.5
Total[1]	1	–82	–126	–161	–161	–103	–110	–0.3	–111	–0.4

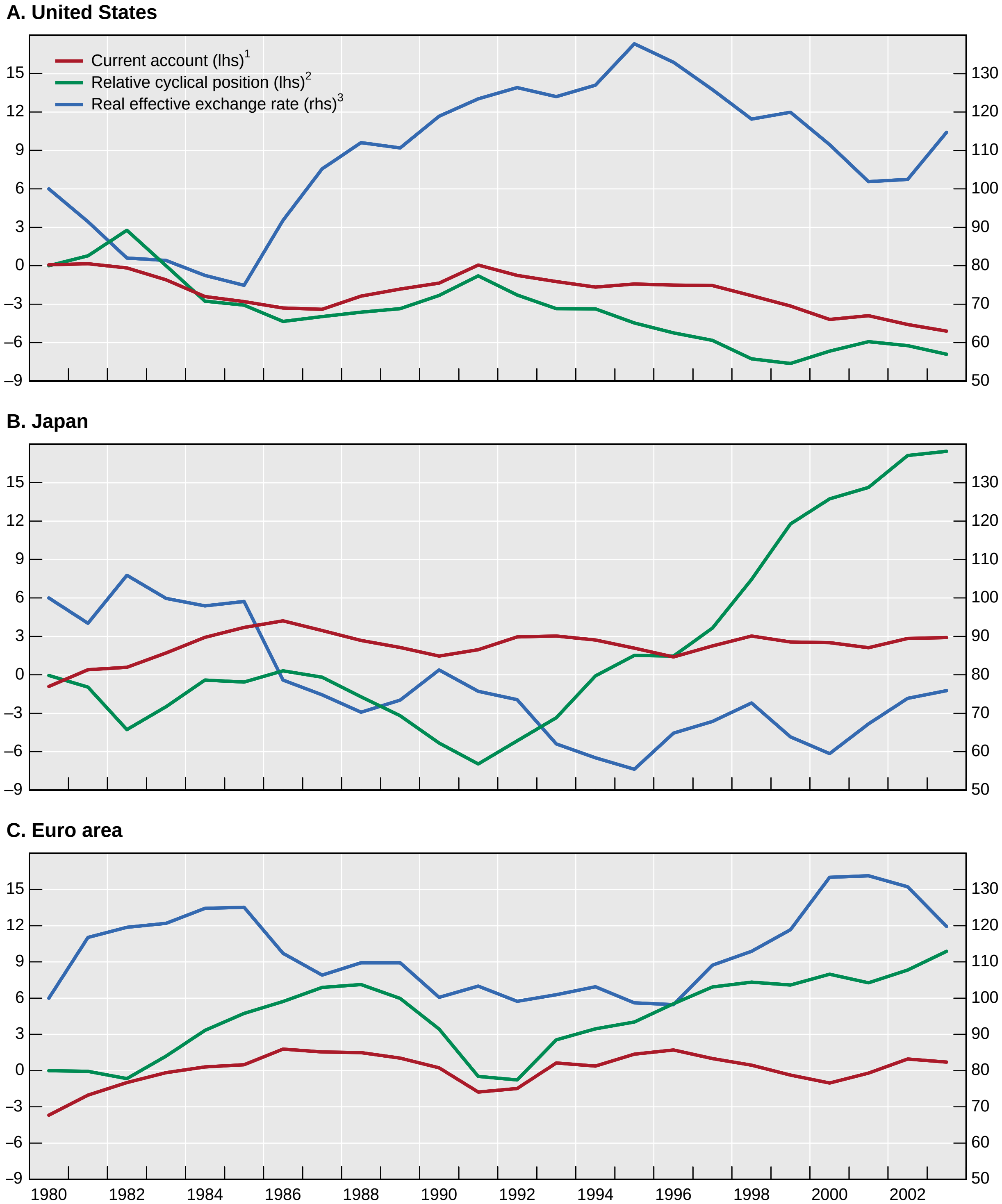
[1] Includes errors, omissions and asymmetries in balance of payments statistics as well as data for international organisations and a few smaller countries.

Sources: IMF, *World Economic Outlook*; OECD, *Economic Outlook*; national data; BIS estimates.

Graph 1

Trade-flow determinants in the G3 economies

Annual averages



[1] As a percentage of GDP. [2] Defined as the weighted average of real GDP in the 10 largest trading partners relative to the domestic economy's GDP; an increase represents a (relatively) slower rate of growth in the domestic economy which should lead to an improvement in its current account balance. [3] IMF index using relative unit labour costs; an increase represents a real depreciation of the currency.

Sources: IMF; OECD.

Meanwhile, the balances of the major advanced economies other than the United States have remained in relatively stable surplus. Japan's surplus has remained sizeable while that of the euro area has been small. Nonetheless, because the US deficit has expanded so much, the combined surplus of the other major advanced economies is now equivalent to less than half the US deficit – in contrast to the mid-1990s, when it exceeded the US deficit. One reason for this discrepancy is that 30% of the deterioration in the US current account balance since 1997 is not matched by higher measured surpluses in other countries because of widening (but unknown) measurement errors.

The discussion below presents factors underlying the evolution of these imbalances from complementary analytical perspectives.

A trade flow perspective

Graph 1 shows that most of the marked widening in the US current account deficit since 1991 can be attributed to three factors: faster GDP growth in the United States than in other advanced economies; asymmetric income elasticities for US exports and imports; and the lagged impact of the sharp real appreciation of the dollar (by about 50% in real effective terms between April 1995 and February 2002). The considerably slower growth in both Japan and the euro area relative to the United States during the 1990s tended to improve their current account balances. Indeed, even if the US economy had been growing at the same rate as the rest of the world, its current account would still have tended to deteriorate because the income elasticity associated with US imports is apparently much larger than that associated with US exports.[2] In the euro area, the rise in the current account surplus due to weak relative growth was reinforced by the depreciation of the euro against the dollar (about 30% between February 1999 and October 2000).

A savings-investment perspective

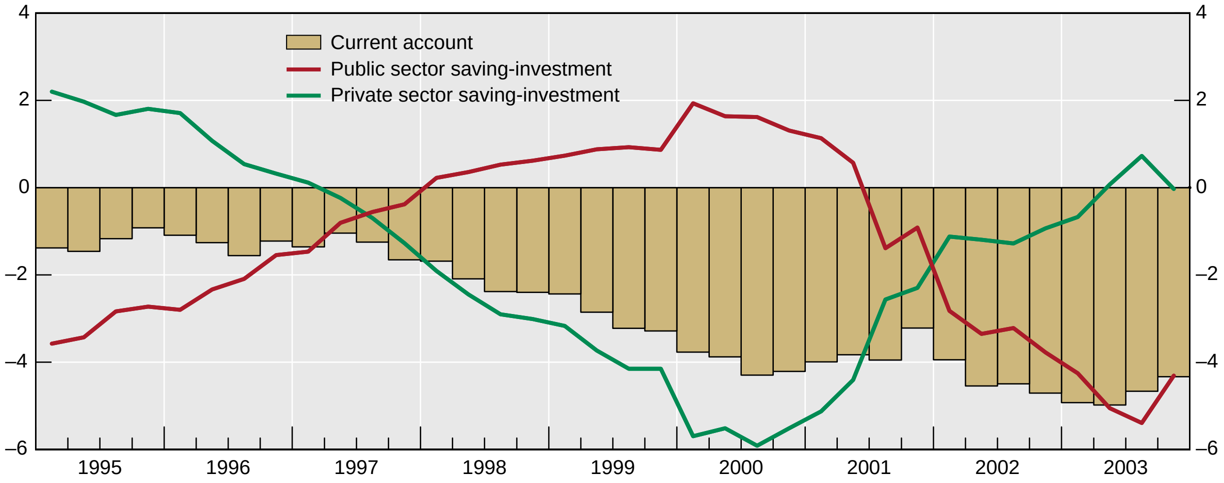
The marked rise in the external borrowing needs of the United States (the financial counterpart of the current account deficit) can be divided into two periods: 1997–2000 and 2001–03. Over the 1997–2000 period, the rise in borrowing reflected mainly a substantial increase of investment that was accompanied by a significant, sustained rise in productivity and improved longer-term growth prospects for the US economy. This phase also saw a significant fiscal consolidation and a marked increase in US public saving (Graph 2), both of which were helped by stronger real growth and higher asset prices. However, domestic absorption rose as saving by households and corporations fell. The decline in saving reflected the sharp increase in net wealth as well as increased consumption in anticipation of higher longer-term income growth. Although the stock of overall savings rose, it was not sufficient to finance the increase in investment.

[2] Estimates of income elasticities for US imports have typically been between 1.5 and 2.5, while those for exports have been closer to 1.

Graph 2

US current account and domestic saving-investment balances

As a percentage of GDP



Source: US Bureau of Economic Analysis.

During the second period, 2001–03, US investment fell sharply. At the same time, tax reductions and increased government expenditure led to a significant decline in public saving that was only partly offset by higher private saving.[3] The latter apparently reflected, in part, a rise in business sector saving and some unwinding of the earlier wealth effect, as the decline in equity prices led to a reassessment of households' future income expectations. Nonetheless, the overall decline in US saving was sufficiently large that US net foreign borrowing increased further.

Conversely, the gap between saving and investment in many Asian countries is large and positive (Graph 3), a manifestation of their export-led growth strategies and their high propensity to save. In Japan, the ratio of private investment to GDP declined following the bursting of the "bubble" in the early 1990s as firms attempted to improve their balance sheets. However, the saving/GDP ratio also declined owing to growing fiscal deficits and a sharp fall in household saving. In the NIEs and ASEAN, investment/GDP ratios dropped after the currency crisis in 1997. They have remained at levels below those of recent decades, while saving ratios have posted smaller declines due to credit-induced and temporary increases in consumption. In contrast, the saving ratio in China (the highest in the region, partly because of rising job insecurity and reform of the social welfare system) has generated a relatively modest current account surplus, since investment has been a main engine of economic growth.

A capital flow perspective

Striking changes in the pattern of capital inflows have accompanied the widening of the US current account deficit. The changes have appeared in the instruments involved as well as in the geographical and investor composition of the flows.

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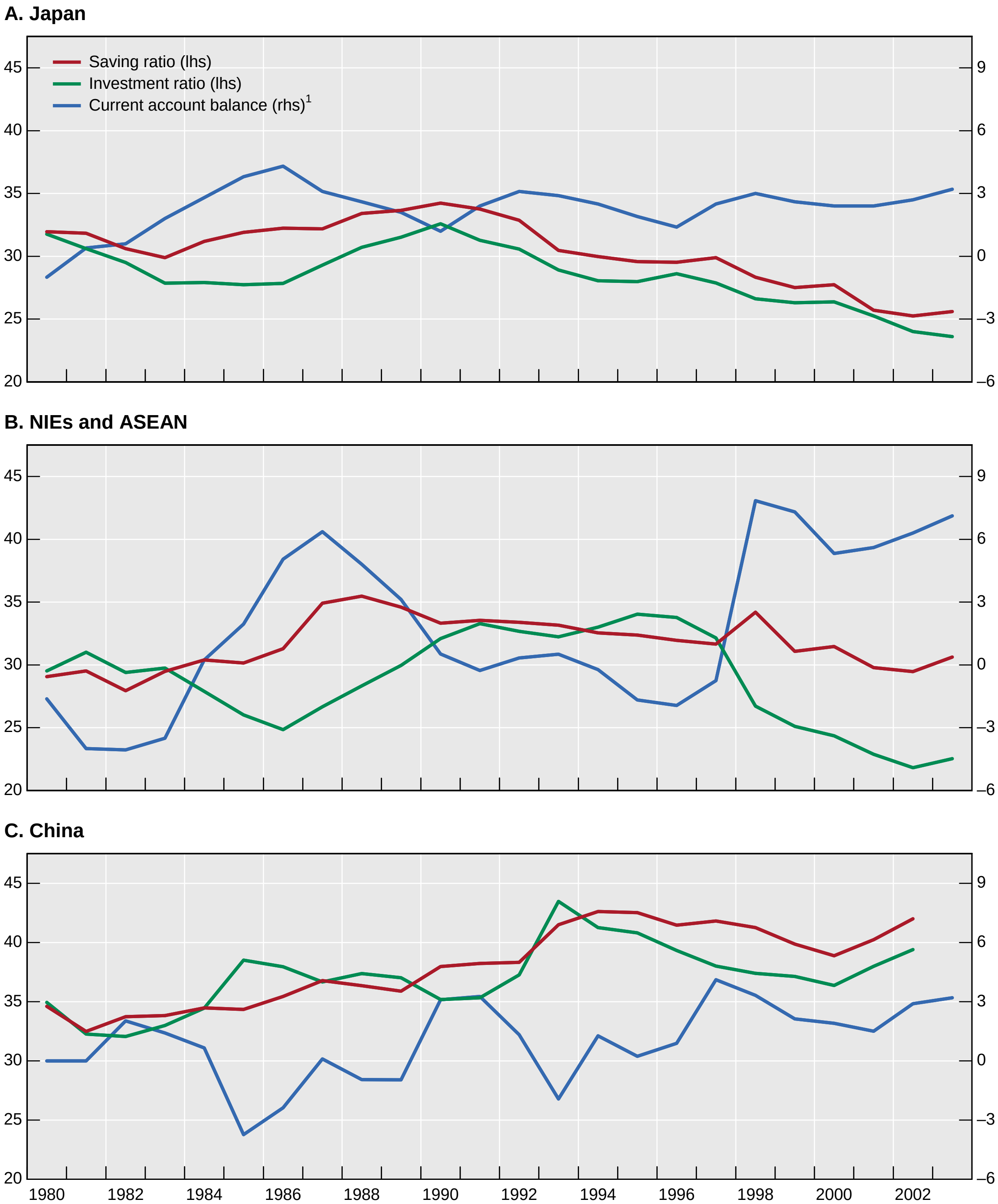
[3] Following a pattern seen in the mid-1980s, the simultaneous occurrence of large fiscal and current account deficits is often referred to as a "twin deficit" problem. Fiscal imbalances have frequently been observed in past experiences of widening current account deficits. However, somewhat surprisingly, fiscal consolidation has rarely played a major direct role in subsequent current account corrections.

Graph 3

Saving and investment balances in east Asian economies

As a percentage of GDP



[1] For Hong Kong SAR prior to 1998, based on the saving-investment balance. For some economies in 2003, estimated from consensus forecasts (May 2004).

Source: National data.

Net foreign capital inflows into the United States in the form of direct and portfolio equity investment increased from a negligible amount in 1997 to the equivalent of about 2.5% of nominal GDP in 2000 (Table 2). These inflows were attracted by positive productivity developments and contributed to the large real effective appreciation of the dollar. After 2000, a retrenchment in direct and portfolio equity inflows suggests that investors reassessed the longer-term profitability of US firms relative to earlier expectations. At the same time, US capital outflows diminished, and capital inflows associated with purchases of US government and corporate debt securities increased substantially (Graph 4). But whether these developments are problematic should be assessed in the light of the central, international role of the dollar and the low servicing burden, to date, of the external debt.

Table 2

United States: financial and capital accounts[1]

As a percentage of nominal GDP

	Financial account					Capital account plus errors and omissions
	Total	Direct investment	Portfolio stock investment	Bonds and other investment	Official reserves	
1997	2.7	0.0	0.1	2.3	0.2	–1.0
1998	0.9	0.4	–0.6	1.4	–0.3	1.5
1999	2.6	0.7	0.0	1.3	0.6	0.7
2000	4.9	1.7	0.9	1.9	0.4	–0.6
2001	4.1	0.2	0.1	3.5	0.2	–0.3
2002	5.4	–0.6	0.4	4.6	1.1	–0.9
2003	5.0	–1.2	–0.6	4.5	2.3	–0.1

[1] A positive (negative) sign represents an inflow (outflow) of capital.

Source: National data.

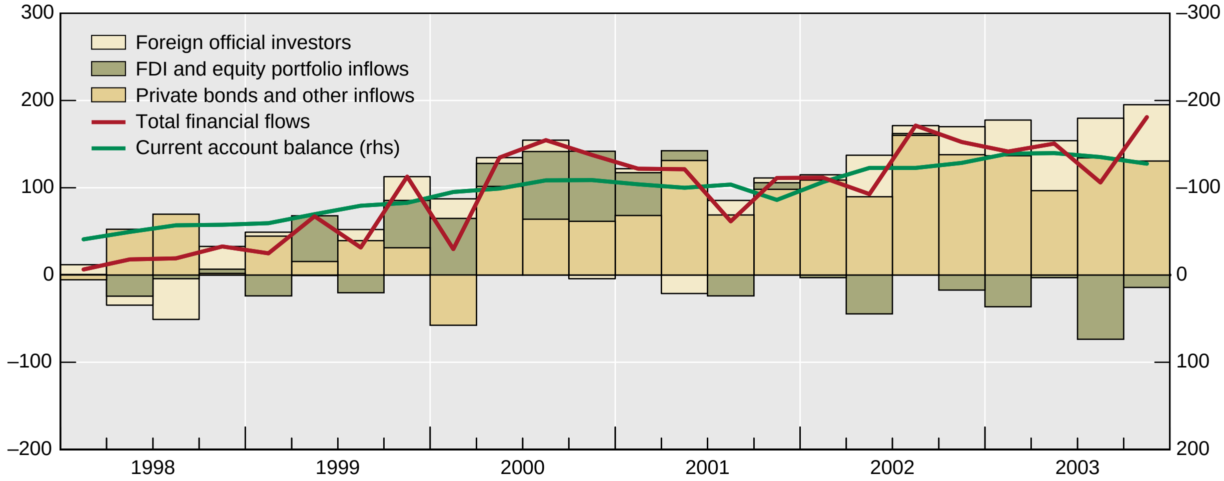
In terms of investor type, official reserve flows from foreign authorities (notably in Asia) have become an increasingly important source of financing for the US current account deficit over the past three years. Negligible in 2000–01, foreign official reserve flows (as identified in the US balance of payments statistics) accounted for almost 20% of net US capital inflows in 2002. In 2003, their share rose to just below 45% of net inflows.

Regarding geographical source, the share of euro area investors in net long-term portfolio flows to the United States shrank to just 1% in 2002, with a slight rebound in 2003 (Table 3). Combining official and private flows, the share of net long-term portfolio flows to the United States originating from Asia increased to 40% in 2003. That share might actually understate the relative importance of Asian investors, as it refers only to the direct source from which the investment is made. Alternative estimates suggest that the share of the US current account deficit financed by Asia might be around 60%.

Graph 4

Net capital flows to and from the United States: composition by financial instrument

In billions of US dollars



Note: The difference between the current account balance (shown on an inverted scale) and total financial flows equals the capital account balance plus the errors and omissions.

Source: US Bureau of Economic Analysis.

Table 3

Net foreign long-term portfolio flows to the United States: breakdown by instrument and region or country of purchase

In per cent

	1998	**1999**	**2000**	**2001**	**2002**	**2003**
Total inflows						
Asia	11.0	22.0	23.0	32.0	37.0	40.0
Japan	*7.0*	*12.0*	*11.0*	*11.0*	*17.0*	*24.0*
Euro area	24.0	15.0	23.0	8.0	1.0	5.0
United Kingdom	50.0	37.0	36.0	35.0	34.0	22.0
Caribbean centres	–1.4	5.9	–0.3	10.9	13.6	10.3
Others	16.4	20.1	18.3	14.1	14.4	22.7
US government bonds						
Asia	40.0	77.0	61.0	64.0	49.0	60.0
Japan	*25.0*	*53.0*	*59.0*	*39.0*	*34.0*	*43.0*
Euro area	16.0	–5.0	10.0	–7.0	–4.0	2.0
United Kingdom	44.0	–8.0	–4.0	20.0	30.0	13.0
Caribbean Centres	–12.1	10.7	6.4	7.7	17.8	7.0
Others	12.1	25.3	26.6	15.3	7.2	18.0

Source: US Treasury.

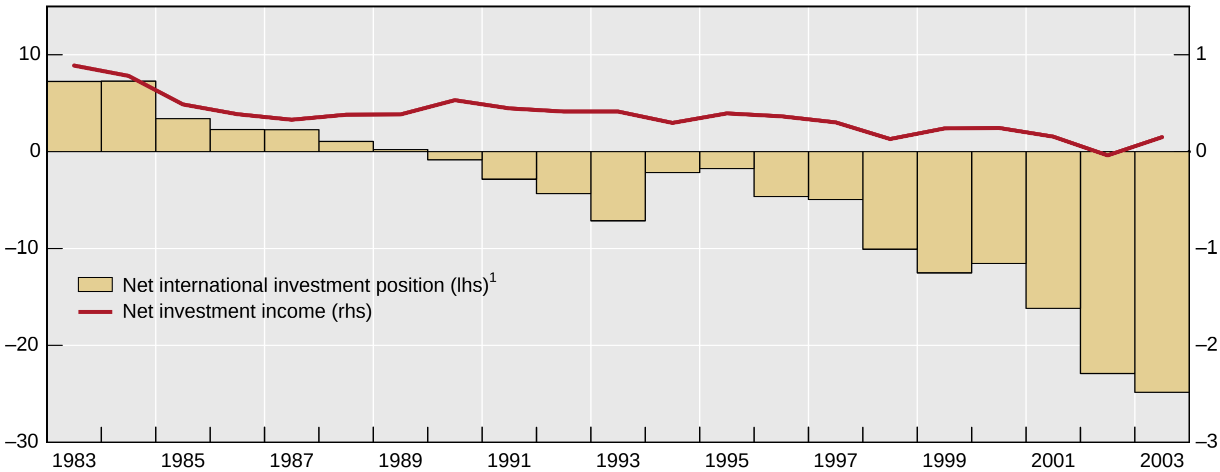
International investment positions

The capital inflows that are the counterparts of the persistent US current account deficits have cumulated to a net international liability position which, at 25% of GDP at the end of 2002, is large by historical standards (Graph 5).[4] The rise in US foreign debt has occurred during a period when financial sectors around the globe have been liberalised and international ownership of capital stocks has increased. Given the large amount of US assets now owned by foreigners (approximately $9 trillion), changes in the dollar's value could have far-reaching implications for balance sheets and economic performance.

Graph 5

US net international investment position and net investment income

As a percentage of annual average GDP



[1] Year-end data, at market value; shown for the following year.

Source: US Bureau of Economic Analysis.

2. The emergence of Asia: new challenges

Growth trends and strategy

Led by exports, the growth rates of Asia's emerging market economies have been exceptionally high in recent years (Table 4). In China and India, for instance, the growth of real GDP has averaged 9.2% and 5.5%, respectively, since the early 1990s. The integration of emerging Asia's trade with the global economy has also proceeded at a rapid pace: its share of global exports increased from 13.5% in 1990 to 20% in 2002 despite an approximate doubling in total world export volumes. The increasing penetration in global

[4] At the end of the 19th century, when the United States was "an emerging economic giant", its net international liability position never exceeded 26% of GDP. See M Obstfeld and K Rogoff, "Perspectives on OECD economic integration: implications for US current account adjustment", paper presented at the economic symposium sponsored by the Federal Reserve Bank of Kansas City, Jackson Hole, Wyoming, 2000. Net international investment positions also reflect changes in exchange rates. Some 30% of the deterioration in the US net investment position between 1999 and 2002 is attributable to changes in the US dollar value of foreign assets as the dollar appreciated. See C Tille, "The impact of exchange rate movements on US foreign debt", *Current Issues in Economics and Finance*, Federal Reserve Bank of New York, January 2003.

goods markets has been particularly pronounced in the case of China, which more than doubled its share in global merchandise exports to nearly 8% in 2003, thereby becoming the world's fourth largest exporting nation. In addition, China is an important source of global demand, having become the world's second largest consumer of oil and fourth largest importer of steel.

Table 4

Economic performance

Average annual growth rate of selected variables (in per cent)

	Real GDP		Per capita real GDP		Real exports		Total employment	
	1990–2003	**1998–2003**	**1990–2003**	**1998–2003**	**1990–2003**	**1998–2003**	**1990–2003**	**1998–2003**
China	9.2	7.6	8.1	6.9	16.7	15.7	2.2	1.2
Hong Kong SAR	3.8	3.6	2.5	2.6	8.0	6.5	1.8	1.5
India	5.5	5.3	3.5	3.5	10.7	12.8	0.7	0.7
Korea	6.0	6.4	5.0	5.5	13.4	12.4	1.8	2.5
Malaysia	6.4	4.7	3.7	2.2	9.8	5.6	3.1	2.7
Singapore	6.2	2.5	3.4	0.4	10.7	5.0	2.8	1.9
Taiwan, China	5.3	3.1	4.3	2.2	7.2	7.4	1.1	0.6
Thailand	5.0	4.3	3.9	3.3	9.6	7.8	1.1	2.3
United States	2.8	2.6	1.6	1.5	5.2	1.3	1.2	1.1
Euro area	1.9	1.8	1.5	1.5	5.6	4.1	1.0	1.1
Japan	1.6	1.1	1.3	0.9	4.4	4.7	0.2	–0.6
World	3.2	3.4	2.1	2.5	5.9	4.7	N/A	N/A

Sources: IMF; national data.

Intraregional trade has also become more important in Asia (Table 5). In 2002, it accounted for more than 40% of the region's total trade and was one of the main sources of export growth. Between 1990 and 2002, exports to China accounted for about 90% of export growth in Taiwan (China), 70% in Japan and 40% in Korea. The rapid increase in regional exports to China is partly explained by its expanding role as an intermediary for regional exports destined for the United States and other developed countries. But it is also due to the strong growth of domestic investment among some of China's regional trade partners. To cut costs, the more industrialised countries in the region are increasingly shifting the low-skilled and labour-intensive stages of their production processes to China while concentrating their own output on the more skilled and capital-intensive parts. That shift is causing China to run rapidly growing trade deficits with those countries and an expanding trade surplus with the United States. Regarding India, the English speaking world has found that it can outsource services to that country at significant cost savings, and India's share of global services trade could soon rise substantially.

Table 5

Indicators of trade integration in Asia

In per cent

	Asian exports/global exports			Intraregional exports/total exports		
	1990	**1998**	**2002**	**1990**	**1998**	**2002**
Japan	8.5	7.2	6.5	31.3	34.9	43.2
China	1.9	3.4	5.1	53.5	34.5	34.0
Hong Kong SAR	2.4	3.2	3.1	40.7	45.4	51.4
India	0.5	0.6	0.8	12.1	19.6	23.3
Korea	2.0	2.5	2.5	16.8	34.0	38.4
Malaysia	0.9	1.4	1.5	44.6	42.3	47.5
Thailand	0.7	1.0	1.1	22.1	33.3	36.8
Total region[1]	22.0	25.5	26.7	32.4	36.8	41.7

[1] IMF definition of Asia plus Japan (includes countries not mentioned above).

Sources: IMF, *Direction of Trade*; BIS calculations.

Table 6

Structure of the balance of payments

Accumulated figures for 1998–2003, in billions of US dollars

	Current account[1]	Net capital and financial account				Errors and omis-sions[1]	Reserve assets[1, 2]
		Total[1]	**FDI**	**Portfolio**	**Other invest-ments**		
China	108.5	144.1	211.6	–53.0	–14.3	–10.8	–241.9
Hong Kong SAR	73.0	–62.8	9.8	–44.6	–19.2	4.3	–14.4
India	–1.1	53.8	17.5	10.3	25.5	–0.9	–51.9
Korea	59.2	24.5	4.1	24.8	–1.6	2.7	–86.4
Malaysia	43.9	–22.4	7.0	–5.6	–23.9	–7.2	–14.3
Taiwan, China	85.4	6.5	–8.9	–4.7	21.6	2.0	–93.9
Thailand	42.6	–32.7	14.2	–4.4	–45.5	–0.3	–9.5
Japan	555.8	–359.7	–121.4	–259.3	63.9	23.5	–234.6

[1] The four capital and financial account categories may not sum to zero because of deviations and rounding.
[2] A negative sign indicates an increase in reserves.

Sources: IMF, *World Economic Outlook* database; authors' calculations.

Asian economies have also become increasingly integrated with global financial markets, but the development and integration of their local financial markets has been more limited. Some of the Asian economies receive relatively large net financial inflows (Table 6). Moreover, these net inflows mask important gross capital movements, as a significant share of domestic saving is channelled into domestic investment via the foreign sector ("round-tripping"). In China, for example, significant portfolio and banking outflows are offset by large foreign direct investment (FDI) inflows. Particularly in China and India, that pattern of international capital flows seems to reflect the relatively fragile state of their domestic financial systems, which cannot efficiently allocate saving to domestic investment. While more than 60% of FDI flows in recent years have come from within the region, most of the non-FDI financial flows have reflected transactions with industrial economies outside the region.[5]

A number of factors underlie the trends described above:

- In most emerging Asian economies, labour is relatively cheap, abundant and well qualified. With the exception of Singapore and Hong Kong SAR, real wages are far below those in industrial countries. Moreover, most of these economies have large unexploited supplies of labour, or rapidly growing populations, or both. Such conditions have resulted in rapid growth in employment as well as in levels of human capital.
- Japan has been an important source of export-linked FDI capital and technological transfer for the region since the 1970s. Japan's FDI outflows went first to Korea and Taiwan (China), then to the ASEAN-4 economies (Indonesia, Malaysia, the Philippines and Thailand), and more recently to China. Each round of sustained, effective appreciation of the yen since the 1970s was followed by a wave of outsourcing from Japanese firms to the region.
- Growth is supported by relatively accommodative macroeconomic and exchange rate policies. Only a few economies (Korea and Thailand) have consolidated their fiscal position since the Asian crisis (Table 7). Most others have either run persistently large deficits (India) or significantly eased their fiscal policy stance over the past few years (Hong Kong SAR and Taiwan (China)). Because most countries also aim at maintaining a high degree of exchange rate stability vis-à-vis the dollar (and thus against the Chinese renminbi), the recent depreciation of the dollar against the euro and the yen has boosted their international competitiveness in terms of both prices and costs.

Table 7

Fiscal policy

General government balance as a percentage of GDP

	1998	**1999**	**2000**	**2001**	**2002**	**2003**
China	–3.0	–4.0	–3.6	–3.2	–3.3	–3.2
Hong Kong SAR	–1.8	0.8	–0.6	–5.0	–4.9	–6.3
India	–8.4	–9.7	–9.8	–10.4	–10.2	–10.3
Korea	–4.3	–3.3	1.3	0.6	2.7	0.8
Malaysia	–0.8	–2.9	–5.6	–5.0	–5.5	–5.3
Singapore	0.7	3.8	3.6	1.7	1.3	–1.2
Taiwan, China	–3.7	0.8	–4.5	–6.4	–6.0	–6.5
Thailand	–2.5	–3.5	–2.8	–2.9	–2.8	–0.8

Source: IMF, *World Economic Outlook* database.

[5] In 2003, China experienced a marked rise in net short-term capital inflows, apparently because of an expected appreciation of the renminbi.

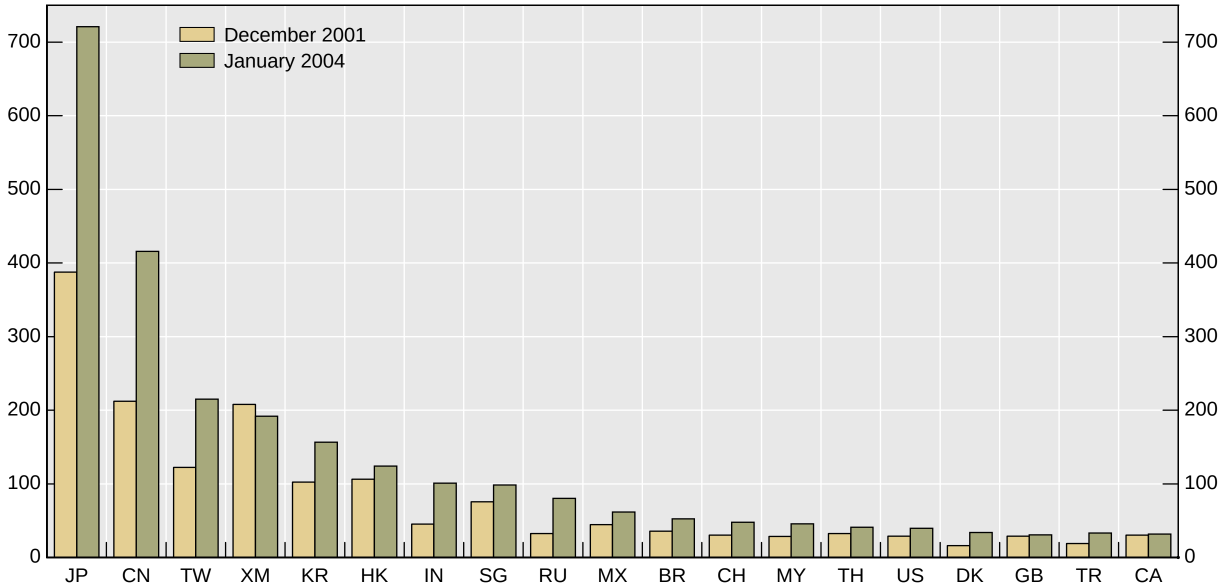
Exchange rate policies and reserve accumulation

In keeping with their export-led development strategy, the Asian authorities have conducted intervention purchases of foreign exchange to combat the appreciation of their currencies;[6] as a consequence, they have accumulated quantities of reserves (Graph 6) that appear large relative to traditional benchmarks. The accumulation reflects several interrelated phenomena. First, the 1997–98 financial crisis convinced the Asian authorities to build up reserves large enough to deter speculation against their currencies. They also chose to hold such reserves in dollars, given the dollar's status as the world's anchor, reserve and intervention currency (see box). Second, while exchange rate regimes in the region became somewhat more flexible after the crisis, the export-led growth strategy has meant that the authorities continue to orient their exchange rate policies towards the dollar.[7] The form of the policies varies from hard pegs (Hong Kong SAR) to conventional fixed peg arrangements (China and Malaysia) to tightly managed floats (Korea and India). The large scale of intervention conducted by the Japanese authorities would seem to bring their exchange rate regime, in practice, close to a managed float. Third, in addition to maintaining competitiveness in their export sectors, the Asian authorities have been motivated to intervene by domestic concerns about deflationary pressures, weak financial sectors and limited market liquidity.

Graph 6

Main holders of foreign exchange reserves

In billions of US dollars



BR = Brazil; CA = Canada; CH = Switzerland; CN = China; DK = Denmark; GB = United Kingdom; HK = Hong Kong SAR; IN = India; JP = Japan; KR = Korea; MX = Mexico; MY = Malaysia; RU = Russia; SG = Singapore; TH = Thailand; TR = Turkey; TW = Taiwan, China; US = United States; XM = Euro area.

Sources: IMF; national data.

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6 It should be noted that China successfully resisted a depreciation of its currency after the 1997–98 crisis in Asia.

7 During the first half of 2003, the United States accounted for about 26% of total exports from both Japan and China. Stable exchange rates against the dollar are thus seen as important in maintaining high growth.

3. Adjustment challenges

Real economic adjustment in the medium term

General considerations: changes in trade and relative prices

Real adjustment to the combined challenges will entail changes at many levels. This section concerns the necessary changes in trade, production, and relative prices associated with the emergence of the Asian economies. It also discusses the shifts of real resources between tradable and non-tradable sectors that are part of the adjustment needed to resolve external imbalances.

Box: The Asian reserve build-up, the dollar and the euro

The sheer size of dollar-denominated foreign exchange reserves held by Asian countries has raised the question of whether those countries might shift a substantial part of their reserves from dollar- to euro-denominated assets. The question has become more pressing in the wake of the recent appreciation of the euro against the dollar. Widening interest rate differentials or a shift in the slope of yield curves might also induce reserve holders to diversify their reserve asset portfolio, with implications for bond prices.

Available information suggests, however, that any shift in reserve holdings from the dollar to the euro has been small so far, especially for emerging market economies. From 2000 to 2002 (ie a period of gradual euro appreciation) the reserve build-up was largely in dollar-denominated assets. For example, in quantitative terms dollar-denominated reserve assets increased by SDR 102 billion in 2002, while euro-denominated reserve assets rose by only SDR 34 billion (see table below). Moreover, Japanese interventions in the foreign exchange market almost exclusively involved the purchase of dollars. Preliminary data suggest that this trend continued into 2003.

Changes in official foreign exchange reserves of US dollars and euros

In billions of SDR

	2000	2001	2002	2003
US dollar				
Stocks outstanding	936.5	1,021.0	1,043.9	1,202.2
Change in holdings	106.6	84.5	23.0	158.3
Quantity change[1]	60.4	54.3	102.0	262.7
Price change[2]	46.3	30.2	–79.1	–104.4
Euro				
Stocks outstanding	229.1	255.1	316.6	371.2
Change in holdings	74.8	26.0	61.5	54.6
Quantity change[1]	76.1	31.1	33.6	22.0
Price change[2]	–1.3	–5.1	27.9	32.6

[1] Figures excluding the effect of FX valuations have been estimated by converting stock data at end-period rates into euros and converting back into dollars at average-period exchange rates. [2] Obtained by subtracting the quantity change from the total change in holdings.

Sources: IMF; BIS calculations.

The integration of China and India into the global economy is increasing the global capacity to manufacture goods and deliver services and will continue to do so in the foreseeable future. If resources in China and India are directed by market forces to industries in which they have a comparative advantage, global efficiency will increase. The rest of the world (as well as the populations in China and India) will therefore benefit from a large and positive supply shock. However, there is a short-term challenge: the rest of the world also needs to absorb part of the additional output and to adjust to the growth of exports of these countries. Such adjustment will probably entail changes in exchange rates, prices, wages, domestic production patterns, returns to capital and trade balances. The distribution of this adjustment across (and even within) countries might be uneven and cause short-term problems.

Export-led growth strategies have been used before by countries recovering or in the early stages of development: western Europe and Japan in the 1950s and 1960s and, more recently, some of the economies of emerging Asia. Relative to those cases, however, the scale of the labour forces in China and India is the obvious difference, underlining concerns that, this time, the size of the global adjustment could be significantly greater. China and India have a combined population of well over 2 billion, representing more than a third of the world's population. By contrast, when Japan was starting to emerge as an economic force in 1960, it had only 3% of the world population; and in 1980, when the NIEs were in the early stages of their growth "miracle", they had about 1.5% of the global population.

In the long run, the positive supply shock associated with the integration of China and India into world markets means that the global economy should move to a higher and arguably more sustainable growth path. Over the short and medium term, however, the rest of the world must be prepared for the burden of adjustment. This may mean that countries should shift to producing more goods for the domestic market, or goods and services for which they have specific competitive advantages. In the short run, the adjustment may well entail significant economic costs as uncompetitive businesses in affected industries shut down and workers formerly employed by them search for new jobs. Spells of unemployment could last for considerable periods, particularly if job seekers must consider different types of employment or require significant retraining. In addition, because the emergence of China and India implies a sizeable increase in the world's effective labour force and a consequent decrease in the world's capital/labour ratio, some workers in the industrial countries may see their wages grow more slowly or even decline, while returns to capital are likely to increase.

The shift in production to China and India will also have effects on prices of raw materials, manufactured goods and services. Given relatively fixed supplies of raw materials (at least in the short term), an expansion of output and demand as new supplies of labour are drawn into the international economy will put upward pressure on commodity prices.[8] The build-up of infrastructure in China and India that is associated with the shift in production to those countries would accentuate such pressure. That effect has already been seen in China, where rapid investment in infrastructure and certain industries has contributed to increases in prices of iron ore, copper and oil. Similarly, the increased shipment of raw materials to China has contributed to higher shipping rates. In the longer run, however, as infrastructure improves and bottlenecks are eliminated, some of the pressure on raw materials prices should recede.

The story is different for output prices. Precisely because the shifting of production and resources will improve efficiency, the relative prices of output in sectors affected by the better allocation will fall. In general, the declines should benefit consumers. There is, however, a concern that manufacturing capacity might be added too quickly in China and create undue downward pressure on prices. More broadly, additional demand – for example from increasingly wealthy Chinese and Indian consumers or from consumers in the rest of the

[8] Even if only temporary, the rise in commodity prices might lead to overinvestment in commodity-producing sectors, and the resulting glut could be disruptive.

world who see lower prices – might not match increases in supply. In that event, downward pressure on the prices of certain goods and services would signal problems, which market forces and, if necessary, appropriate policies would have to correct.

Given the diversity of the world's economies and their varied characteristics (trade surpluses versus deficits, large manufacturing sectors versus large raw materials or intermediate goods sectors, etc), it is impossible to know how adjustment will proceed everywhere. However, it must be stressed that temporary fluctuations in the income either of the United States or of its trading partners cannot be a source of lasting correction to external imbalances. Accordingly, any discussion of the adjustment of these imbalances needs to be couched in terms of growth at potential. To maintain full utilisation of resources throughout the global economy, domestic demand in individual countries (and regions more generally) would need to increase where external demand diminishes. Maintaining domestic demand at near full employment would ease the costly, but necessary, shifting of real resources from the production of tradables to non-tradables as well as help increase demand for goods and services produced abroad.

Adjustments in the United States

The US current account deficit has developed because total domestic demand has exceeded aggregate production over an extended period of time. For the deficit to narrow, US domestic absorption must fall relative to domestic production. In addition, to increase exports relative to imports, the composition of production at full capacity within the US economy must shift towards traded goods and services and away from home goods. That transition will not necessarily be accomplished entirely smoothly. On the demand side, both in the United States and in its trading partners, consumption must correspondingly shift towards goods and services produced in the United States relative to those produced in foreign countries. For all those shifts to occur and be sustained, relative prices must change to send the appropriate signals to consumers and producers in the United States as well as abroad.

Adjustments in Asia

The integration of China and India into the world economy also poses short-term challenges for other economies in Asia, many of which have followed (or are still following) export-led growth strategies. Some regional economies are already taking steps to adapt and take advantage of China's growing economic presence. For example, manufacturing in Singapore has diversified away from electronics production and now includes a rapidly growing pharmaceuticals industry, and the high-tech sector in Taiwan (China) is increasingly shifting its focus from manufacturing to research and development. In the case of Japan, the adjustment would imply a continuation of the policies pursued by Japanese firms in response to the emergence of the NIEs. These changes will generally entail a decrease in the labour intensity of output in these economies, and the extent to which such shifts meet with difficulties can have noticeable macroeconomic consequences.

It is not clear whether the adjustments discussed above would mean larger trade deficits or smaller trade surpluses in China and India. Standard economic theory suggests that economies in the early stages of development should finance investment by importing capital from the rest of the world. In fact, both China and India are receiving large capital inflows (Table 6). If countries have sufficient domestic saving, however, capital formation can occur without running a trade deficit. The high rate of domestic saving in China (more than 40% of GDP) could perhaps finance a rapid pace of investment growth without a trade deficit. That scenario would imply that imports in China and, to a lesser extent, India will rise along with their exports, leaving global imbalances unchanged.

Alternatively, the trade patterns observed to date might continue, whereby China widens its trade surplus with the United States while running increasingly large trade deficits with neighbouring Asian countries. In that case, the aggregate trade balance of China would remain largely unchanged, but the United States would see a widening of its already large current account deficit matched by higher surpluses in Asia outside China.

China and India need to strengthen their institutional and policy frameworks regardless of their impact on global imbalances. The challenges in this respect are particularly profound in China, where state-owned enterprises (SOEs) still play an important role and fundamental market mechanisms are not in place. Capital account liberalisation is a principal condition for moving towards the more flexible exchange rate regime announced by the authorities in China for the medium term. But to prevent capital account liberalisation from leading to massive capital outflows and downward pressure on the currency, two major issues need to be addressed. First, the state-owned banks need to strengthen their capital base as well as improve their corporate governance and their ability to intermediate capital. They might also have to reduce their vulnerability to exchange rate movements and the risk of Chinese residents shifting their deposits elsewhere.

Second, lifting controls on capital outflows might prompt residents to substantially increase their holdings of foreign assets to obtain higher yields. Preventing such capital outflows would require deeper and politically much more difficult measures. In particular, one reason for the low rate of return on Chinese financial assets is the poor performance of large SOEs. Imposing a harder budget constraint on the SOEs would undoubtedly improve their profitability and reduce the misallocation of resources. But it would also create social tensions by increasing the already high rates of unemployment and underemployment. Recent measures (such as upgrading the status of private enterprises, making private property rights constitutionally inviolable, expanding investment in infrastructure and increasing fiscal support for the rural sector) are likely to widen the range of domestic investment opportunities and enhance the welfare of the rural population. Hence, they might help to slow the migration of rural workers until other sectors of the economy are able to absorb them.

Financial market adjustment

US net indebtedness has increased substantially in the past several years, raising questions about the capacity and willingness of investors to continue to absorb claims against the United States. At some point, the ratio of US net foreign debt to GDP must stabilise. The precise magnitude of the net foreign debt at which stabilisation would occur is not known, and it may be quite large in absolute value. As a consequence, the timing and pace of adjustment cannot be predicted with any confidence. However, the long-run limit to the growth of the US net debt position is likely to depend on two factors that might change over time: investors' sentiment and their willingness to continue to absorb large quantities of US assets.

The prominent international role of the dollar facilitates US access to financing in a way unmatched by any other country or region. To some extent, it also prevents dollar fluctuations from affecting the financing situation of the US public and private sectors. As long as the dollar continues to play its international role, the ongoing demand for international liquidity may also mean that many US liabilities to the rest of the world will not have to be redeemed. In practice, however, the demand for dollar assets could at some point be compromised if, for example, the creditworthiness of the US economy is seen as weakening or US inflation picks up or growth differentials vis-à-vis trading partners narrow or disappear.

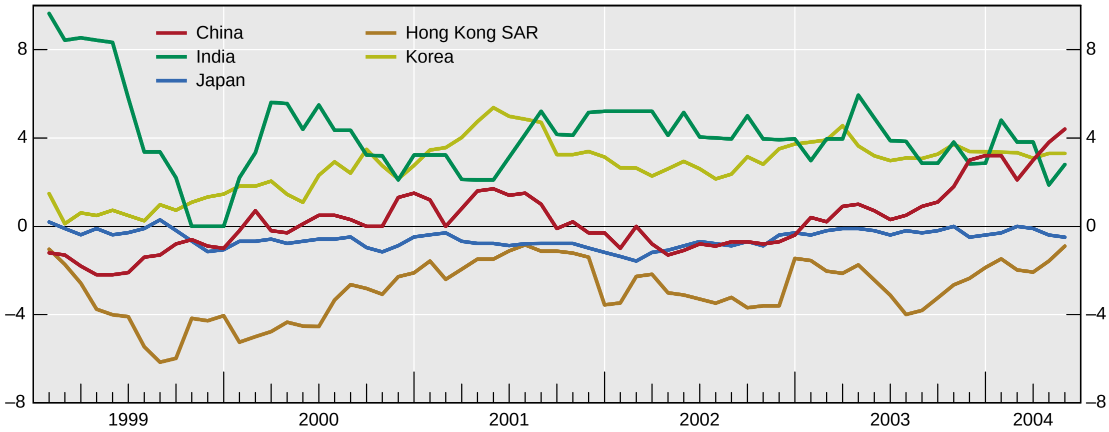
As noted earlier, Asian central banks (and other investors) continue to purchase US debt on a large scale, accepting the risk of (mostly non-realised) financial losses in case of further dollar depreciation.[9] In global capital markets, continued official purchases of US debt could contribute to low US bond yields and thus indirectly also stimulate equity prices and support household spending. The reserve build-up by Asian monetary authorities could continue, at least in the short to medium run, on the basis of a number of factors:

- With the possible exception of China, inflationary pressures are still weak, and labour markets are exhibiting a good deal of slack. Japan, Hong Kong SAR, China and Taiwan (China) have recently experienced (or are still experiencing) deflation (Graph 7). It is also uncertain whether some export sectors are competitive enough to cope with the deflationary shock that would result from exchange rate appreciation. At this stage, the massive accumulation of foreign reserves, external stability and price stability could thus be regarded as mutually consistent.

Graph 7

Inflation developments in major reserve economies

Annual percentage changes



Source: National data.

- Asia authorities still practise risk-averse behaviours (ie to reduce the risk of disruptive financial market and exchange rate developments and shield weak financial institutions from such events).[10] Since internally based growth strategies have sometimes been associated with monetary or financial instability and, ultimately, a currency crisis, combining export-led growth with the accumulation of reserves can also be seen as contributing to reducing or averting risks.
- Because it has been a successful catch-up strategy, export-led growth remains an overriding policy goal. As such, it seems to dwarf considerations related to portfolio diversification and the financial risk-return aspects of reserve accumulation. Neither dollar/euro exchange rate fluctuations nor interest rate and productivity differentials

[9] As of March 2004, foreign central banks held about 25% of US marketable Treasury debt. In the event of a sharp fall in the dollar, some central banks might need an injection of public money to restore their capital.

[10] In its *Report on Currency and Finance, 2002–03*, the Reserve Bank of India characterised the build-up of reserves as a policy of "self-insurance" (p 188). The report also noted that "sharp exchange rate movements [of the rupee] can be highly disequilibrating and costly for the economy during periods of uncertainty or adverse expectations [...]. If the level of reserves is considered to be in the high comfort zone, it may be possible to attach larger weight to return on foreign exchange assets rather than on liquidity, thereby reducing net costs of holding reserves" (p 187).

seem to have much influence on the currency composition of reserve portfolios held by Asian countries.

- The increased integration of trade within Asia suggests an additional “lock-in” effect in favour of the dollar, as it has been the common monetary standard on which the integration has been built. An exchange rate appreciation for a single Asian country vis-à-vis the dollar would alter that country’s competitive position relative not only to the United States but also to its Asian partners. That multilateral effect suggests that any single country will be reluctant to allow its currency to appreciate unilaterally against the dollar.

In the longer run, however, several factors suggest that purchases of US securities by Asian central banks will encounter limits:[11]

- A strong rise in domestic inflation or a credit boom associated with unsustainable debt positions might make Asian countries reconsider the appropriateness of their current exchange rate orientation. Indeed, that orientation would generate the real appreciation that the countries are currently attempting to avoid. Complete sterilisation of interventions by some of these countries is hampered by the underdeveloped condition of their financial markets. As a result, domestic interest rates will be lower and interest-sensitive spending higher than they otherwise would have been, leading to upward pressure on prices.
- To the extent that monetary policy is devoted to nominal exchange rate objectives, there is less scope to counter shocks to aggregate demand more generally. Indeed, if monetary policy were needed to counter other shocks, the costs of maintaining a nominal exchange rate objective might become very large.
- The buffer stock model for foreign reserves shows that they have reached an optimal size when the sum of the opportunity cost of holding reserves and the adjustment cost in case of depletion is minimised. Research based on that model suggests that some Asian economies have accumulated reserves beyond optimal levels. Reserves also seem high relative to traditional measures, such as months of imports and the quantity of debt to mature within one year. Although those models and measures might not take sufficient account of central banks’ high degree of risk aversion, the marginal benefits from accumulating additional reserves do seem to be diminishing.
- Financial costs related to the reserve build-up might also be rising due to increased foreign exchange exposures and risks of unfavourable interest rate differentials. First, massive sterilised intervention could worsen the consolidated financial position of central banks and governments. Second, the accumulation of huge foreign reserves combined with rigid exchange rate management might lead local firms into unhedged foreign currency exposures and thereby increase their financial vulnerabilities. Third, the accumulation of foreign exchange reserves is made at the expense of alternative investment opportunities. Indeed, central banks are currently considering alternative uses for parts of their large reserve holdings.[12]

[11] Large-scale intervention in one direction might also conflict with IMF Article IV.

[12] Korea is planning to hand over between $10 billion and $20 billion of its foreign exchange reserves to private fund managers. Taiwan (China) is considering the financing of local corporations’ purchases of machinery and the licensing of intellectual property rights. Thailand might use $7 billion to repay foreign debt accumulated by government agencies and state enterprises. And China has invested $45 billion to shore up the balance sheets of two state-owned banks.

- Continued intervention might eventually lead to a need for a greater, and potentially more abrupt, adjustment of exchange rates. In that event, the authorities intervening in pursuit of short-term stability might foster instability in the long run.
- If monetary policy is used inadvertently to restrain domestic currency appreciation, resource allocations could become distorted, particularly in the allocation of capital between tradable and non-tradable sectors. If the exchange rate target proves to be non-viable, drastic changes in the exchange rate could require difficult reallocations of resources.

Complexities posed by the coincidence of adjustment problems

Integrating China and India into the global economy is made more complex by the presence of large external imbalances around the world. Conversely, adjustment of such external imbalances is influenced by policy choices and developments in China, India and elsewhere in Asia.

The adjustment of the US external balance requires that the rest of the world (in the aggregate) import relatively more from the United States, or export relatively less to it, or both. Although the current account implications of globally integrating China and India are unclear at this point, the resulting shifts over time in the trade of manufactured goods and tradable services will surely require adjustment across sectors within many countries. The need to adjust simultaneously may alter the distribution of the needed changes around the world. The magnitude of the combined forces driving adjustment may create even larger burdens.

Exchange rate policies in Asia and the accompanying reserve accumulation have important potential consequences for the adjustment process in Asia and in other regions. One question is whether the capital outflow resulting from intervention restrains domestic investment in the Asian region and whether that capital could and should be put to productive use in the domestic economies.[13] The counterpart capital inflow to the United States permits increased investment or lower saving and provides financing for a widening of the US current account deficit; the inflow thus delays and perhaps exacerbates the ultimate adjustment of external imbalances. The consequences of delayed adjustment are unclear: it permits the imbalances to widen further but may also promote a more gradual adjustment that avoids overshooting and financial sector disruption and turmoil.

Another question is whether the capital outflow from Asia inhibits the development of domestic capital markets while helping to deepen the US bond market. If capital markets are efficient, then funds should respond to relative (risk-adjusted) interest rate differentials. However, the desire of Asian investors to invest in low-risk alternatives may create a bias in favour of US assets that, in turn, inhibits the development of their own capital markets.

If, instead, purchases of US debt by Asian central banks are reduced, the dollar would weaken and US long-term interest rates would increase, reducing US absorption and contributing to some adjustment of the US current account. The size and speed of such adjustment would hinge on the relative size of income elasticities and growth rates in the United States and its major trading partners, exchange rate elasticities of exports and imports, and private investors' perception of the current account deficit that can be sustainably financed by private flows to the United States. As for equity markets, Asian investors could reposition their portfolios in favour of domestic assets to reduce their direct

[13] If an important counterpart to the reserve accumulation consists of FDI inflows (as in China), this argument does not hold.

exposure to exchange rate risk. Whether they would move into fixed rate assets or equities is more uncertain, as a large share of earnings obtained by Asian firms quoted in the Asian markets is derived from exports to the United States.

4. Policy involvement

The ultimate outcome of the external adjustment process will be some rebalancing of domestic absorption accompanied by changes in real exchange rates. Similarly, the ultimate outcome of the integration of China and India into the global economy will require a shifting of resources within economies according to comparative advantage. The role for public policy is to facilitate those processes.

The authorities in major economic regions disagree significantly about the role public policy should play. The official position in the United States inclines towards allowing the market to resolve the issues, including determining the pace at which the dollar might depreciate. Many Asian countries are actively using official foreign exchange intervention (and subsequent investment of reserve assets) to prevent the dollar from depreciating against their own currencies. A third approach can be identified among the continental Europeans, who fear that an adjustment relying mainly on a lower real effective exchange rate for the dollar might prove disorderly, might require unrealistically large exchange rate movements and would spread the burden of adjustment unevenly. They feel most strongly that fiscal policies in deficit countries can be used to good effect. Without prejudice to any of these positions, the rest of this note reviews the role for policy.

The sequencing of the desired policy actions is also open to debate. In some regions, policy actions should arguably be implemented as soon as possible, as delay may allow a bigger build-up of imbalances and an increased risk of outcomes that are harder to control. In other regions, the high costs of adjustment (perhaps because of weak financial systems) suggest the need for some trade-off in timing. There are also policy differences among authorities of the major regions concerning timing. Many Asian governments have indicated a willingness to embrace market-driven exchange rates in the medium term, even if they are resisting market pressures at present. A major policy issue, therefore, concerns their proposed strategy for exit from present policy choices, including scaling back exchange market intervention, modifying exchange rate regimes and liberalising capital accounts.

Before considering the advantages and disadvantages of individual policies, it should be noted that a *combination* of developments might yield a favourable outcome. In particular, a fiscal tightening in the United States would generate an initial contraction in US domestic demand. Combined with a depreciation of the dollar against currencies that, to date, have not yet adjusted against the dollar, lower US demand could lead to a large and durable reduction in the US trade and current account deficits. The cost to output growth in individual countries would vary, depending on monetary and other policy responses. In such a scenario, unwanted adjustments in US and global long-term interest rates stemming from lower purchases of US securities by foreign central banks might be offset by a reduced supply of US government bonds.

The approach taken below begins by identifying fiscal, monetary and exchange rate policies in the United States, Europe and Asia that would seem to contribute best to facilitating the adjustments. For each policy, certain constraints are identified, the most common being conflicts with the pursuit of domestic objectives such as price stability and full employment. The discussion concludes by looking at the potential role for structural policies. Such policies are perhaps the most important in facilitating the integration of China and India into the global economy, but they are also those farthest removed from the principal areas of responsibility of central banks.

Fiscal, monetary and exchange rate policies

The United States can achieve the necessary reduction in the ratio of domestic absorption to output through several channels, including a tightening of fiscal policy and an exogenous increase in private saving rates. Either of those channels would increase national saving. External adjustment in the United States that maintains output close to potential entails both reductions in absorption and market-induced shifts in expenditure from foreign goods to domestic goods. In addition, the composition of production at full capacity within the US economy must shift towards traded goods and services and away from home goods.

An essential ingredient in the US adjustment process is a change in real exchange rates. As part of the adjustment, Japan and other Asian countries could moderate their intervention policies and purchases of US securities, remove restrictions on capital flows and allow greater nominal exchange rate flexibility. Their current actions are preventing exchange rate signals from coming through. In addition, lower longer-term interest rates in the United States are preventing a contraction of US absorption. However, the risks of an abrupt modification of exchange rate policies for countries with appreciating currencies suggest that "intermediate" regimes, such as adoption of a basket, a wider band or a crawling peg, could be considered.

To date, many authorities outside Asia have let their currencies float. Generally speaking, there has been no intervention and no overt response from monetary policy. In the light of the Asian interventions, this has been associated with only a moderate decline in the effective value of the dollar to date but some quite sharp movements in a number of bilateral rates. One possibility is that countries with strengthening currencies, feeling themselves unfairly discomforted, might be tempted to act like their Asian counterparts. This would in itself further impede the adjustment process.

Other things equal, countries with unsustainable external deficits ought to take steps to raise national saving, and those with unsustainable surpluses should increase domestic absorption. One effective way to pursue those goals is through fiscal policy. In principle, countries with twin deficits, like the United States, should practise fiscal restraint. Countries with external surpluses (notably the NIEs and Japan) might consider fiscal expansion. Unfortunately, fiscal policy initiatives currently face some practical constraints. In Japan, the fiscal deficit and public debt ratios are already very high. In the rest of Asia, calls for fiscal stimulus to increase domestic absorption would be more welcome in some countries than in others. In the United States, there is a growing recognition that the current fiscal policy is unsustainable, but the timing of the required consolidation remains uncertain.

In the euro area, the need and scope for fiscal or monetary policy measures is particularly difficult to judge. The current account position is close to balance and, given its mandate, the ECB cannot give precedence to external objectives. The use of fiscal policy in increasing domestic absorption in the euro area is impeded by the fact that the fiscal positions of several member countries are already in conflict with the provisions of the Stability and Growth Pact – they exceed either the flow constraint (level of deficit) or the stock constraint (ratio of debt to GDP) and, in some important cases, both. Moreover, the fiscal multiplier is likely to be low in the smaller European countries owing to a high propensity to import. The main contribution of the euro area may thus lie in the sphere of structural reforms that raise private demand or potential growth (see below).

Another means of rebalancing domestic absorption would be through the use of policies to raise private sector saving rates in deficit countries and to lower them in surplus countries. In the United States, the household saving rate has drifted downwards. Unfortunately, what policy might do about this is not obvious; for example, tax incentives to save just tend to reallocate existing savings. In surplus countries, particularly in Asia, the goal would be to lower private saving. In Japan, the household saving rate has already fallen sharply, but the effect to date has been offset by the increase in corporate saving. Elsewhere in Asia, there already seems to be a growing recognition that household saving rates should decline. One means to this end has been government encouragement to the banking sector to provide loans for household consumption and housing. However, to date, such schemes have not met with much success. In the euro area, structural policies could raise business confidence and, via higher investment levels, lower corporate net saving. What is less clear is the impact on consumer saving propensities, since job losses and concerns about social programmes and state pensions could potentially undermine household confidence.

The role of monetary policy during the external adjustment is to contribute to the overall achievement of macroeconomic stability in accordance with the objectives embedded in the statutes governing many central banks. The United States has a large external deficit and only moderate inflation. Given current levels of excess capacity as well as the low rate of expected inflation and the orderly pace of the dollar's decline, monetary policy has remained accommodating. However, regardless of how the adjustment process unfolds, US monetary policy would play a key role. For example, monetary policy should be used to restrain domestic demand if an adjustment of external imbalances initiated by a change in exchange rates boosted demand for US goods above potential output and triggered inflationary pressures. Alternatively, if US fiscal policy or an exogenous change in the saving rate reduced domestic absorption, the appropriate response of monetary policy would be to ease (thereby lowering US interest rates and the exchange value of the dollar) to increase the demand for US-produced goods.

In the euro area, monetary easing might be justified if reduced external demand results in lower inflation. In contrast, monetary policy in the surplus countries in Asia seems, at least for the time being, much less likely to be constrained by prospective inflation. In Japan, price changes are still negative, and nominal policy interest rates have hit the zero lower bound. Efforts at quantitative easing, while welcome, have thus far failed to be reflected in either broader monetary or credit aggregates. Elsewhere in Asia, particularly in China, concerns are beginning to mount that further easing of monetary and credit conditions could result in bubble-like symptoms: excessive credit growth, asset price increases and overinvestment. Using massive intervention to hold down the exchange rate in the face of market pressures does, in the first instance, provide increases in base money that would raise the risk of such an outcome. While sterilisation has thus far been the normal practice, and successful, the associated decline of longer-term rates globally could have encouraged speculative excesses in a number of jurisdictions.

Structural policies

Recognising that changes in the real exchange rate can also develop from wage and price adjustments raises the broader issue of structural policies. The first point to note is that countries confronted with the need for structural adjustments, whether in response to external imbalances or because of competition from newly emerging countries, may be tempted to find a protectionist solution. Protectionist policies, wherever they occur and whatever their form, are counterproductive, and should be strongly resisted.

A number of other structural policies could facilitate domestic price and wage adjustments (which provide the incentives for sectoral reallocations) and the reallocations themselves. The United States is likely to face a considerable adjustment challenge; fortunately, it also has the most flexible economy. In Japan, the principal requirements would be to free service industries from stifling regulation that squeezes profits and to be more prepared to close insolvent companies in the tradable sectors. A major structural challenge will be in Europe. Better structural policies could address issues of labour market inflexibility, lack of competition in product markets and excessive government regulation.

In the NIEs and ASEAN, the strengthening of banking systems and the restructuring (or closing) of overindebted and loss-making firms are beneficial in themselves and would also facilitate the necessary reallocations. In addition, the development of domestic bond markets could enhance the borrowing capacity of local firms without introducing maturity and currency mismatches. In China, reform of the corporate governance practices of state-owned enterprises and commercial banks could improve economic efficiency and potential growth. China's plans to liberalise private capital outflows, in tandem with ongoing structural reforms and financial liberalisation, should help strengthen the financial system and facilitate the eventual adoption of a more flexible exchange rate regime.

Looking further ahead, the emphasis on exports as a driver for growth and a catalyst for economic development in emerging Asia might need to be reconsidered. Although Asian policymakers might adopt export-oriented growth strategies for a number of reasons, such strategies could distort resource allocation if left in place too long, leading to overinvestment in preferentially treated sectors and underinvestment in others. In fact, questions have already been raised about the sustainability of investment in some sectors in China, where the growth of fixed investment exceeded 40% last year. On the other hand, the experience with growth strategies driven by domestic demand has, to date, not been encouraging. One reason for the lack of success appears to be the limited ability of immature financial markets to handle risks. That problem underlines the need for financial reforms stressed above.

Immigration: trends and macroeconomic implications

Stephen Nickell

Introduction

Immigration is a key political issue in most of the developed OECD countries. This is, in part, because rates of net inward migration into these countries have been rising over the last two decades. However, by comparison with some of the episodes of population movement in the past, current immigration rates are comparatively modest. In what follows we focus on a particular aspect of this issue, namely the economic consequences of immigration, concentrating on impacts on the macroeconomy.

We begin with an overview of immigration patterns in the OECD, noting the big differences between countries, with some receiving immigrants at a rate which has a significant impact on the rate of growth of the labour force. Even then, it is plain that the impact of migration is generally small relative to the consequences of the much bigger movements of goods and capital.

In Section 2, we briefly discuss the microeconomic outcomes of immigration for the host countries. Most of the research in this area is concerned with the impact on the relative pay and employment of those groups of the native population most affected, frequently the unskilled. Then, in Section 3, we consider the theoretical framework which would enable us to analyse the macroeconomic consequences of immigration, both in the short and in the long run. This leads on to Section 4, where we look at the empirical evidence on the effect of immigration on unemployment and inflation in the host country. We round off our investigation with a summary and some general conclusions.

1. Immigration in the OECD: an overview

Stocks of migrants

In order to obtain a picture of the overall significance of immigration in the OECD countries, we present in Tables 1, 2 and 3 some data which give an idea of the numbers of foreigners or foreign-born individuals living and working in each country. Note that the numbers of foreign-born are always greater than those of foreigners because some proportion of the former have, at some stage, been granted citizenship and are no longer classified as foreigners.

In most, but not all countries, the number of immigrants has tended to rise in recent years. The variation across countries is significant, with around one quarter of the labour force being foreign-born in Australia compared with less than 2% in Finland. Perhaps the most striking increases have occurred in Spain, where there have been very large inflows of immigrants in the last decade.

Table 1

Percentage share of immigrants in the labour force, 1984–2004

	Men			Women		
	1984	1994	2004	1984	1994	2004
Austria	...	10.2	9.4	...	8.8	7.6
Belgium	9.0	9.8	8.7	5.5	5.7	7.3
Denmark	2.1	1.9	3.2	1.9	1.8	3.1
Finland	...	0.7	1.8	...	0.8	1.3
France	8.8	7.4	6.1	4.9	4.9	4.6
Germany	9.4	10.2	10.3	7.3	6.9	7.8
Ireland	2.4	3.0	5.9	3.1	2.9	5.5
Italy	...	0.6	3.2	...	0.8	3.3
Netherlands	4.4	4.8	4.0	2.6	3.1	3.3
Norway	...	2.8	4.1	...	2.7	4.0
Portugal	0.5	1.0	2.9	0.4	0.9	3.1
Spain	0.3	0.7	9.5	0.4	0.7	9.6
Sweden	...	4.5	4.6	...	4.4	4.7
United Kingdom	4.6	3.5	5.6	4.7	4.0	5.7
Australia	28.1	26.6	26.3	24.7	24.8	25.3
New Zealand	...	18.4	21.5	...	18.8	20.2
United States	...	12.6	18.1	...	10.0	13.9

Individuals aged 20–59. Data for Australia, Italy, New Zealand and the United States refer to foreign-born individuals, otherwise data refer to foreigners.

Source: Jean and Jimenez (2007, Table 1).

Table 2

Stocks of foreign-born population

As a percentage of total population

	1995	2004
Austria	11.2[1]	13.0
Belgium	9.7	11.4[2]
Denmark	4.8	6.3
Finland	2.0	3.2
France	...	10.0[3]
Germany	11.5	12.9[2]
Ireland	6.9[4]	11.0
Italy	...	2.5[5]
Netherlands	9.1	10.6
Norway	5.5	7.8
Portugal	5.4	6.7
Spain	...	5.3[5]
Sweden	10.5	12.2
Switzerland	21.4	23.5
United Kingdom	6.9	9.3
Australia	23.0	23.6
Canada	16.6	18.0
New Zealand	16.2[4]	18.8
United States	9.3	12.8

[1] 1998. [2] 2003. [3] 1999. [4] 1996. [5] 2001.

Source: OECD (2006b, Table A.1.4).

Table 3

Stocks of foreign labour force

As a percentage of total labour force

	1995	2004	Increase
Austria	9.9	11.9	2.0
Belgium	8.3	9.1	0.8
Denmark	3.0	3.9	0.9
Finland	1.6[1]	1.9	0.3
France	6.2	5.6	–0.6
Germany	8.9[2]	9.1	0.2
Ireland	2.9	5.5[3]	2.6
Italy	1.7	6.0[4]	4.3
Netherlands	4.0	3.8	–0.2
Norway	2.5	6.6	4.1
Portugal	1.8	5.5	3.7
Spain	0.8	6.3	5.5
Sweden	5.1	4.9	–0.1
Switzerland	18.6	20.6	2.0
United Kingdom	3.4	5.2	1.8
Japan	0.1	0.3	0.2
Stocks of foreign-born labour force As a percentage of total labour force			
Austria	...	15.3	...
Denmark	...	5.4[4]	...
Spain[5]	1.0	9.4	8.4
Australia	24.4	24.4	0
New Zealand	...	19.9[6]	...
United States	10.3	15.1	4.8

[1] 2000. [2] 1997. [3] 2002. [4] 2003. [5] Bentolila et al (2007, Fig 5). [6] 2001.

Source: OECD (2006b, Tables A.2.2, A.2.3).

Flows of migrants

The numbers on stocks are mirrored by the data on flows reported in Table 4. Spain had the largest inflow rate in 2004 and Finland the second smallest. Relative to the size of the populations, these numbers are not, however, particularly large. During the mass migrations of the 19th and early 20th centuries, movements of people were much larger relative to overall populations. For example, the number of immigrants who came to the United States in 1901–10 was almost identical to the number who came in 1991–2000 (approx 9 million, see Freeman (2006)), when populations were vastly greater.

Table 4

Migration flows

Per 1,000 inhabitants

	1995			2004		
	Inflow	**Outflow**	**Net**	**Inflow**	**Outflow**	**Net**
Austria	...	...	...	13.3	5.9	7.4
Belgium	5.2	3.3	1.9	7.0	3.6	3.4
Denmark	6.3	1.0	5.3	3.5	1.7	1.8
Finland	1.4	0.3	1.1	2.2	0.8	1.4
France	0.9	...	...	2.3	...	...
Germany	9.7	6.9	2.8	7.3	6.6	0.7
Ireland	3.8	...	...	8.2	...	...
Italy	...	...	...	5.5	...	...
Netherlands	4.3	1.4	2.9	4.0	1.4	2.6
Norway	3.8	2.1	1.7	6.1	2.0	4.1
Portugal	0.5	0.1	0.4	1.3	...	...
Spain	...	...	...	15.1	...	...
Sweden	4.1	1.7	2.4	5.3	1.8	3.5
Switzerland	12.5	9.6	2.9	13.0	6.5	6.5
United Kingdom	3.9	1.7	2.2	8.3	2.5	5.8
Australia	...	0.9	...	7.5	1.5	6.0
Canada	7.3	...	...	7.4	...	...
Japan	1.7	1.6	0.1	2.9	2.2	0.7
New Zealand	15.2	2.9	12.3	8.9	7.1	1.8
United States	2.7	...	...	3.2	...	...

Source: OECD (2006b, pp 165–225).

Migration in context

Migration is also small relative to movements of capital and goods, essentially because the migration of persons is subject to significantly greater costs and barriers than the "migration" of capital or goods. Despite, or perhaps because of, these costs and barriers, the incentives to migrate are substantial. Earnings within occupation are typically several times higher in high GDP per capita countries than in low GDP per capita countries (see Freeman (2006, Table 2)). So people flows typically move from low to high GDP per capita countries and are greater, the smaller the geographical and linguistic distance. They are also bigger, the larger the already existing stock of migrants in the receiving countries. Finally, the discrepancy between the shares of young adults in the populations of the sending and receiving countries is a significant driver (see Hatton and Williamson (2002) for an overview).

While the flows of immigrants into OECD countries are typically relatively small, they can nevertheless make a significant contribution to employment growth. For example, in recent years, over 40% of employment growth in both the United States and the United Kingdom has been down to immigration. Their contribution to employment will, typically, depend on why immigrants come. Different countries have different rules governing immigration and the proportion of individuals who come specifically to work differs widely from one country to another. For example, of the flow of migrants coming to Denmark, Portugal and Switzerland in 2004, more than 40% came specifically to work rather than for family or humanitarian reasons. By contrast, the equivalent figure for Norway and the United States was less than 10% (see OECD (2006, Chart 1.2)). Of course, the fact that a migrant enters a country for family or humanitarian reasons does not necessarily mean they do not work.

Cross-border commuting

At the opposite extreme to more or less permanent migration is the notion of cross-border commuting. Given free movement of labour within the European Union, there are no legal barriers to living in one country and working in another. Despite this, in 1999 a mere 0.2% of the total EU workforce commuted to another member country (European Commission (2001)). Even in regions located close to national borders, only 1.5% of the labour force can be characterised as cross-border commuters. As we can see in Table 5, not surprisingly, Luxembourg provides the highest number of cross-border commuters of any region.

Table 5

Cross-border commuters and share in total regional employment

Border region	Number of commuters	Share in total regional employment (%)
Belgian-German	6,300	0.67
Belgian-Dutch	22,900	0.67
Belgian-French	24,400	0.88
Danish-German	2,500	0.76
Danish-Swedish	3,000	0.13
German-French	61,700	2.50
German-Dutch	33,100	0.76
German-Austrian	21,000	0.96
Spanish-French (incl Andorra)	4,100	0.17
Spanish-Portuguese	4,000	0.15
French-Italian (incl Monaco)	27,900	1.10
French-British	2,700	0.28
Irish-British	11,500	1.42
Italian-Austrian	1,900	0.22
Finnish-Swedish	900	0.41
Luxembourg (with Belgium, Germany and France)	79,200	4.73

Source: Van Houtum and Van Der Velde (2004, Table 1).

More recently, the proportion of cross-border commuters in the European Union has risen to a number closer to 0.4% (see OECD (2007a, Figure 8.1)), basically because of the accession of the new member states. Slovakia, for example, has around 5% of its working age population commuting to the Czech Republic and Austria. In part, of course, this is a consequence of the recent division of Czechoslovakia into its two constituent parts. Overall, cross-border commuting is simply not big enough to have any serious macroeconomic implications. This is not, however, true of migration overall. So, in what follows, we look at the consequences of migration for receiving countries. Ultimately we are interested in the macroeconomic implications, but we first consider the microeconomic outcomes.

2. Immigration: the microeconomic outcomes

The basic argument here is that an exogenous increase in labour supply in any particular labour market will lower the equilibrium wage for market participants. If there are constraints which attenuate this wage adjustment, then there will be a rise in unemployment. The empirical question is then, how big are these effects in practice? In particular, are the native workers, notably the unskilled, hit by weaker wage growth and/or higher unemployment as a result of immigration? Underlying this research is a widespread view among the general public that immigrants take jobs away from native workers (see Dustmann and Glitz (2006)).

The answer to the basic empirical question is the subject of an ongoing controversy exemplified by Borjas (2003) and Card (2005). In an earlier paper, Card (1990) examines the impact of the Mariel Boatlift of Cubans into the Miami labour market and finds little impact on the wages of natives. Borjas (2003) argues that such an analysis gives a misleading impression because regional labour markets are not self-contained. Thus, as immigrants move into a region, natives move out, thereby attenuating wage effects. So he considers the impact of immigrants on wages in national age/education groups and finds a significant impact on wages in the United States. An immigrant inflow of 10% of the labour force lowers the wages of natives by 3 or 4%. Applying the same analysis to Germany, Bonin (2005) finds very much smaller effects and no measurable employment effects.

To shed further light on this issue, Card (2005) reports an analysis of high school dropouts (HSDs) in the United States. In 2000, the proportion of HSDs in the native workforce was 14.7%, whereas among immigrants it was 38.2%. Immigration led to huge variation in the changes in the proportion of HSDs across cities over the period 1980–2000. On average, this proportion fell from 24.3% to 17.8% during the period. But in cities like Los Angeles, Miami and Houston, which have seen a huge increase in their immigrant populations, there have been increases or only tiny falls in HSD proportions. Overall, there is a very strong relationship across cities between increases in the immigrant population and increases in the proportion of HSDs. This suggests that there has not been a very large offsetting mobility response of native HSDs.

So what has been the consequence of these differential changes in the ratios of high school dropouts to high school graduates in US cities? The answer is only a very weak impact of these shifts in the labour supply ratios on either relative employment or relative wage rates. There is some slight impact on relative employment rates and no significant impact on relative wages.

So the overall conclusions are:

(i) Increases in the number of immigrants into localities have generated significant increases in the proportion of low-skilled workers, indicating no important offsetting effects via native mobility.

(ii) Local shifts in the proportion of low-skilled workers have minimal effects on low-skill wage or employment rates relative to those of high school graduates.

How can this be, given that standard economics indicates that a significant increase in labour supply should lower wage rates and/or employment rates? The evidence in this case rules out the offsetting native migration explanation. One possible explanation is that immigrant flows induce capital flows to the immigrant receiving areas. If this leads to the growth of immigrant employing industries selling output at fixed world prices, wages would not respond. The expansion of clothing industry "sweatshops" in New York and Los Angeles would be an example. However, Lewis (2004) and Card (2005) indicate that most of the adjustment to the immigrant inflow has been within industries. An alternative explanation is that there is a weaker adoption of advanced technology, which is complementary to skilled labour, in the presence of larger numbers of the unskilled. This would offset the wage effects of shifts in the proportion of the unskilled workers. Lewis (2005) and Beaudry et al (2006) provide some evidence in favour of this hypothesis.

The vast majority of the existing research on migration has been concerned with microeconomic issues, particularly the impact of immigration on the relative pay and employment rates of a variety of particular groups. By contrast, there is very little research on the standard macroeconomic questions, notably the impact of immigration on inflation and unemployment. This will be the subject of the remainder of the paper.

3. Immigration and the macroeconomy: theory and some facts

In the simplest macroeconomic model, an influx of migrants lowers the capital/labour ratio, lowers the real wage, raises the return on capital and generates a net welfare gain for natives. The gains accruing to the owners of capital are greater than the losses faced by the supplier of labour.[1]

In the long run, the higher return to capital stimulates investment and in the new equilibrium the capital/labour ratio, the real wage and the marginal product of capital will revert to their original levels under constant returns. The natives neither gain nor lose and the economy is simply that bit bigger. This simple model immediately suggests that we should divide the impact of immigration into short-run and long-run effects, and we begin with the latter.

Long-run effects

There are two possible long-run macroeconomic effects worth noting. The first is that, for one reason or another, immigrants permanently reduce the equilibrium unemployment rate. This will happen if, for example, immigrant workers are more flexible and reduce the extent of skill mismatch, or if they are more elastic suppliers of labour with higher levels of motivation and reliability. As OECD (2006) indicates,[2] "international as well as UK evidence suggests immigration can serve to make the labour market as a whole more fluid and wages less

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[1] If immigration raises employment from L to $L1$, and we suppose production is

$F(L)$, $F' > O$, $F'' < O$, then we have:

Gains to native workers = $(F'(L1) - F'(L))L < O$

Gains to native capitalists = $(F(L1) - F'(L1)\,L1) - (F(L) - F'(L)\,L)$

So total gain is

$F(L1) - F(L) - F'(L1)(L1 - L)$

which is positive since $F'' < O$ (use mean value theorem).

[2] Quoted in Blanchflower et al (2007).

sensitive to demand fluctuations". So this is not just a theoretical possibility. This effect may, however, decrease over very long periods of time as migrants become more like the native population.

The second possible long-run effect arises if the skill profile of migrants differs from that of natives and the number of migrants is big enough to have a significant impact on the skill mix of the population as a whole. If migrants are more skilled, on average, than natives and there is capital-skill complementarity, then in the long run the capital/labour ratio will be higher and productivity will be higher. The opposite will apply if migrants are less skilled, on average.

Looking across the OECD, there is huge variation in the education profile of migrants relative to natives which derives, in part, from differences in the regulations governing migration. In Table 6, we present the patterns of education of migrants and natives in the continental European economies and, in Table 7, we can see how much more likely it is that the highly educated will work. Thus, in Denmark, Ireland, the Netherlands and Sweden, we find that migrants and natives have quite similar education profiles, with high proportions of tertiary and upper secondary employees. By contrast, migrants in Italy and Spain are far less well educated than natives, with a very high proportion at the lowest level. Interestingly enough, however, these low-educated migrants are far more likely to work than their native equivalents.

Table 6

Educational attainment of the employed by birth status, 2005

	Native-born			**Foreign-born**		
	Completed studies 10 years ago or less			**Present in country for 10 years or less**		
	Below upper secondary (%)	**Upper secondary (%)**	**Tertiary (%)**	**Below upper secondary (%)**	**Upper secondary (%)**	**Tertiary (%)**
Austria	15	60	25	21	55	24
Belgium	9	40	50	29	23	48
Denmark	20	42	38	26	33	40
France	17	38	45	40	25	35
Ireland	8	38	54	14	37	48
Italy	14	55	31	45	45	11
Netherlands	23	41	36	23	47	30
Portugal	41	27	32	55	28	17
Spain	26	22	52	41	37	22
Sweden	10	46	44	16	41	43

Source: OECD (2007, Table 1.10).

Table 7

Percentage employment rates by education, natives and foreign-born, 2003–04

	Native			Foreign-born		
	Education level			Education level		
	Low	Medium	High	Low	Medium	High
Austria	43.6	73.1	84.1	54.3	68.5	77.5
Belgium	41.9	66.3	83.9	33.9	53.5	73.7
Denmark	61.0	81.8	87.9	44.3	57.5	64.2
Finland	47.7	72.3	85.0	39.1	64.1	69.5
France	47.1	70.6	78.7	47.8	62.1	70.8
Germany	40.2	69.1	84.5	45.1	62.4	68.1
Ireland	48.0	71.5	86.5	44.4	63.8	76.5
Italy	45.6	65.9	81.4	59.5	67.4	78.8
Netherlands	63.9	80.9	88.1	50.7	69.9	78.3
Norway	52.6	77.9	87.5	43.9	67.9	79.8
Portugal	66.5	62.3	87.6	67.5	70.0	83.6
Spain	53.4	60.2	79.5	61.2	68.9	73.2
Sweden	57.7	80.4	87.4	45.9	66.8	76.0
Switzerland	57.1	80.4	92.4	63.4	74.1	81.9
United Kingdom	52.5	77.5	88.1	39.3	66.9	81.8
Australia	59.7	80.0	85.7	51.4	68.8	78.4
Canada	53.1	76.2	83.7	51.0	69.1	75.4
United States	35.9	71.0	83.0	58.6	70.0	77.6

Source: OECD (2006b, Table 1.10, p 53).

Short-run effects

Consider a surge in the number of immigrants. Such an increase in the flow of labour into the economy has a variety of possible effects. The easiest way to think of these is to consider the effects on aggregate demand and aggregate supply at a given monetary policy stance.

On the demand side, the rise in the population will plainly generate an increase in expenditure. It is probable that immigrants will spend a lower proportion of their incomes than natives because of remittances, and that they will make a lower initial expenditure on durables and have higher savings because immigrants often have lesser entitlements to state benefits than natives, at least initially. On the supply side, the surge of migrants will typically lead to an increase in potential aggregate supply with an initial rise in unemployment and effective labour supply more generally.

The overall impact on the economy will depend on the temporal pattern of these short-run effects on aggregate demand and aggregate supply. If the former dominate, we are likely to observe a short-run increase in output accompanied by heightened inflationary pressure. This will tend to be offset by a tightening of monetary policy tending to reduce the surge in economic activity. By contrast, if the growth in aggregate supply tends to dominate, we will see a smaller increase in output and downward pressure on inflation which will then lead to a loosening of monetary policy and a further increase in output. This pattern will be accentuated if the rise in migration leads to enhanced labour market flexibility and a fall in the equilibrium rate of unemployment, for then there is an increase in potential output beyond that generated simply from the rise in the labour force.

These shorter-term effects of immigration are likely to be influenced by labour and product market institutions. If these tend to increase the rigidities in the economy, this will slow down the rate at which migrants tend to be absorbed into the economy, lower the rate at which aggregate supply adjusts and increase any inflationary pressures arising from the rise in aggregate demand generated by the migrants.

Before looking at the evidence on the macroeconomic consequences of increased migration, it is worth considering the argument that immigration may have helped to flatten the Phillips curve, a phenomenon which has been noted in some countries in recent years.

The Phillips curve reflects the relationship between changes in inflation, $\partial\pi / \partial t$ say, and some measure of economic activity relative to potential. If the latter is proxied by the proportional change in output, $\Delta\gamma$ say, then migration will certainly tend to flatten the relationship. If higher levels of $\Delta\gamma$ are associated with higher inflows of migrants via a demand-pull mechanism, then it is plain that this will help to suppress inflationary pressures and flatten this type of "Phillips curve". However, if we take the standard Phillips curve as:

$$\partial\pi / \partial t = a - \beta\,(u - u^*)$$

where u is unemployment and u^* is the equilibrium rate, then it is hard to see why any relaxation of barriers to migration will lower β. It may, for example, reduce fluctuations in unemployment as migrants move in and out with the level of domestic activity. Or it may reduce the equilibrium unemployment rate as we have already noted. But why migration should impact on β is not clear. If, of course, the analysis does not properly control for reductions in u^*, then it will indeed appear that β has decreased and the Phillips curve will appear to have flattened. This is, however, a spurious conclusion based on omitted variable bias.

4. Immigration and the macroeconomy: evidence

While there is a fair bit of evidence on the aggregate impact of migration on employment and unemployment in the short and medium run, there is very little which considers the consequences of this for inflation. We consider these two points in turn.

Migration and unemployment

An interesting analysis of the temporal pattern of unemployment effects arising from significant immigration is provided by Hercowitz and Yashiv (2002). They analyse the substantial migration from the former Soviet Union to Israel in the 1990s, which resulted in an 18% increase in Israel's population in a decade. Because of the different temporal patterns of the impact of immigration on aggregate demand and aggregate supply, they find an initial positive impact on employment followed by a later negative impact and ultimately no impact at all. Thus, in the Israel context, initially aggregate demand dominates, then aggregate supply and finally there is no long-run effect.

Angrist and Kugler (2003) provide some evidence on the role of labour and product market institutions in determining the short-run consequences of immigration but a more comprehensive empirical analysis is provided by Jean and Jimenez (2007). They use panel data (1984–2003) for 17 OECD economies. Their basic analysis suggests that an increase in the number of immigrants equivalent to 1% of the labour force leads to the unemployment rate being, successively, 0.2, 0.3 and 0.4 percentage points higher one, two and three years later before fading away to a zero impact after around six years. This suggests that, overall, the aggregate supply effect dominates in the short run with these unemployment effects being accompanied by downward pressure on inflation.[3]

Turning to their evidence on institutions, Jean and Jimenez find that the impact of strong employment protection laws is to slow down and extend the unemployment effects of migration as a consequence of more sluggish employment adjustment. The extent of product market regulation is also important. A high degree of such regulation tends to magnify the unemployment effects throughout, essentially because the economy is slower to adjust to the new sources of labour supply. By contrast, in the presence of very low levels of product market regulation, the unemployment effects are negligible.

Inflation and other macroeconomic effects

There is certainly a broad acceptance in the United Kingdom, for example, that immigration has had a tendency to reduce inflationary pressure. For example, Blanchflower[4] et al (2007), in their conclusions, note that "… at present it appears that A8 immigration has tended to increase supply by more than it has increased demand in the UK (in the short run), and thereby acted to reduce inflationary pressure". However, rigorous empirical analysis in this area is in short supply, with perhaps to most telling contribution to be found in Bentolila et al (2007).[5]

Their analysis first reveals how to adjust the derivation of the New Keynesian Phillips curve to incorporate immigration, starting from Blanchard and Gali (2006). They then estimate their model using Spanish data and discover that the very high levels of immigration into Spain in recent years have been responsible for a negative impact on inflation of 0.9 percentage points per annum. This arises essentially because immigrants have raised effective labour supply and reduced the natural rate of unemployment. These developments have helped macroeconomic policy to bring down the overall unemployment rate by almost 7 percentage points since 1999 with minimal inflationary consequences. This is an example of an apparent flattening of the Phillips curve deriving from a reduction in the equilibrium unemployment rate.

5. Summary and conclusions

Our overall conclusions are as follows:

(i) In nearly all of the developed OECD countries, net immigration flows are positive and increasing. In a small number, notably Austria, Spain and Switzerland, annual net inflows are currently more than ½% of the population. In Spain, the proportion of

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3 Although inflation is not discussed by Jean and Jimenez (2007).

4 Blanchflower is, of course, a member of the Bank of England Monetary Policy Committee, so his views on this matter have practical implications for UK macroeconomic policy. A8 refers to the eight new accession countries in the European Union.

5 Izquierdo et al (2007) present some results which are consistent with those of Bentolila et al (2007).

foreign-born individuals in the labour force has risen by 8.4 percentage points in a decade.

(ii) Cross-border commuting is typically very small except in Luxembourg. Overall across the European Union, the proportion of cross-border commuters in the labour force is less than ½%, and even in regions close to national borders it is only 1½%.

(iii) The weight of the evidence suggests that the impact of unskilled immigration on the relative employment and wages of the native unskilled population is minimal. This is by no means a settled issue, however, and some economists remain convinced that there are significant effects.

(iv) There is some evidence to suggest that immigration makes the labour market more flexible, effectively reducing the equilibrium unemployment rate in the long run. In particular, high rates of immigration into Spain have helped the Spanish economy to reduce overall unemployment substantially without inflationary consequences.

(v) In the very short run, a rise in immigration leads to an increase in unemployment which is much enhanced in the presence of high levels of product market regulation. The rise in unemployment lasts longer when employment protection laws are more restrictive.

References

Angrist, J D and A D Kugler (2003): "Protective or counter productive: labour market institutions and the effect of immigration on UK natives", *Economic Journal*, vol 113, pp 302–31.

Beaudry, P, M Doms and E G Lewis (2006): "Endogenous skill bias in technology adoption: city-level evidence from the IT revolution", *Federal Reserve Bank of San Francisco Working Paper Series* no 06–24.

Bentolila, S, J J Dolado and J F Jimeno (2007): *Does immigration affect the Phillips Curve? Some evidence for Spain*, CEMFI, Madrid, mimeo.

Blanchard, O and J Gali (2006): "Real wage rigidities and the New Keynesian model", *Journal of Money, Credit and Banking*, forthcoming.

Blanchflower, D G, J Saleheen and C Shadforth (2007): "The impact of the recent migration from Eastern Europe on the UK economy", *Bank of England Quarterly Bulletin*, vol 47, no 1, pp 131–36.

Bonin, H (2005): "Wage and employment effects of immigration to Germany: evidence from a skill group approach", *IZA Working Papers*, no 1875, IZA, Bonn.

Borjas, G J (2003): "The labor demand curve is downward sloping: re-examining the impact of immigration on the labor market", *Quarterly Journal of Economics*, vol 118, issue 4, pp 1335–74.

Card, D (1990): "The impact of the Mariel Boatlift on the Miami labor market", *Industrial and Labor Relations Review*, vol 43, no 2, pp 245–57.

——— (2005): "Is the new immigration really so bad?", *Economic Journal*, vol 115, no 507, pp F300–23.

Dustmann, C and A Glitz (2006): *Immigration, jobs and wages: theory, evidence and opinion*, Centre for Economic Policy Research, London.

European Commission (2001): *Employment in Europe 2001: recent trends and prospects*, Office for Official Publications of the European Communities, Luxembourg.

Freeman, R (2006): "People flows in globalization", *Journal of Economic Perspectives*, vol 20, no 2, Spring, pp 145–70.

Hatton, T J and J G Williamson (2002): "What fundamentals drive world migration?", *NBER Working Papers*, no 9159, Cambridge, Mass.

Hercowitz, Z and E Yashiv (2002): "A macroeconomic experiment in mass immigration", *IZA Discussion Papers*, no 475, Bonn.

Izquierdo, M, J F Jimeno and A Rojas (2007): "On the aggregate effects of immigration in Spain", *Bank of Spain Working Paper* no 0714.

Jean, S and M Jimenez (2007): "The unemployment impact of immigration in OECD countries", *OECD Economics Department Working Paper* no 563.

Lewis, E G (2004): "Local open economies within the US: how do industries respont to immigration?", *Federal Reserve Bank of Philadelphia Working Paper* no 04-1.

——— (2005): "Immigration, skill mix and the choice of technique", *Federal Reserve Bank of Philadelphia Working Paper* no 05-8.

Organisation for Economic Co-operation and Development (2006a): *Economic Outlook*, no 80, November, OECD, Paris.

——— (2006b): *International Migration Outlook*, Paris.

——— (2007a): "Removing obstacles to geographic labour mobility", Chapter 8 in *OECD Economic Surveys: European Union*, OECD, Paris.

——— (2007b): *International Migration Outlook*, Paris.

Van Houtum, H and M Van Der Velde (2004): "The power of cross-border labour market immobility", *Outlook on Europe*, vol 95, issue 1, Royal Dutch Geographical Society, pp 100–7.

Discussion comments on "Immigration: trends and macroeconomic implications"

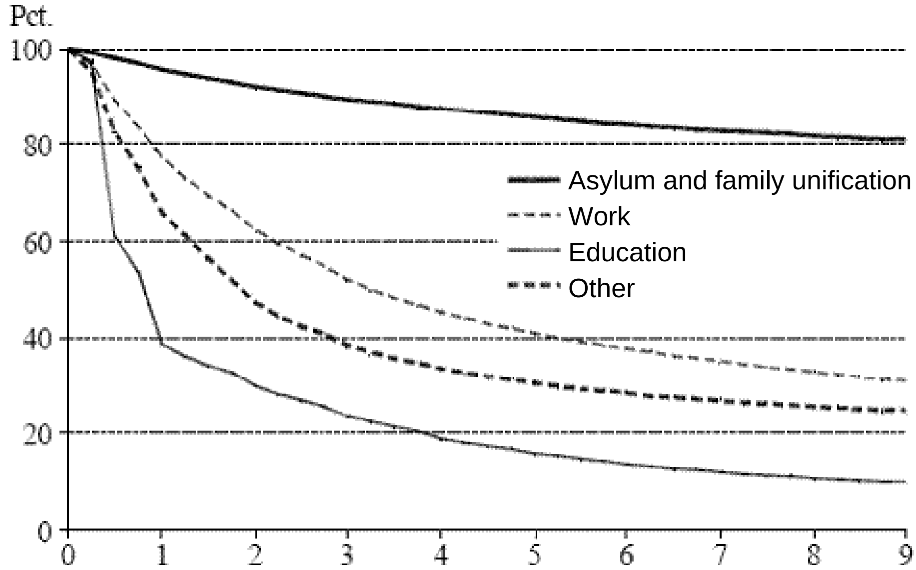
Torben M Andersen

Nickell's paper gives a very clear and well-written discussion of some of the macroeconomic implications of immigration. I find few things on which to disagree, but would like to point to some additional aspects which are treated only marginally or not at all in the paper.

Considering the implications of immigration, it is important to distinguish between different types of migration. This is because different rules and regulations apply to different types of immigration, and because the economic effects can be rather different. Immigration rules usually distinguish between entry for humanitarian reasons (for example, as refugees or for family reunification), and as workers or students. The entry rules for refugees in most countries follow United Nations (UN) conventions, whereas countries have adopted their own rules for other types of immigration. In addition, from a labour market perspective, cross-border movers as well as foreign firms operating within the country (bringing labour with them) are important.

Graph 1

Share of immigrants remaining in the country, Denmark, 1988–2006



Source: Danish Economic Council (2007).

The driving forces behind these types of immigration are clearly different. This is also reflected in two key characteristics concerning immigrants. The first is that they have, on average, lower labour market participation than natives, and the difference is, in general, larger for immigrants from low income countries than for those from high income countries (OECD (2007)). Secondly, the re-migration propensity differs significantly across groups. Graph 1 shows the results of a recent analysis of immigration in Denmark (Danish Economic Council (2007)). It is found that those entering to acquire education on average stay only for a few years (more than 50% leave after one year), while immigrants admitted as workers stay somewhat longer, but more than 50% leave after two years. Furthermore, graphs show that immigrants who come in as asylum seekers or to reunite with families are more permanent, with about 80% remaining in the country after nine years. A similar pattern is seen between immigrants from high and low income countries. For the former group, about 50% leave after two years, while 70% of the latter remain after nine years.

These differences are important from both a labour market and a public finance perspective and indicate that the composition of immigrants may be more important than the volume.

One important issue is how immigration affects labour market performance. A number of countries have recently experienced a "flattening" of the Phillips-curve i.e. unemployment is reduced without releasing wage pressure. Several explanations have been offered for this. One class of explanation relates to immigration. Easier entry and exit conditions for workers due to lower explicit barriers to migration for workers (eg EU regulations) as well as lower implicit barriers (eg culture, language, travelling time etc) may create a "reserve pool of workers" or a more elastic labour supply. This implies that countries experiencing below average unemployment tend to attract workers and vice versa. A booming economy with increasing employment may therefore via immigration experience an increase in labour supply rather than increased wage pressure when firms are competing for labour. A further implication is that we should expect to see that unemployment becomes less sensitive to variations in activity (GDP). This mechanism tends to flatten the Phillips-curve via the actual flow of migrants. These mechanisms may be released by immigrants, but they may also be particularly important in countries (regions) where cross-border movement of labour is a possibility (shifting jobs between countries does not necessarily imply that one has to move).

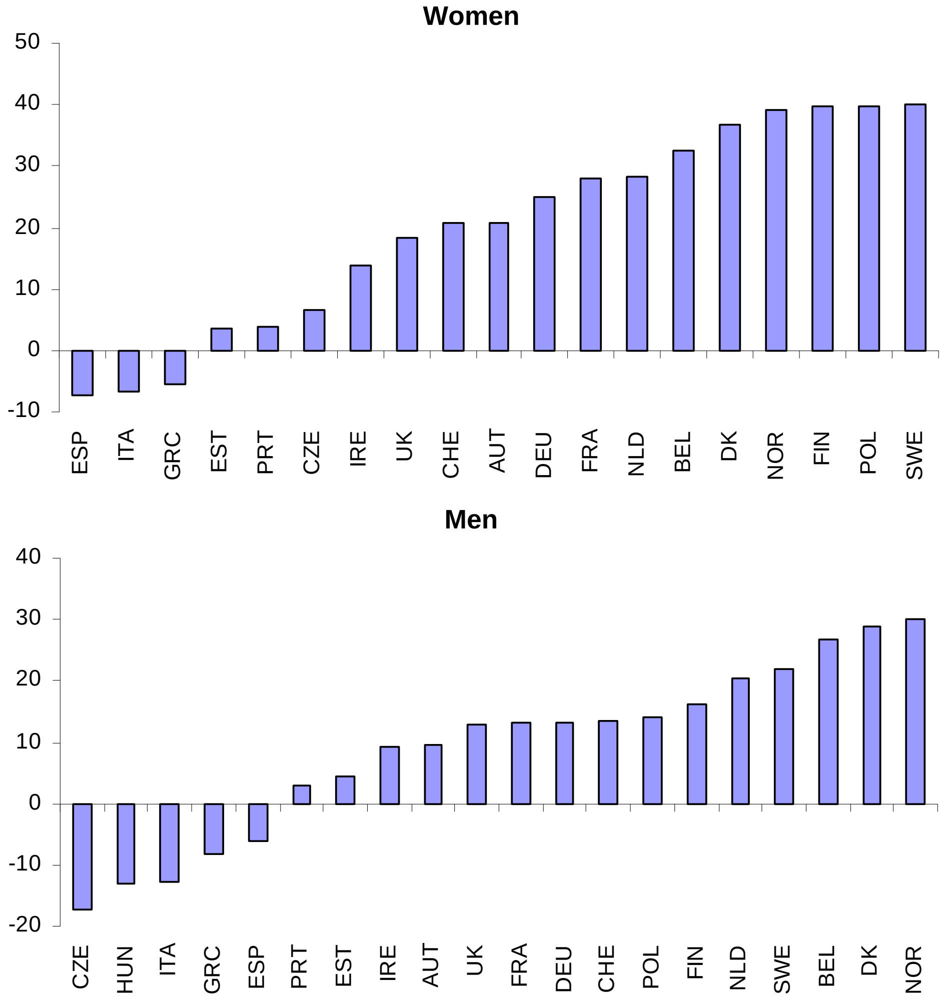
A further effect arises via the effects migration may have on wage setting. In short, the scope of migration changes the outside option. In a boom period, immigration makes the outside option of firms better in the sense that they have a possibility of fulfilling the need for labour via foreign labour. Conversely, in a recession, the outside option of workers is better since there is a possibility of working elsewhere. In short, this channel implies that the potential for migration is sufficient to change wage setting and makes it less sensitive to demand pressure in the labour market. Obviously, the strength of this mechanism also depends on the extent to which bargaining outcomes are extended to all workers (unionised versus non-unionised workers). In particular, in countries with relatively centralised labour markets, there has been concern that migrant workers may underbid domestic (unionised) workers and thereby undermine the power of unions (EU regulation).

Another important aspect is how migration affects structural unemployment. The mechanisms outlined above may work to reduce market power and thereby reduce structural unemployment. However, there are other effects which work in the other direction, and which are intimately related to the point made above on the type of immigration. This is because the effects of immigration are influenced by the institutional structure of labour markets in general, and the welfare arrangements in particular. It may be useful to think of this in terms of the triangle between qualification, wages and the social safety net. In countries with ambitious distributional objectives, the social safety net is relatively generous, which, in turn, implies that the wage level is bounded by either explicit minimum wages or the compensation offered by the social safety net. This, in turn, implies that qualifications of the work force must be sufficiently high to make these characteristics consistent with a high employment level (or, phrased differently, the supply of unskilled labour has to be low to avoid excess supply and systematic unemployment for groups with low qualifications). In countries where the distributional ambitions are smaller, the social safety net implies a lower bound under wage setting and thus on the qualification levels needed to ensure high employment. In the former case, immigrants from low income countries (on average with less qualification than natives) would have a high unemployment risk. This means that the consequences of immigration from low income countries may differ significantly between countries, depending on the labour market institutions and welfare arrangements. Graph 2 shows for a number of countries the difference between the employment frequency of the population and that of immigrants from low income countries. It is seen that the gap is largest for some North

European and the Scandinavian countries, which underlines the point that the consequence of immigration from low income countries depends critically on institutional arrangements.

Graph 2

Difference in employment ratios, native to immigrants from low income countries, 2004



Note: The graphs give the difference in average employment rate for natives and immigrants from low income countries. Data for Denmark, Norway and Germany applies to 2003.

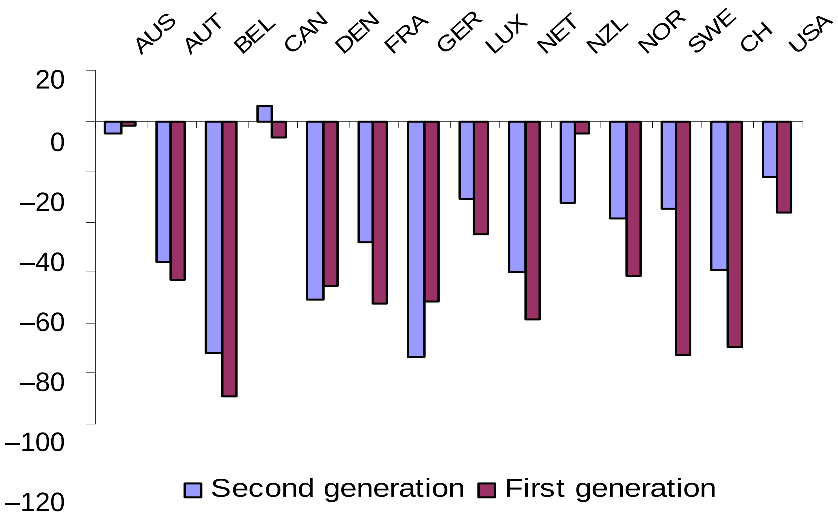
Source: Eurostat and Statistic Denmark.

For a long time, it has been taken for granted that such gaps would not arise for second generation immigrants since they will receive the same education as natives and therefore will be equally well prepared for entry into the labour market. This perception has turned out to be too optimistic. In many countries, the performance in the educational system is on average lower for those who have an immigrant background, as illustrated in Graph 3 for mathematics performance. In addition, labour market entry may be impeded by norms and discrimination. Hence, the challenge of ensuring labour market integration of immigrants from low income countries is significant.

In debates on future demographic shifts, it is sometimes argued that immigration may be the solution. The argument is straightforward. An ageing problem arising from an increase in the number of old people relative to the prime age group can be resolved by encouraging immigration among the young. Immigration may thus seem an easy fix for the demographic challenge. The discussion above on the labour market implications indicates that the effects may be more complicated than such simple reasoning suggests. The reason is that, although such immigration contributes to lowering the demographic dependency ratio, it solves the public finance problem only if immigrants become employed. This points to a very difficult policy problem in countries with an extended welfare system since the triangle between qualifications, wages and the social safety net in these countries makes it very difficult for immigrants from low income countries to have as high an employment ratio as natives. Hence, immigration from low income countries will not solve the ageing problem. The potential for solving the problem via immigration may also be seen in light of the fact that in a medium term perspective there is no "population surplus" in Eastern Europe. These countries are among the significant ageing countries, and, therefore, large migration flows from these regions should arguably not be expected, cf Carone (2005).

Graph 3

Difference in mathematics performance by immigrant status, 2003



However, by attracting immigrants who are well-qualified, the situation will be different. They would find employment more easily, and therefore be potential contributors not only to the labour market but also to public finances. Accordingly, many countries are discussing how immigration rules can be made more flexible in selecting the highly qualified. Various forms of green card or blue card arrangements are being discussed. Many countries have either implemented, or are discussing the implementation of, point systems inspired by the Canadian model where potential immigrants are awarded points based on education, language skills, experience etc. in an effort to select better qualified immigrants. Many countries also offer some form of tax rebate to attract highly qualified workers (although this may help solve some labour market problems, the tax rebate makes it less likely that it contributes to solving public finance problems), or to attract foreign students in the hope that they will also pursue a labour market career in the country after obtaining education. These initiatives show both that countries are changing their immigration policies to be more selective of labour market prospects and that countries are in fierce competition for the qualified and mobile work force.

References

Carone, G (2005): "Long-term labour force projections for the EU 25: a set of data for assessing the economic impact of ageing", European Commission, *Economic Paper*, no 235.

Danish Economic Council (2007): *The Danish Economy–Autumn 2007*, Copenhagen.

OECD (2007): *International Migration Outlook*, Paris.

Discussion comments on “Immigration: trends and macroeconomic implications”

William Wascher

I would like to begin by thanking Bill White and his colleagues at the BIS for organising this conference in honour of Palle Andersen and for inviting me to participate. As some of you may know, I spent a year as a visitor to the BIS in the late 1990s, and I had the good fortune to be assigned to Palle’s unit during my secondment. In fact, I was the only member of staff assigned to Palle, so he and I comprised his entire unit at that time. As a result, I had the opportunity to work quite closely with him on numerous BIS products, including the notes for the monthly G10 meetings, key chapters of that year’s *Annual Report*, and many other assignments. In addition, Palle and I found the time to collaborate on several research projects on inflation dynamics. In every instance, I found Palle to be an extraordinary colleague, exceptionally knowledgeable about whatever issue was at hand and extremely generous with his time. Perhaps in part because we were both fond of baseball, he and I also quickly became good friends, and I always very much looked forward to seeing Palle and Elsebeth on my return trips to Basel.

Turning now to Stephen Nickell’s paper on the macroeconomic implications of migration, I found it to be interesting reading: it was concise and to the point, and yet it covered most of the salient issues relevant to the topic. In one sense, Professor Nickell’s efficiency makes this paper a difficult one to discuss because I do not really have any specific critical comments to relay. However, he has left room for further exploration of some of the issues he raises, and so what I would like to do is to complement his paper with some additional discussion of the factors that he cites as having important influences on how immigration affects the macroeconomy.

As I read the paper, I came away with four main points. First, although net migration flows to OECD countries appear small relative to flows of goods or capital, they nonetheless can have important effects on economic growth. This is clearly the case in the United States, where immigration has accounted for about half of the growth in the working age population over the past decade and will undoubtedly remain an important source of population growth in coming years. Moreover, given that the United States ranks roughly in the middle of the pack in terms of migration as a percentage of the population, migration flows are likely to be an even more important potential source of growth in some other OECD countries.

Second, Nickell notes that in the long run, migration will raise the level of potential output, but that the size of this boost will depend on several factors related to the nature of immigration. I will return to the two he emphasises – the extent to which immigrants affect the natural rate of unemployment and the skill mix of immigrants relative to that of natives – shortly, along with a couple of others.

Third, Nickell notes that the short-run effects of immigration on the economy – and on inflation dynamics – depend on the relative influences of immigration on aggregate demand and aggregate supply. He points out, quite correctly, that the evidence on the influence of immigration on wages remains controversial. However, I agree with his characterisation that the weight of the evidence points to small effects.

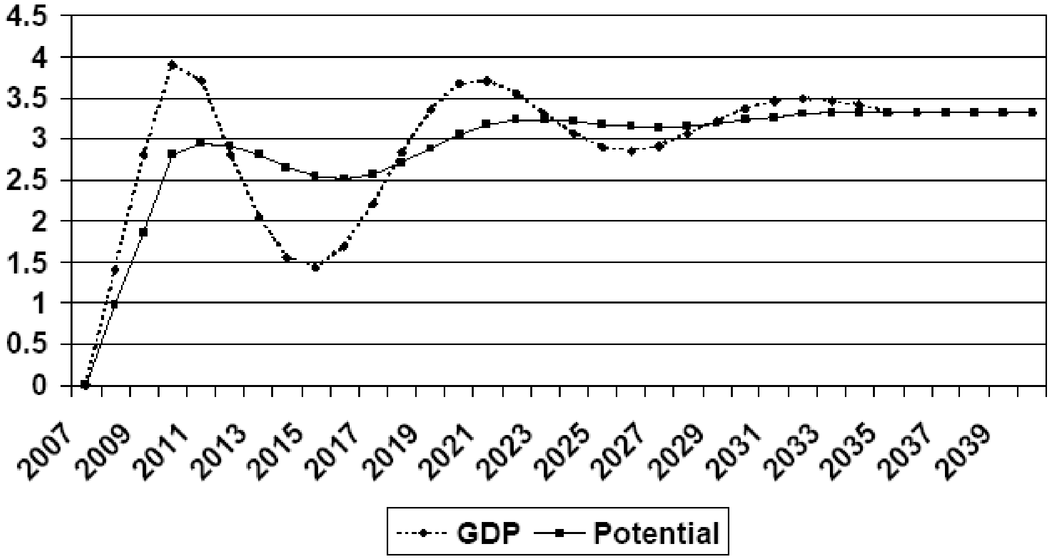
Finally, what comes across especially clearly in his paper – and in my own casual survey of the literature – is that empirical evidence on the macroeconomic effects of immigration is quite scant.

To illustrate the basic model that Nickell laid out in his paper, I used the Federal Reserve’s FRB/US model to provide a stylised example of what might happen if changes to immigration policy in the United States led to a temporary increase in the immigration rate.[1] More specifically, I exogenously raised population growth by 1 percentage point per year for the next three years, but made no other changes to the structure or parameters of the model. This shock to population growth is roughly equivalent to tripling the immigration rate over this period.

Graph 1

Model simulation of an increase in immigration

Deviations from baseline, percent



Source: Author's calculations

Graph 1 shows the responses in actual and potential output. As Nickell suggests, the main long-run effect is a larger economy. In particular, the level of potential (and actual) GDP eventually rises by a little less than 3½%, in line with the cumulative increase in the population level. There are no long-run effects on potential growth or the unemployment rate. In the short run, however, aggregate demand increases by more than aggregate supply, leading to some near-term inflation pressures. This large demand response occurs both because the new immigrants boost the level of consumption, and because the higher return on capital stimulates investment. Going forward, the higher inflation associated with this supply/demand imbalance induces a monetary policy response (a simple Taylor rule is used in the simulation) that eventually restores inflation to its baseline level.

This simple exercise makes no assumptions about how immigrants might differ from natives. In fact, the characteristics of these two populations typically do differ, but in ways that vary considerably across countries. For example, Nickell notes that on the demand side, immigrants often send remittances back to their home countries or save more of their income than natives, which would tend to reduce the effect of immigration on consumption. On the other hand, immigrants may have greater demand for consumer durables than natives, reflecting a desire by immigrants to quickly build up their stocks of durables from a very low level; if so, the effect would be larger. Some information is available on remittances from household surveys and from official statistics on international transactions (for example, the

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[1] I would like to thank Thomas Tallarini for his help in performing this simulation.

IMF's *Balance of Payments Statistics Yearbook*). While such data are incomplete, they suggest that the magnitude of remittances differs considerably across countries and over time. Information on differences in consumption and saving patterns between native and foreign-born households is even more difficult to come by, but again, it would not be surprising to find substantial variation across countries.

Another influence on aggregate demand in the short run relates to the rapidity with which investment responds to the higher returns to capital. As I noted in regard to the simulation shown in Figure 1, this effect is sizeable and occurs quite quickly in the FRB/US model. However, there is considerable debate in the empirical literature about the true nature of that response, and once again, it could differ across countries.

On the supply side, Nickell points out that differences in the skill profiles of potential migrants and native-born workers may influence the effects of immigration on labour productivity. If immigrants to a country are disproportionately comprised of individuals who are less skilled than the native-born workforce, they will tend to lower the average level of productivity, and as a result, the effects of immigration on potential output will be smaller than if immigrants tended to be more highly skilled.

This observation suggests that country-specific policies can influence the macroeconomic effects of immigration. As an example, Table 1 shows the percentages of permanent immigrants to four selected countries in 2001 who were admitted for work-related reasons, for family reunification, or for humanitarian reasons. The variation across these countries in the proportion of immigrants admitted for work-related reasons is considerable, ranging from 20% or less in the United States and France to more than 50% in the United Kingdom and Australia. Because policies favouring economic migration are often targeted at skilled workers, one might expect the skill mix of immigrants to countries emphasising such policies to differ from the skill mix of immigrants to countries that admit a greater percentage of immigrants for family or humanitarian reasons.

Table 1

Immigration by reason for admittance, 2001

In per cent

Country	Workers	Reuniting families	Refugee/ asylum
Australia	55	33	12
France	20	70	10
United Kingdom	54	36	10
United States	19	71	10

Source: United Nations as reported in World Bank (2006).

The figures in Table 2 offer some support for this hypothesis. In both Australia and the United Kingdom, where policies favour work-related migration, the share of immigrants with less than a high school education is relatively low, while the share with a college education is relatively high, especially when compared to the distribution of educational attainment for the native-born adult population. In contrast, in France, where policy tends to favour family reunification or refugees, more than 50% of foreign-born workers have less than a high school education and only 21% have a college degree.

The situation is a little more complicated in the United States. As can be seen in Table 1, US immigration policy strongly favours potential migrants with family connections to current legal residents, with more than two thirds of legal immigrants in 2001 admitted under the family-based preference categories and less than 20% admitted for work-related reasons. Consistent with this policy, Table 2 indicates that immigrants are heavily over-represented among the lowest-skilled educational group: 30% of immigrants to the United States have less than a high school degree, as compared with just 8% of the native-born population. At the same time, however, foreign-born workers are well represented at the high end of the educational scale, with 35% having a college degree, roughly the same percentage as immigrants to Australia and the United Kingdom. Moreover, foreign-born workers make up more than a quarter of US workers with a PhD and account for more than 40% of workers with a science PhD.[2] These patterns may in part reflect a tendency for foreign-born individuals to attend graduate school in the United States and then remain after they complete their studies. But, whatever the cause, the productivity consequences of immigration for the United States are more ambiguous.

Table 2

Education levels, 2003–04

In per cent

Country	Foreign-born			Native-born		
	<HS	HS	College	<HS	HS	College
Australia	24.1	40.1	35.7	32.3	41.5	26.2
France	51.1	27.8	21.1	32.8	43.6	23.7
United Kingdom	22.1	43.6	34.3	15.9	54.8	29.4
United States	30.1	34.9	35.0	8.5	51.6	39.9

Source: OECD (2007 a).

The second supply side factor that Nickell emphasises is the possibility that immigration influences the equilibrium level of unemployment. In particular, if immigrants help to relieve labour shortages in specific occupations or geographic areas, or if they have lower reservation wages than natives (perhaps because they are less likely to be eligible for unemployment insurance or other government transfers), then a higher rate of immigration may lower the natural rate of unemployment, at least for a time. Here, the evidence from the United States is more favourable. For example, foreign-born workers tend to have unemployment rates that are similar to those of their native counterparts, and there is little evidence that immigration reduces labour market opportunities for native US workers (Card (2005)). One possible explanation is that firms adapt their production technologies in response to an influx of new immigrants. Another interpretation is that immigrants are filling jobs for which vacancy rates were high, thus improving the efficiency of job matching and shifting the Beveridge curve inward.[3]

Along these lines, Borjas (2001) argues that immigrants may help to “grease the wheels” of the labour market because they are better positioned to respond to geographic differences in economic opportunities than are natives. In particular, past research on internal migration among US natives indicates that while migration does respond to differences in regional

[2] See US Council of Economic Advisers (2006, p 200).

[3] These possibilities are discussed in Lewis (2005).

unemployment rates and wage levels, that response is very slow, in part because there are high fixed costs to moving, in both monetary and psychological terms.[4] In contrast, immigrants have already borne those costs when they decided to leave their home country for another, and thus they may be more responsive to differences in economic opportunity in choosing where to live in the destination country. As evidence for this hypothesis, Borjas notes that immigrants tend to settle in cities where they receive higher wages for their skills, and that regional wage differentials tend to converge more quickly during periods of rapid immigration. This issue is also relevant to Europe, where the geographic mobility of native-born individuals has historically been low and where immigration from countries outside the European Union has the potential to play a similar role. However, there is some disagreement over how important these effects might be. For example, one counterargument is the presence of large ethnic enclaves of immigrants in particular cities, which suggests that non-economic factors also have an important influence on the location decisions of immigrants.[5]

As Nickell points out, differences in institutions across countries may be especially important in this regard, because they can influence the speed or the extent to which immigration can supply this "grease". Nickell cites an OECD study showing that employment protection legislation and product market regulation slow the employment adjustment of immigrants as one piece of evidence. More broadly, Table 3 shows that countries with less regulated labour markets tend to have smaller differentials between native and foreign-born unemployment rates. This suggests that institutions and regulations, including unemployment insurance and welfare policies, minimum wages, and the like, can enhance or impede the ability of immigrants to find jobs, with associated effects on the natural rate of unemployment.

Table 3

Labour market regulation and unemployment

Country	Regulation index	Unemployment rates	
		Native	Foreign-born
United States	6.76	5.8	5.1
Australia	5.98	4.8	5.1
United Kingdom	5.15	4.3	7.3
Spain	3.79	9.1	11.3
Netherlands	3.61	4.0	10.8
Sweden	3.45	7.9	14.9
France	2.73	8.6	14.7
Germany	2.45	10.4	17.0

Labour market regulation index is for 2006. A higher number indicates that labour regulations are less likely to hinder business activities. Unemployment rates refer to 2005.

Source: IMD (2006); OECD (2007 a).

4 See, for example, Blanchard and Katz (1992) or Gabriel et al (1993).

5 See, for example, Bartel (1989).

A third potential influence reflects differences in the demographic profiles and work tendencies of the foreign-born population. In the United States, immigrants tend to be younger than the average native-born person, and they are more likely to be in the labour force at any given age. As a result, the contribution to the labour force from immigration is probably larger than the population figures alone would suggest. In addition, one might expect the additional impetus from labour force participation to be greater in countries in which immigration policy has a larger employment-based component or where illegal immigration is more common.

To conclude, macroeconomic model simulations such as the one I described earlier clearly need to be calibrated to take account of differences between the native and immigrant populations. In addition, given the varied characteristics of labour market policies and institutions across countries, these calibrations need to carefully consider those specifics as well. Some valuable research using such models has been done at the World Bank and the OECD. In addition, an interesting working paper from the Bank of Spain analyses the macroeconomic effects of immigration in the context of a dynamic general equilibrium model (Izquierdo et al (2007)). But, as Nickell's paper suggests, there is considerable room for additional research on this topic. While the research cited by Nickell on the effects of migration to Israel on unemployment or on the effects of immigration to Spain is interesting, I would be hesitant to draw broad inferences from these studies without further investigation of how differences in institutions and other factors influenced these effects. Likewise, the research pertaining to the United States suggests to me that while immigration is clearly important for longer-run growth, the implications for shorter-run macroeconomic dynamics are not likely to be especially significant given current immigration flows. But here again, the evidence is limited and additional empirical research would be welcome.

References

Bartel, A P (1989): "Where do the new US immigrants live?", *Journal of Labor Economics*, vol 7, no 4, October, pp 371–91.

Blanchard, O J and L F Katz (1992): "Regional evolutions", *Brookings Papers on Economic Activity*, vol 23, issue 1992-1, pp 1–61.

Borjas, G J (2001): "Does immigration grease the wheels of the labor market?", *Brookings Papers on Economic Activity*, vol 32, issue 2001-1, pp 69–133.

Card, D (2005): "Is the new immigration really so bad?", *Economic Journal*, vol 115, no 507, November, pp F300–23.

Gabriel, S A, J Shack-Marquez and W L Wascher (1993): "Does migration arbitrage regional labor market differentials?", *Regional Science and Urban Economics*, vol 23, no 2, April, pp 211–33.

Institute for Management Development (2006): *IMD World Competitiveness Yearbook*, Lausanne, Switzerland.

Izquierdo, M, J F Jimeno and J A Rojas (2007): "On the aggregate effects of immigration in Spain", *Bank of Spain Working Paper* no 0714.

Lewis, E G (2005): "How do local labor markets in the US adjust to immigration?", *Federal Reserve Bank of Philadelphia Business Review*, no 1, pp 16–25.

Organisation for Economic Co-operation and Development (2007 a): *International Migration Outlook*, Paris.

——— (2007b), *Removing obstacles for geographic mobility*, Chapter 8 in OECD Economic Surveys: European Union, Paris.

US Council of Economic Advisers (2006): *Economic Report of the President*, Washington DC.

World Bank (2006): *Global Economic Prospects: Economic Implications of Remittances and Migration*, Washington DC.

Exploring international migration and outsourcing through an institutional lens

Jill Rubery, Annamaria Simonazzi and Kevin Ward

Introduction

The growth in outsourcing and offshoring, coupled with the upward trend in migration, is often interpreted as signalling an end to the institutional and geographically specific organisation of labour markets; as both jobs and labour become more mobile the conclusion, as promoted by a popular best-seller, is that "the world is flat" or at least flattening (Friedman (2005)). Institutional arrangements – hills or mountains in the "world is flat" metaphor (Leamer (2006)) – are being eroded and flattened by the twin processes of rapid technological diffusion and integration of factor markets, including that for labour. These developments are putting in question the survival of distinctive varieties of capitalism based on strong employment and welfare organisation and also leading to reassessments of what should constitute the core competences and internalised assets of organisations.

While there is nothing inherently new about international outsourcing or indeed migration, the recent phase of offshoring and international migration has attracted attention not only for its role in intensifying competition between high-wage and low-wage economies in manufacturing but also for its opening-up of new and previously closed areas of the labour market to such competition, particularly in services. Work that was regarded as protected by barriers to trade is now open to either inshoring of migrant workers or offshoring of service activities; this intensifies competition between geographically specific employment regimes based on different wage structures and social costs, employment protection and training arrangements. Regime competition, even in manufacturing activities, has always been controversial – witness the opposition to the formation of NAFTA and the unresolved debates over international trade negotiations. This new phase of offshoring and inshore migration is that much more visible as citizens communicate directly with the new hires on the telephone or meet them in the workplace or marketplace. The proposal that workers "posted" by foreign-owned companies could be employed under the sending and not the receiving country's terms and conditions proved to be too controversial for the European Union, as those promoting the Services Directive within the region discovered.[1]

This paper explores the development of outsourcing/offshoring and migration through an institutional lens, and focusing primarily on Europe. Migration and outsourcing may be challenging the survival of current institutional arrangements but these processes are themselves institutionally constituted. Their extent, form and impact is, we will argue, dependent on the institutional context. The contours of the hills and valleys – to use the "world is flat" metaphor – are shaping both the path taken and the speed and volume of movement. Thus these processes may be reshaping employment systems but in path-dependent, context-specific ways. Furthermore, the mediation of migration and outsourcing by institutional arrangements is far from either predictable or linear as the processes themselves may induce institutional change. For example, not only are the rules and regulations concerning migration frequently changed in direct response to pressures and concerns over migration but new labour market regulations may be introduced to protect

[1] The Services Directive was only passed once the principle that service workers could be employed in the host country under the legal regulations of the home or sending country was removed.

against new forms of low-wage competition, or welfare entitlements varied – sometimes with the aim of including, sometimes excluding new migrants, dependent upon the political context.

The overall argument here is thus that it would be too simplistic to assume that the opening-up of national borders will lead to a process of convergence in employment arrangements across countries in line with a liberal model of employment organisation. While these developments are playing a major role in the reconfiguration of the division of labour within and across societies, this process is itself very much dependent upon institutional factors and forces at the pan-national, national and meso/micro level. These institutional influences cannot or should not simply be treated as barriers or obstacles. There are strong efficiency as well as social arguments for the institutionalised and longer-term employment relationship (see Marsden (1999)). Moreover, labour is not a commodity and the movement of labour is not just an issue for employment and economic policy but has major implications for national political processes, including the definition of citizenship and national security as well as access to social protection.

The complexity of this issue is such that we certainly do not yet know how these current developments will work out. We thus start the paper by reviewing recent trends and the key concepts or frameworks used to explain both the spread and impact of outsourcing/offshoring and migration within OECD countries and to predict their impact on national employment systems. The main focus is on Europe, on the outsourcing rather than insourcing nations, as it is Europe where the key examples of strong employment and welfare regimes are to be found (apart from Japan). These overviews point to the need for a more complex and institutionally rooted approach that explores the ways in which outsourcing and migration patterns are not only reshaping institutional arrangements but at the same time being constituted by them. To illustrate the complexity of the issue at an empirical level, we provide examples from recent international research on three key but also diverse areas for this debate: the role of temporary staffing agencies (a major form of employment outsourcing) in the processes of both outsourcing and migration; the role of migrants in the elderly care sector in Europe; and the development of IT-related outsourcing, from low-end call centres to high-end IT software. We conclude by exploring some of the policy implications of these developments.

1. Outsourcing and migration through an institutional lens

Accounting for international outsourcing/offshoring

Offshoring has expanded rapidly in manufacturing but services is the fastest growth area.[2] Accounts of, or explanations for, the growth of international outsourcing have been offered at a macro and a micro level. At the macro level, offshoring or international outsourcing is considered to be growing due to reduced costs (technology reducing transaction costs), reduced barriers to capital and technology transfer (enabling sourcing at different wage and value levels), enhanced overseas capabilities and skill levels, domestic problems of labour turnover and/or skill shortage and weakened union resistance to organisational restructuring. The outcome at a macro level is interpreted by some as win-win, providing the basis for

[2] See the OECD (2007a) report on offshoring for a description of the complexities of definition and the range of different modes – subcontracting, establishment of affiliates in third countries, etc – through which it can occur. Data on the United States show that around half the increase in trade over the last two decades has been in intermediate goods and that trade in intermediate service inputs is growing even faster than for manufacturing, albeit from a lower base (Milberg and von Arnim (2006)).

countries to focus on their core competences and to move up the value chain, thereby allowing for high levels of specialisation and overall gains from trade. The main argument here is that offshoring leads to higher profits which in turn lead to higher investment and dynamic growth (Mann (2003, 2006)). Evidence that offshoring tends to be associated more with growing than declining sectors is cited in support (OECD (2007a)). These optimistic interpretations are disputed by others such as Milberg and von Arnim (2006), who point to the high costs of adjustment faced by displaced workers, argue that profits may be higher but investment benefits have yet to materialise, and point out that in many cases global production networks are not providing developing countries with fair rewards for their efforts. Furthermore, evidence that offshoring opportunities are creeping up the value chain suggests that even core competency jobs in developed countries may be in jeopardy of displacement. The pessimists are in fact divided over the inevitability of the growth of offshoring; for some it is in part the outcome of the over-hyping of its advantages to business by consultants[3] and business schools. As emphasised in OECD (2007a), only a small share of companies even in the most affected sectors have actually adopted an offshoring policy. This evidence suggests that there is not an overwhelming economic argument in favour of offshoring. Companies may, however, believe that they are missing out unless they follow the trend, even if there are sound business arguments against this practice.

Explanations for the variety of practices at organisation level in relation to outsourcing and offshoring can be sought in the business and management literature and in particular in the resource-based view of the firm (Barney (1991), Penrose (1959)). Organisations may take a longer-term, more strategic perspective and seek to develop their own firm-specific comparative advantage through the fostering of firm-specific knowledge, routines and assets including the skills of their workforce. Decisions to outsource should, from this perspective, be primarily motivated by a view that the activity or process is not a core part of the firm's competences and thus not essential for the strategic development of the firm (Lepak and Snell (1999)). Much of the explanation of the growth of outsourcing is attributed to organisations acting strategically to move up the value chain, following the massive increase in new opportunities to outsource and offshore non-strategic activities. However, there is a danger of oversimplifying the problem of distinguishing between strategic and non-strategic activities. Rarely do such binaries hold firm in the context of organisational decision-making. Changes in either the internal or the external price of undertaking an activity may alter the assessment of where the dividing line should lie between strategic activities that need to be kept in house and those that can be outsourced; there may be no change in the nature of the tasks or their operational or strategic importance but these characteristics may be traded off against price (Priem and Butler (2001)). This change in price may open up opportunities to focus on strategic priorities but, on the other hand, may seduce organisations to experiment with outsourcing activities that for reputational and/or operational reasons should really be retained in house. It is these conflicting objectives that may account for variations in the rate of take-up of outsourcing/offshoring activities. Furthermore, there are tensions in inter-organisational contracting relations between the objectives of cooperation and cost minimisation. To use Streeck's (1987) terminology, there are choices between relations of contract, where the emphasis is on control and reducing costs, and status relations, where

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3 The McKinsey Institute (Farrell (2005)) argues that offshoring is being inhibited in Europe because restrictive labour laws are limiting rehiring of displaced workers. Germany currently only recoups EUR 0.80 for every EUR 1 of corporate spending offshored because of a low rehiring rate of around 40%. This loss could be turned into a profit of EUR 1.05 of value per EUR 1 if it could match the 69% rehiring rate in the United States. The 5% increase in value would still be less than the benefits of offshoring to the United States, calculated at 13% due to higher costs, partly associated with language issues and the higher costs of using eastern Europe over India, where language problems are more easily overcome. The analysis presumes that problems related to language skills are reducible to additional cost factors, even for service sectors dealing directly with customers, and not to severe operational difficulties that may lead to complete loss of business.

the emphasis is on partnership and "going the extra mile". This dilemma is not fully solved by the distinction between relational contracting and arm's length or contractual outsourcing. Relational contracting is expected to develop in contexts where organisations need to work together as partners and over the long term to provide for mutual trust and the security for the subcontractor to invest in developing skills and production systems to meet the client's needs. However, it is not clear that clients, particularly those with power in the marketplace, are willing to make a clear-cut choice between these two forms; they may be tempted to seek to "have their cake and eat it" (Purcell and Purcell (1999)), by expecting the subcontractor to act as a problem-solving partner during the course of the contract but insisting on putting the renewal of the contract out to competitive tender. In practice contractual relations between organisations may be based on both contract and status, resulting in confusion and tensions between these competing objectives, just as is found in the employment relationship itself.

In a context where there are significant differences in wage costs, currency exchange rates or available social subsidies, organisations may be tempted to seek a low-cost solution even for an activity or process of significant strategic and operational importance to them. Because of these conflicting pressures, decisions to outsource should be regarded as contingent and not necessarily made in the same direction even by similar firms. In practice even areas that are relatively commonly outsourced are still not universally outsourced and it is usually still a minority of firms that engage in outsourcing (OECD (2007a)). Nor will a decision to outsource necessarily be sustainable if the judgment with respect to the costs versus benefits proves unwarranted. A fashion for outsourcing does not necessarily mean the end of the integrated firm; the longer-term trend will depend upon the proven capacities of the outsourcers to deliver on quality as well as on price, and on the incentives either to reintegrate or to change processes and practices to automate/reduce the scale of the outsourced operation (or conversely to expand the scale of offshoring through further externalisation). This approach suggests scope for varying speeds and even for non-linear developments in outsourcing and offshoring. However, the reversal of outsourcing critically depends upon whether the client firms/offshoring countries retain the capacity and knowledge to reabsorb the outsourced processes and activities. Likewise, the ability of the subcontractor and indeed the offshoring host country to develop their capacities and capabilities will influence whether the process is cumulative, attracting more and more firms into outsourcing/offshoring or expanding the activities that are outsourced or offshored.

Accounting for international migration

Migration shows a strong upward trend (OECD (2007b)) with the last two years for which we have data showing increases of above 10% per annum even in permanent migration (11% for 2005, 16% for 2004). Trends in international migration – not allowing for movements primarily motivated by political events and conditions – have normally been analysed by economists using distinctions between push/pull factors to identify motivation. The effects of migration are often analysed with respect to employment and wage levels for the native population and overall growth rates. Mixed effects may be found, with migration acting to moderate pressure on wage levels particularly at the bottom of the labour market but also facilitating expansion, such that the impacts on growth in the economy may be positive (Home Office/DWP (2007)).

This approach tends to oversimplify multifaceted and complex relocation decisions and to downplay the importance of institutional factors in shaping both flows and outcomes. While the specific regulations affecting the flow of migrants and their rights to remain are clearly taken into account in standard migration studies, less attention is paid either to the institutional processes that lead to migration and the placement of migrants in jobs or to the impact of institutions in shaping outcomes.

For example, migration is often identified as filling a labour market gap or skill shortage but an important issue to identify is the institutional factors associated with the creation of the gap or the skill shortage in the first place. It is these differences in institutional structures and practices that may account for significant variations among countries or sectors. In the postwar reconstruction some European countries largely used migrant labour to fill a labour gap (Castles and Kosack (1973)), while others such as Sweden mobilised female labour. These differences in strategy were linked to different paths of development of welfare and family systems (Esping-Andersen (1990)). These differences still exist today; it is notable that in southern European countries, particularly Spain, the employment rate of migrant women is higher than that of native women while the opposite applies in, for example, Scandinavian countries (OECD (2007b)). Yet given the low employment rate of women in the southern European countries it might be expected that there would be more difficulties for migrant labour to find work. A particularly important issue is whether migrants are used to fill public sector jobs in sectors such as health and care because of an unwillingness of public authorities, as quasi-monopsonistic employers, either to raise pay or invest in the training necessary to fill the gap (Nowak and Preston (2001)). Identifying a skill or labour supply shortage is thus the beginning, not the end of the explanation; the more interesting questions are those aimed towards reaching an understanding of how that gap or shortage arose and what the obstacles are to these being filled internally by domestic labour.

The peculiarities of skill development systems are also critical in understanding the use of migrants on both the supply and the demand side. For example, when Germany made a big push to recruit migrant labour for the IT industry to fill a gap in 2000 ahead of the planned expansion of trainees in the sector, one factor in its need to use external recruitment was undoubtedly the importance attached to formal qualifications in recruiting labour to posts in the German system (Hart and Shipman (1991)). In the United Kingdom, for example, it is easier to deal with a skill shortage in IT by informal company-specific or brand-specific training at the workplace. The role that India has assumed in supplying migrants in the IT industry is in turn rooted in its particular development of higher education and training, which was not specifically planned with the IT revolution in mind but instead reflected political factors in post-independence India and the difficulty of agreeing upon another national language of instruction.[4] The supply of qualified Filipino health professionals is clearly again predicated on the institutional arrangements and policy decisions in the sending country that generate an oversupply of such professionals with a view to promoting and maintaining a continuing supply of remittances to the Philippine economy (Lorenzo et al (2007)).[5]

Furthermore, the ability of migrants to fill skill shortages depends above all else on the recognition or accreditation of skills acquired outside a national institutional framework. This recognition is primarily promoted again by institutional regulation at the pan-national level and without such intervention, migration to fill skill shortages can be expected to be either restricted or delayed by the need to complete further training. Alternatively, the migrants are likely to be concentrated in job areas below their level of qualification. It may indeed be the opportunity to recruit overqualified staff that acts as a primary incentive for employers to recruit migrants. In addition to such incentives, there may also need to be active intermediaries to bring about a matching of potential migrants with potential job vacancies. Organisations that screen and manage new entrants to the labour market play a particularly important role in shaping the level and form of flows into employment. If these organisations primarily channel migrants to existing vacancies in firms paying the current going rate, the impact may be to reduce pressure to raise wages in such sectors, but migration is not

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[4] The intention post independence was to choose a new language but the attempt to introduce Hindi led to protests in 1963 and even Gandhi became persuaded of the need to maintain instruction in English: http://www.bl.uk/learning/langlit/sounds/case-studies/minority-ethnic/asian/.

[5] Although policymakers are having to revisit the strategy as, despite the high level of training, a labour shortage is developing within the Philippines' own health service (Lorenzo et al (2007)). Another factor is the way western employers construct certain groups of workers as possessing innate "caring" qualities based on gender and racial characteristics (Pratt (2007)).

necessarily associated with the setting of new and lower terms and conditions. However, where, for example, temporary staffing agencies work together with new employing organisations that are dominated by migrant workers – for example gangmasters in food processing – it is more likely that the employing organisation will base its competitive position on paying wages below the current going wage rate in the sector, thereby undercutting existing organisations on labour-intensive processes. The opportunities for such new organisations to develop and capture part of the market will vary both between countries and between sectors, dependent in part on the presence of labour-market-wide regulations and the effectiveness of enforcement mechanisms.

This brings us to a further very important institutional role in shaping outcomes, and that is the form and effectiveness of product, market and labour regulation in the economy or sector. Work by Abowd and Freeman (1991) demonstrated that migration under different regulatory regimes – for example the United States compared to Canada – could result in very different outcomes for employment opportunities, wages and careers for migrant workers. However, there is no simple way to classify regulatory regimes; where regulations are strict and standards high, the opportunities for informal work may be greater than in more open economies where migrants can be employed on poor terms and conditions within the legal or formal economy. It is in the liberal or open economies that there may be more difficulties in using migrant labour specifically to fill a particular labour market role/alleviate a specific skill shortage as the openness of the labour market may in fact allow migrants to use their first employment position more as a jumping-off point for entry into other parts of the economy. Where labour markets are more regulated, migrants may be more trapped in informal work or specific sectors.

Migration and outsourcing and the varieties of capitalism

This brief overview of institutional influences therefore suggests that there is a need for a much more detailed understanding of the factors behind the flows and their impacts than is included within a general labour market model focusing on employment and wage effects, assuming non-segmented markets. Moreover, in both the case of outsourcing and that of migration there is a clear need to consider these developments within the context of different modes of organising both employment and welfare systems.

Much recent literature focuses on a two-way classification of national models – between coordinated capitalism and liberal market capitalism as described in the varieties of capitalism literature (Hall and Soskice (2001)). In principle the main prediction is that increased openness to the international economy through both migration and international outsourcing may be most likely to challenge the coordinated capitalism models that are reliant on strong national systems of regulation and coordination. To the extent that the coordinated models are able – at least in the short term – to protect their internal markets through, for example, high and common labour standards, the advantages of both hiring migrants and domestic outsourcing may be modified. However, it is more difficult in principle to extend such control of labour standards to offshored activities. Labour market regulation may thus affect the division between internal and external outsourcing, rendering the predicted overall effect on the extent of outsourcing unclear. Not only is there considerable variety within both categories of national models, linked to different welfare and family systems (as we discuss further in the case study example of elderly care below), but there are also differences in the modes and mechanisms deployed to regulate labour markets, which are influencing the outcomes with respect to the terms and conditions under which migrant workers are employed. For example, Germany is faced with particular problems of maintaining a strong floor to labour standards in the face of greater use of posted workers on the one hand and the development of new areas outside collective regulation on the other, in part associated with outsourcing (Bosch et al (2007)). These problems arise because of the absence of a minimum wage, coupled with the reluctance of the government to fix minimum wages even in vulnerable sectors due to the continuing influence of the postwar settlement where collective bargaining was to remain independent of the state. In contrast, Scandinavian countries – also included under the coordinated capitalism label – have been able to use trade union blockades and industry-wide bargaining to maintain labour standards, despite the absence of a formal minimum wage. Thus, the development of international migration, fostered by EU internal mobility laws, is challenging national models but the outcomes are by no means uniform or fully predictable. These varying outcomes are explored further in the case studies below.

2. Outsourcing and migration: some case study evidence from temporary staffing agencies and the care and IT/call centre sectors

The three case studies explore the following issues: patterns of growth in outsourcing/offshoring and/or migration and evidence on the institutional forms through which this growth has taken place; the impact of national-level institutions on the extent and form of outsourcing/offshoring and/or the use of migrants; the impact of these developments on forms of work organisation and conditions of employment; and the efficiency and equity implications of these developments.

Case study 1: temporary staffing agencies

Agencies, the growth of outsourcing/offshoring and the use of migrant workers

Temporary staffing agencies (TSAs) play a critical role in the growth of both outsourcing and migration.[6] Their intermediary role enables employers to tap into an external source of labour without incurring the costs and risks of direct international recruitment and enables workers to locate a source of employment. These intermediary roles may be performed in many cases by family or word of mouth networks. However, agencies extend the opportunities beyond those employers and migrants who are likely to participate in informal networks. Opportunities for migrants may therefore be dependent in part on the extent to which TSAs operate in a country and are used by employing organisations to recruit and screen staff.

The temporary staffing industry has experienced sustained growth since the mid-1970s (Coe et al (2007), Theodore and Peck (2002), Ward (2003)), with rates of growth becoming particularly high over the past decade; global turnover was estimated to be USD 83.2 billion in 1996 and USD 228 billion in 2006, a rise of 274% in nominal terms (CIETT (2007)). Furthermore, TSAs have been active in developing new markets, by varying the groups that they recruit (Coe et al (2007)), the source of recruitment (from local to national and international) and the services they offer – from direct labour supply to HR functions and executive search. Larger agencies in particular have expanded the segments in which they place workers and have widened their service offerings – placing managers at client workplaces and handling recruitment activities – as part of corporate "value adding" strategies (Peck and Theodore (2002), Theodore and Peck (2002), Ward (2003, 2004)).

However, although the sector has become both more international in scope and more concentrated, with an elite group of 20 American, western European and Japanese agencies now accounting for some 40% of the global market, the main markets for many agencies remain national or local. It is the small to medium-sized agencies that are more likely to be

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[6] There is limited data on the role of agencies in migration but in the United Kingdom, of those registered migrants entering the country in the period 2004–07, 52% were in temporary employment, and many of these are likely to be employed by TSAs (Home Office (2007)).

involved in the direct mobilisation of migrant workers across borders. A recent study of international staffing agencies by one of this paper's authors found that the transnational agencies were generally wary of the costs (financial, legal, social, etc) of mobilising staff across borders, except in some highly skilled areas such as engineering. Even in the case of "global agreements" signed with transnational corporate clients, agencies still tended to recruit workers locally. The effect of this policy has been to leave this part of the trade primarily to smaller players, of which there are plenty in operation. Over 85% of the recruitment agencies in the United Kingdom are said (by the relevant employers' association) to be small and medium-sized enterprises (SMEs). And the same goes for the United States. So both of the world's largest national temporary staffing markets are highly fragmented, dominated by small and medium-sized agencies. Table 1 shows that the United Kingdom and Germany have many more agencies in operation than most European countries,[7] suggesting a strong role for SMEs in the sector. All types of agency, from transnational to SMEs, are, however, involved in placing migrant workers when they arrive at their final destination (for the UK example see McDowell et al (2007)). A major question for the future is thus how the staffing agency sector will evolve, whether there will continue to be a division of labour between the large and small agencies or whether there will be more convergence, brought about either by greater mobilisation of non-national labour through the transnational companies or by more regularisation of the agencies operating at the more informal end of the market.

National-level institutions and the role of TSAs

TSAs are highly dependent on nationally specific labour market regulations of two kinds: first, those that apply to the activities of the agencies themselves, and second, those that apply to flexible forms of working across the economy as a whole. Their capacity to expand is also shaped by path-dependent societal factors related to the degree to which placement into a job through a TSA is deemed "socially acceptable". This "national" employment framework structures the operation of agencies in relation to the migration of workers. It also has a significant influence on the effect of introducing migrant workers into the national system, as these regulations influence the extent to which temporary workers – and migrants employed through these agencies – can be employed on different terms and conditions of employment to those of the client's direct employees (Ward et al (2001)). Overall variations in the TSA sector according to size, internal structure, rates of growth and indeed its impact on the "mainstream" economy are the outcomes of differences in the institutional settlement that is constituted by the regulation of both the industry itself and of the labour market. These settlements are of course still evolving in many countries as there has been, and continues to be, considerable change in both the regulation of the industry and the wider regulation of the labour market.

Table 1 indicates the wide differences in both the scale and structure of the sector across Europe and elsewhere. Not only are there differences in the overall penetration of the market – with the United Kingdom having the highest rate of usage – but there are also significant differences in the nature of the usage; in Germany, for example, most work is in manufacturing and concerns men, while in the United Kingdom most work is in services and uses more female labour. Many EU countries have adopted the regulatory principle that temporary workers should be covered by the same terms and conditions as in the collective agreements for the sector or firm in which they are working, although this may only provide them with parity in minimum earnings, not in actual wage levels. Where there are provisions

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[7] There is no agreement over the number of agencies in the United Kingdom. According to CIETT (2005) there are around 6,000, which is more than for the whole of the United States. On the other hand, as Ward (2003) reports, there are a number of other estimates that put the number considerably lower. This is symptomatic of the lack of reliable data on many aspects of the temporary staffing industry.

for industry-specific collective agreements for temporary work agencies, the impact may still be to allow for differences in terms and conditions of employment. Thus the outcome of apparently similar forms of legal regulation may still differ due to the characteristics of the systems of collective bargaining regulation across countries.

Table 1

Agency work statistics 2005 (selected countries)

Country	Number of active private employment agencies[1]	Number of agency workers[1]	Agency workers as a percentage of total workforce
Belgium	130	78,066	1.9
Denmark	809	16,000	0.6
France	1,000	585,687	2.4
Germany	4,776	375,331	1.0
Greece	7	3,503[2]	0.1
Hungary	505	54,000	1.4
Italy	83	157,000	1.3
Japan	23,700	1,020,000	1.6
Netherlands	1,250	176,000	2.2
Poland	550	27,000	0.2
South Korea	1,153	380,000	0.3
Spain	346	130,000	0.7
Sweden	550	32,000	0.7
United Kingdom	5,991	1,219,000	4.3
United States	5,500	2,910,000	2.1

[1] Includes both members of the CIETT (International Confederation of Private Employment Agencies) National Federation and non-members. [2] Estimate from Eurociett members.

Source: CIETT (2005).

Table 2 provides details on five case studies of countries chosen as illustrative of neo-liberal, social democratic, corporatist and post-socialist economies. The reality, however, is more complex than the classifications would suggest. For example, Australia, which is now regarded as a deregulated and liberal economy, like the United States and United Kingdom, shares the tendency found in these two states for the sector to be highly fragmented and competitive but, unlike in the United Kingdom and United States, the continuing differences between Australian states in their industrial relations frameworks create an additional barrier to firms achieving significant market share (Coe et al (2009a)). Considerable adaptation is required to regulation at a sub-national as well as national level. Sweden and Japan provide examples of traditionally highly regulated labour markets, Sweden following the social democratic and Japan the corporatist form. Their TSA sectors, however, are following very different development paths. In Sweden the number of agencies is very small, reflecting the impact of a requirement for agencies to employ workers long-term (Coe et al (2009b)). In Japan, following progressive rounds of deregulation, the sector is showing strong growth, despite the tradition of lifetime employment. However the growth has been achieved through the emergence of a large number of domestic agencies. In the Czech Republic and Poland, in contrast to Japan, it is the transnational agencies that are key players in these embryonic markets, often initially serving the needs of foreign investors in the region, as the domestic market is weak due to previous restrictions on agencies and to strong social norms against agency work. However, as in Japan, there are ongoing processes of sociocultural adjustment to new ways of working (Coe et al (2008)).

Table 2

Temporary staffing in different national institutional systems

	Australia	**Sweden**	**Japan**	**Czech Republic / Poland**
State/labour regime	**Neo-liberal**	**Social democratic**	**Corporatist**	**Post-socialist**
Penetration rate (2005)	1.4%[1]	1.0%	1.6%	... / 0.4%
Number of agencies	3,404	350	23,700	... / 550
Market share, top 10	35%	90%	55%	…
Share of global industry	3%	< 1%	15%	< 1%
Largest player	Skilled Engineering (Aus)	Manpower (US)	Staff Service (Japan)	…
Domestic sector	Strong	Medium	Very strong	Weak
Industry regulation	Liberal	Liberal	Strong, but liberalising	Liberalising
Labour market regulation	Light	Strong	Strong	Strong, but liberalising
Profit margins	Low	Low	High	Low
Territorial embeddedness	High	High	Very high	Medium
Key shaping factor	State-level industrial relations	Widespread collective agreements	Strong preference to use domestic firms	Societal adaptation to new working norms
Dominant sectors	Government, professional, manufacturing	Professional	Office workers	Manufacturing
"Typical" duration of contracts	Weekly	Monthly[2]	Daily	Daily
Level of domestic innovation	Medium	Low	High	Low
Extent of domestic firm internationalisation	Medium	Medium	Low	Low

… = not available.

[1] Estimate based on total number of "on-hire" workers placed in 2005 (309,663). [2] Workers are employed permanently with agencies, and placements tend to be long-term.

Source: Based on research by N Coe, K Ward and J Johns under the ESRC project on Globalization of the temporary staffing industry, www.sed.manchester.ac.uk/geography/research/tempingindustry/.

Overall, it is difficult to overstate the importance of highly variable and nationally specific labour regimes in shaping the development of the temporary staffing industry.

The role of agencies in the international mobilisation of labour depends upon country-specific and culture-specific factors. For example, in the Opole area of Poland, agencies are not significant in mobilising the most common form of migration, by Polish German passport holders to Germany, as this movement is based on and facilitated by strong cultural ties (Coe et al (2008)). In contrast, the migration into the neighbouring Netherlands is facilitated by agencies, and indeed by Dutch agencies, in part due to the underdevelopment of the Polish industry. The mobility in this case tends to be oriented to low-skilled jobs for blue-collar workers due to language barriers. The 45 Dutch agencies operating in the area are in fact doing more than acting as an employment exchange; they also train the staff in Poland before sending them to the Netherlands for spells of eight weeks, followed by home visits of three weeks. Agencies are also beginning to actively develop high-end markets which have traditionally been driven more by individual job search. For example, an agency in the Czech Republic has begun diversifying from low-skilled to higher-skilled areas, including IT and health professionals, as its contacts with the United Kingdom have become more firmly established and it has become aware of potential new markets. The long-term need for agencies to mobilise migrants is, however, difficult to predict; their role in promoting flows may decline if strong informal word of mouth networks develop. However, formal agencies may still be required when the receiving employer relies on them for ensuring compliance with regulations or suitability of skills, including language competence. The outcome is likely to be highly varied dependent on the specific groups, the characteristics of the home and host countries and the strategies of the agencies themselves in promoting their abilities to take on additional outsourced roles for client companies.

The impact on work organisation and terms and conditions of employment

The motivations to utilise TSAs include opportunities to offer lower terms and conditions, to fill posts that are not easily filled at current terms and conditions, to hire labour for very specific and short-term assignments including cover for absence, to screen for potential permanent recruits by using periods of working for the TSA as a trial employment period, etc and to mobilise additional staff for short-term or cyclical changes in demand. National regulations will be important in determining whether the outcome of using TSAs is reduced terms and conditions or simply the filling of hard to fill vacancies at current terms and conditions. Migrant workers are particularly likely to fulfil both roles; for example in the United Kingdom health professionals tend to come in to fill unpopular shifts or locum work, while working under NHS terms and conditions; in some cases qualified and skilled workers are employed in jobs below the level appropriate for their abilities/qualifications, thereby providing employers with opportunities to tap into a higher-quality labour force for the same rate of pay. In many jobs, however, less skilled workers will be employed on lower terms and conditions than directly employed staff. Floors may be placed on this downgrading of terms and conditions by the existence of legal minimum wage regulations at national or sector level – to the extent that immigrant workers are employed legally and under legal employment conditions. Migrant workers are particularly likely to be used to reduce the costs associated with long and flexible hours of work, that is by being excluded from unsocial hours premia.

The scope for TSAs to offer lower terms and conditions is again highly context-specific. In the United Kingdom there are few barriers – other than the impact on the motivation of the directly employed staff – to doing so, except with respect to the country's minimum floor of legal rights.[8] In other countries there are both legal minima and, more importantly, company- or sector-specific collective agreements that may be enforceable, dependent upon the context. The enforceability of terms and conditions is not fully explained by reference to standard typologies of countries. Germany and Sweden are often classified together as coordinated or regulated economies but a major divide has opened up between them. Sweden has been able, by and large, to retain control over labour standards through the use of union blockades where necessary. Moreover, Sweden guarantees a salary of 80% of the monthly wage irrespective of the availability of work (Bergström (2003)), similar to the situation in place in the Netherlands (Fagan and Ward (2003)). In contrast, the German corporatist regime has been found to have a large number of holes in its protection systems, associated with the absence of legal minimum wages and enforceable extended collective agreements. There have been some attempts to plug these gaps in employment protection – to gain acceptance for further deregulation of other aspects of temporary work such as duration. Since 2005, rules have been in place specifying that temporary agency workers are to be paid at the rates prevailing in the client firm – except where there is a collective agreement covering the TSAs themselves. The result has been that now most agency workers come under a specific collective agreement that was introduced because of this opt-out in the law (Mitlacher (2007)). Wages for temporary workers have apparently risen, but not to the level in the client firms, and data still suggest that, according to a study by Nienhüser and Matiaske (2006) quoted in Mitlacher (2007), there is a wage differential between temporary agency workers and core employees in Germany of between 22 and 40%, compared to a 24% average differential in the United States.

There is limited empirical data on actual pay rates for temporary agency workers although there is copious anecdotal/case study evidence of temporary workers being brought in to workplaces at wage rates well below the prevailing rates and with only minimum paid holidays and no unsocial hours premia. In addition to this legalised downgrading of terms and conditions, both the agency and the client may reduce conditions below legal minima by charging fees for finding a placement (either in the home or the host country) even when this is not permitted, by charging above the odds for accommodation and other costs and by colluding with employers in payment below legal minima or in the employment of illegal immigrants. However, it is also clear that the practices of agencies in these respects vary considerably between firms and it is the stigma of association with these practices that may deter the multinational corporations from engaging in direct mobilisation of migrant workers across their own networks.

Research also points to the impact of the use of temporary agency workers on work organisation and work intensity. The temporary nature of assignments and the tendency towards high turnover rates encourages employers to design jobs and systems of work organisation that minimise training requirements and limit the scope for discretion of the employee. In addition, frequent changes of personnel associated with the use of temporary agency workers place increased burdens on the permanent staff as they have to take time to assist new staff to familiarise themselves with organisational and work routines and furthermore take on a higher share of the responsibility for problem solving and supervising work due to the reduced share of experienced workers in the work group (Beynon et al (2002)). While this approach applies generally to the use of temporary agency workers (Ward et al (2001)), the impact on work organisation may be different where agencies are used to mobilise foreign labour to fill skill gaps. The migrant staff employed may have higher skills than the local staff, such that it may be the temporary staff who are required to take on the higher-discretion jobs – for example where qualified nurses are employed as care assistants

[8] There are ongoing discussions nationally about the introduction of new legislation for temporary agency workers to offer them better protection, more in keeping with their continental European counterparts.

as happens frequently in the United Kingdom (Guardian (2005)). The use of TSAs may also encourage employers to extend operating hours and to schedule work more flexibly; this may over time require permanent staff to engage in more flexible working, although temporary staff may continue to work a higher share of the unsocial hours.

Efficiency and equity issues

TSAs are clearly filling a need within contemporary labour markets, facilitating employers' access to additional sources of labour and smoothing access to employment for many diverse groups of individuals, particularly those newly arrived in the labour market or seeking work from afar. There is a wealth of historical and current literature that suggests that migration can be an extremely important and positive development for both home and host countries; experience in the European Union clearly suggests that migration may be important in the integration of new member states and in their development process. However, TSAs are not only engaged in the operation of flexible labour markets; they are also playing a significant role in changing the structure and operation of labour markets. They have an institutional presence. For example, transnational agencies are actively involved in industry associations and in lobbying activities aimed at expanding the remit of the industry and publicising the role it can play in promoting flexible employment practices. In the case of Japan, lobbying has centred on seeking to expand the range of occupations in which workers can be placed and to loosen the contractual conditions of such placements, while in eastern Europe lobbying has been associated with creating legitimacy and market awareness. TSAs appear to have higher penetration rates where there are more opportunities to change the terms and conditions of employment. This provides some a priori evidence that employers are motivated to use TSAs to reduce labour cost not through smarter working but through reduced rewards for work. As such, the availability of cheap labour provided through TSAs may in some cases allow employers to postpone the search for higher productivity through modernising of technology and work systems. Opportunities to reduce labour costs within the formal sector tend to be greater in more liberal labour market regimes and where employers can tap into external supplies of labour whose reference points with regard to a fair wage are lower than prevailing local norms. These lower wages for temporary workers, however, also generate indirect costs that in the end may limit the recourse to such agencies under even the most open regimes; these indirect costs are manifest, for example, in higher than planned rates of turnover, causing employers to face either higher training costs or promoting work design that may minimise training costs but put quality standards in jeopardy (Ward et al (2001)).

Case study 2: the elderly care sector

The growth of outsourcing and the use of migrant workers in the elderly care sector

Migrant workers are proving to be an important source of labour supply in some countries to meet the ever growing demand for care workers to look after the ageing population. Furthermore, these migrant workers may be employed by the public sector, by private sector firms or agencies or alternatively directly by families. Where provision is both primarily state-funded and directly provided, the share of migrant workers tends to be lower (Simonazzi (2008)).[9] To understand the increasing role for migrant workers, and the variations in their

[9] This section draws on Simonazzi (2008) except where otherwise specified. Simonazzi's paper synthesises a European investigation into the variety of responses of national models to the challenge of the ageing population and the implications of the different responses – particularly for employment organisation. The project covered eight countries, including the United Kingdom (Urwin and Rubery (2007)). For full details see http://www.dynamoproject.eu.

roles between societies, there is thus a need to engage with the specifics of the organisation of elderly care in particular societies.

Despite the variation in outcomes that we demonstrate below, there are some common trends or issues that are affecting the elderly care sector. Labour demand in this sector in Europe is being affected by five main trends; the ageing of the European population; the changing role of the family – and in particular the decrease in an available and largely female family labour supply for informal care work; the pressure on public budgets; the opening-up of options for public service provision (to include private providers and the use of cash transfers); and the opening-up of European labour markets to migrant care workers.

While these are fairly common trends across all societies, the extent to which each of them impacts on current practice depends on the particular care regime in each society – and in particular the mix between family and state provision – as well as on the openness of the society to new developments such as migration or the use of private sector providers. Table 3 shows that there are very strong differences between European societies in both the current provision of formal care and recent trends. While there are some definitional problems in measuring the provision of services, it is clear that the southern European countries make much less use of either residential care or home domiciliary care for the elderly than the northern European countries. These differences are to a large extent to be explained by differences in approaches towards family obligations to care. These differences arise out of legal and customary norms and may be reinforced by actual service provisions. In southern Europe families are still legally bound to take care of elderly people; in continental Europe family responsibilities are regulated implicitly; in the United Kingdom and Scandinavian countries there is no family obligation specified by legislation and there is a more explicit individual entitlement to a minimum level of service.

Table 3

Percentage of elderly people (65+) in residential and home care

Country	Residential			Recipients of home care services		
	% mid-1990s	**Year**	**%**	**% mid-1990s**	**Year**	**%**
Sweden	5.4	2005	6.0	13.0	2005	9.0
United Kingdom	5.1	2000	5.1	13.0	2002	20.3
France	3.0	2002	7.9	7.0	1998	7.9
Austria	4.7	2000	3.6	3.0	2000	14.8
Germany	5.0	2003	3.9	3.0	2003	7.1
Spain	2.8	2004	3.7	1.0	2004	3.1
Italy	2.0	2000	2.1	1.3	1999	3.0
Greece	0.5	2001	0.6	…	2005	4.1

Source: Simonazzi (2008), based on OECD and national data.

There are also differences in the type of formal care provided. While some countries have increased the share using residential homes (such as France), by and large it is home care services that are rising – particularly in the United Kingdom, Germany and Austria. This trend is associated with attempts to reduce costs by minimising time spent in both hospitals and residential care, with the consequence that the dependent population in the community is increasing.

There are also widely varying modes of providing both funding and services. Where care is funded either directly by the family or from cash payments paid directly to the elderly person, there is indirect encouragement for the development of informal markets and the employment of migrant workers on low wages. However, where the cash payments are tied to the employment of the long-term unemployed, as in France, there is less scope for the development of informal markets based on temporary migrants. Where care is provided through publicly funded service provision, there are variations between countries in the use of private and not-for-profit providers as well as, or instead of, public providers. The United Kingdom and Germany make least use of public providers. However, while in the United Kingdom the main providers are private, in Germany there is significant use of both not-for-profit and private providers. Sweden, Spain, Italy, Austria and France still make significant use of direct public provision in residential care. Private sector companies and agencies may be particularly likely to overcome labour shortages and budget pressures by sourcing labour from lower-wage countries. In contexts where services are provided by the public sector, migrants may still be used to fill labour shortages but will normally be employed on standard public sector terms and conditions.

National-level institutions and the role of migrant workers

So what is the outcome of these various dimensions of the care regime on both the use of outsourcing (not offshoring in this case)[10] and the use of migrant workers?

To simplify the comparison we focus primarily on three main examples – Sweden, the United Kingdom and Italy – that represent some forms of ideal type care models: primarily formal and public provision in Sweden, primarily publicly funded but private provision in the United Kingdom and primarily family-driven and informal care in Italy.

Sweden provides a high level of formal care services but the supply is mainly from native workers. There is an explicit policy of avoiding the development of a low-skilled, low-paid market for irregular eldercare workers. The 10-year action plan for long-term care, launched in 2006, aims to improve employment and working conditions in order to recruit and sustain a stable long-term care workforce. Thus Sweden is aiming to resolve the current labour shortage problems by upgrading the value, status and training associated with care work.

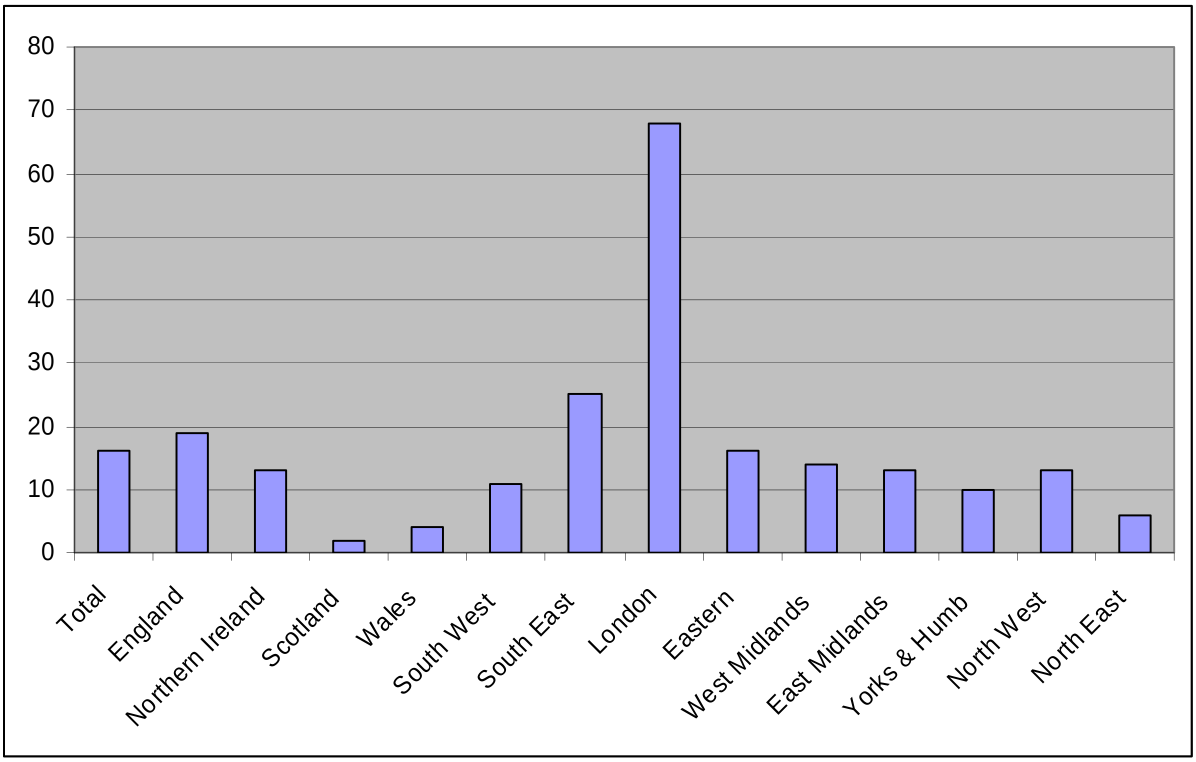
In contrast the United Kingdom has moved down a path of subcontracting most of its residential and domiciliary care work to the private sector, primarily as a means to reduce labour costs. Private sector agencies are reducing pay levels compared to the public sector, ending unsocial hours payments and requiring workers to work flexibly across the day and the week including weekends. Again the United Kingdom provides relatively comprehensive access to care, much of which is state-funded even if not state-provided (72% state-funded). The agencies and residential care providers thus primarily work for the state and it is the state's low budgets that are driving these deteriorating terms and conditions. Nevertheless, the majority of migrant workers engaged in care work are employed in the formal sector in the United Kingdom. In this context the private sector providers and agencies often face chronic labour shortages and high turnover rates, particularly in high-wage areas such as London and the South East (see Graph 1). In these areas there is increasing resort to migrant care workers, particularly for residential homes, where it is easier for those without fluent English to be integrated than in domiciliary care, where the workers have to deal directly with elderly clients on their own. Overall some 16% of care workers are non-UK born but this rises to a staggering 66% in London, with the next highest share at 25% in the South East, but falling to 6% in the North East, 4% in Wales and 2% in Scotland (Experían (2007)). Thus the role of migrant workers is primarily to plug a labour shortage gap that cannot be adjusted through changes in wage rates due to the dominance of the state in setting the

[10] Although the migration of retirees can lead to an international redistribution of responsibilities for care.

available budgets. Qualified migrant workers – for example qualified nurses from the Philippines, Pakistan and India (*Guardian* (2005)) and eastern Europe – who are only able to find employment in care homes may also be helping the system cope with ever more dependent clients as they bring additional nursing qualifications to the task, even if being paid as unqualified care assistants.

Graph 1

Percentage of care workers born abroad



In Italy there is limited provision of public services for the elderly although the provision is increasing. The expectation is that the family should provide the necessary care. Most of the limited public funds spent on elderly care have been directed at compensating the family carer, but they have been mostly redirected to pay migrant workers in the underground economy. The attendance allowance for dependent persons with severe disabilities is not "tied". It amounted to EUR 450 per month in 2006, and is not means-tested or conditional on the family structure of the person in need. This means it can still be used to employ irregular or illegal migrant workers, often as live-in workers working very long hours. In contrast, the care allowance is means-tested and is granted by local authorities to elderly people at risk of institutionalisation. It is usually lower and much less widespread than the attendance allowance, but the local authorities can more easily subject its payment to observance of rules, such that payment of the care allowance has been increasingly made conditional upon the hiring of regular immigrant carers. Nevertheless the scale of the informal irregular economy remains large. A recent report on care in Europe (European Foundation for the Improvement of Living and Working Conditions (2006)) made the following comment:

> "In Italy, a high profile legalisation campaign carried out by the government in 2002–2003 identified 341,000 undeclared foreign immigrants working in the domestic services sector … A further estimated 500,000 domestic helpers (*badanti*) work in Italy, providing support to dependants and their families … Their presence enables many families at all socioeconomic levels to care for their elderly relatives, often substituting for the role traditionally played by wives and daughters …" (op cit 40)

Thus of the three regimes that we have considered in detail we have one, Sweden, that makes limited use of migrant workers, another (the United Kingdom) that makes increasing use of migrant workers, particularly in the private sector and in London, but primarily within the formal economy as the private sector firms provide services paid for by the state, and a third, Italy, where the main purchaser of services for the elderly is the family, either from their own funds or from direct cash payments, with the result that there has been a large flow of migrants absorbed into the informal economy. However, there are moves to regularise migrant workers' status and some forms of care payments require the employment of native workers or regular migrants.

In other European countries there are more mixed models: in Germany there is a highly regulated formal sector, where staff are required to hold specific qualifications to undertake care work, operating alongside an informal sector, often involving migrant workers, paid for by the family and funded by the direct cash payment system. Austria also makes use of migrant workers, many illegal, but primarily in residential care because of the language problems associated with home care. In France the government has introduced direct cash payments but has regulated these payments to ensure that they are used to hire the long-term unemployed. By switching to cash payments it has effectively casualised the market so that agencies now act as intermediaries for the families rather than as direct suppliers of services but it has restricted the source of labour to resident long-term unemployed. The underground economy covers one third of the market in Spain, where language problems are less of a problem, since workers migrate from Latin America. Spain, however, has recently taken an important step in moving away from the family-based welfare system that characterises southern European social models by now giving elderly people the right to receive care services even when they are co-resident with other family members. The implications of this recent change are not yet clear but could lead to a regularisation of the family-driven informal care provision and thereby to changes in the scale and form of the use of migrant labour. Much will be dependent on the resources for care made available by the state.

The impact on work organisation and terms and conditions of employment

The terms and conditions under which migrants are employed depend to a considerable extent on whether or not they are employed as informal and irregular workers or through more formal systems. However, there are also differences between countries in the ways in which formal sector workers are rewarded. In those countries where the underground economy is widespread, the shortage of care workers has been filled by undocumented/irregular immigrant workers. Their pay is often extremely low compared with the pay earned by a regular worker, but much higher than what they could earn in their home country.

However, the Italian experience seems to indicate that wages tend to increase with public policies aimed at favouring the regularisation of foreign workers in order to reduce discrimination, or to upgrade the skills of foreign carers and reduce segmentation. By 2003 (Bettio et al (2006)) the average all-inclusive cost to families of a live-in elderly minder on a regular contract in Modena had risen to EUR 987 per month (amounting to some EUR 800–850 in net earnings) compared with an estimate of EUR 979 for average net female earnings in industry in Modena in 2002. This trend towards rising costs has intensified since March 2007, when a new national contract for domestic workers established the cost to a family for a live-in elderly minder on a regular contract at between EUR 1,000 and 1,300 per month (in addition to board and lodging costs although social contributions can be deducted from tax). This compares with average net earnings in industry and services between EUR 950 and 1,250. At the new wages, the regular minder solution is no longer competitive with residential care, especially if the costs of the latter are subject to subsidy by the state. The risk is, therefore, that this form of work will be pushed back into the black market.

It was after the collapse of eastern European socialist regimes that there was the first huge flow of illegal migrants towards the southern European countries, attracted by the size of their underground economies. This flow fuelled the development of the "Mediterranean model of care". However after EU enlargement, most migration from eastern Europe has become "internal" (although with large differences in receiving countries' migration policies). Legal immigrants can now choose between remaining as "irregular" workers, as in the Mediterranean countries and in Austria, or they can fuel the supply of cheap but mainly formal labour (as in the United Kingdom). Eastern European workers are now moving in large numbers towards the richer labour markets of the northern European countries. Their legal status as migrants influences their migratory projects: they can now move more easily on a short-term basis. In turn, the pattern of migratory projects can affect the degree of competition with domestic workers. This regularisation of the position of eastern European migrants has led to a reshuffling of migratory flows by origin and destination. In Portugal for instance the share of immigrants from eastern Europe, which had been extremely high because of the relatively low cost of a visa, has dropped in favour of immigrants from Latin America.

The terms and conditions in the formal sectors of the care economy in European economies tend to reflect the characteristics of the overall employment and social regime rather than the specific impact of migrants. Thus higher pay in Sweden reflects greater gender equality in pay structures and the promotion of decent work within the public sector, while in Germany higher pay in the formal sector is more associated with the greater focus on skill formation and accreditation in the German economy, such that care workers are expected, by and large, to complete an apprenticeship. The low pay prevalent in the United Kingdom reflects the opportunities to outsource to tap into labour market segments at lower wages but still within the formal economy. However, access to migrant workers is allowing the UK government to provide care services based on wage rates that are not sufficient to generate a sufficient supply of UK-based labour, particularly in areas such as London, but also for more difficult to fill posts such as night work.

Efficiency and equity issues

There are efficiency as well as the obvious equity issues associated with the irregular and informal employment of migrants for the provision of care. The efficiency issues relate not only to problems of quality assurance in care for the vulnerable (including, for example, the ability to run criminal records checks on care workers) but also to the costs associated with failures to integrate migrant groups. Ultimately the growth of the informal sector in many countries can be related to a failure to adjust to the two main demographic challenges facing Europe – the ageing of the population on the one hand and the changing gender and family relations on the other that is reducing the supply of unpaid family labour for the care tasks. Even where migrant labour is employed in the formal sector, the resort to such labour may reflect a failure to adjust the employment model to new social norms and behaviour. The care model, for example in the United Kingdom, has depended upon a ready supply of female labour for a monopsonistic labour market where wages are kept down well below the level that might be expected, given the skills required and the stress factors associated with care work. As women now have more options in the labour market, the domestic supply of workers is drying up and the model is being maintained through opening borders to migrant workers. While this is assisting in the delivery of care services, it is far from a panacea. Use of non-native speakers for domiciliary care is more difficult in the United Kingdom due to the frequent lack of family members to oversee the care work (while in the Mediterranean countries it is family members other than the elderly person who often hire and supervise the care person). Furthermore, migrant workers may not solve the problems of high turnover if they use their positions as jumping-off points to enter the wider labour market and obtain jobs more appropriate to their skills and qualifications. One interesting twist to the use of migrant workers to fill labour shortages in the United Kingdom is that the recent tightening of rules for visas is threatening the flow of, for example, qualified Filipino nurses to staff residential and nursing homes as these jobs cannot be classified as skilled jobs because they are too low-paid (*Guardian* (2007a)).[11] Thus the visa rules do not recognise the reality of gender-segmented markets where pay reflects gender discrimination rather than skill levels.

Case study 3: IT-related outsourcing/offshoring and use of migrant workers

The growth of outsourcing/offshoring in IT-related sectors

The main debate around offshoring and outsourcing in Europe has focused recently on IT-related outsourcing/offshoring, including both call centres and IT software.[12] The outsourcing of business processes and the spread of "delocalisation" from manufacturing to services has created considerable concern over future job prospects within Europe, in relation to both quantity and quality of jobs. Furthermore the inshoring of IT services – that is the deployment of temporary migrant IT workers within Europe – has further added to fears that even knowledge work areas will be increasingly vulnerable to displacement. Despite these concerns and recent rapid growth in some offshoring/inshoring activities, the actual size of job losses directly attributed to international subcontracting and outsourcing abroad between 2002 and 2004 was under 7.5% (European Monitoring Centre on Change, Dublin, quoted in OECD (2007a)). Moreover, there are debates as to whether much of the offshored activity – particularly call centres – is in fact destined to become rapidly obsolete with the growth of, for example, voice recognition technology.

However, as is the case with temporary work agencies, the development of offshoring of IT work and call centres is also related to institutional development and in particular to the form of the development of the IT sector in countries such as India. One reason for the continued expansion of the scope and scale of offshoring has been the advances made by the IT industry in India in developing management expertise across a range of IT functions instead of simply relying on the low cost of Indian skilled labour. The initial success of the software industry was dependent upon developing a reputation for being able to deliver bespoke but technically efficient software (Athreye (2005)) and not simply on the availability of low-wage labour. Furthermore, Athreye (2005) has argued that the Indian software industry has in fact been propelled into a stronger high road development approach by labour shortages in the 1990s as Indian engineers were being sought for both domestic assignments and short-term assignments overseas.

Call centre offshoring, however, is more strongly associated with a low-cost and more routinised approach than that found in developed economies (although there is a paradoxical tendency to focus both on the availability of highly skilled graduates for call centre work in India and for companies to outsource the most routinised operations (Taylor and Bain (2005, 2006)). However, suppliers of the relatively low-skilled call centre and data processing activities are also adopting strategies to move their activities further up the value chain, based on their established relationships with external clients. Thus the expansion of offshoring may be taking place not so much through the development of simple market opportunities but through the establishment of trust relationships between organisations across advanced and developing economies.

The growth of higher-end IT outsourcing and offshoring may also be related to the emerging market structure in IT outsourcing in developed countries, dominated as it has become by a

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[11] The government has now decided that only those paid above GBP 7.02 an hour can be considered skilled but many skilled workers, including qualified nurses in this sector, are paid less than this (*Guardian* (2007b)).

[12] According to Milberg and von Arnim (2006): "Intra-firm imports of computer- and information-related services, a subcategory of business, professional and technical services exceeded the arm's length import growth rate by 50%".

small number of multinational corporations (MNCs). These companies are well placed to develop relations with external suppliers of software and other activities, due to their specialist knowledge and expertise. They are also part of the process of promoting an internationally mobile industry that may become increasingly disconnected from the domestic sector. For example, studies of the operation of US MNCs in the IT sector in Latin America revealed a tendency to move staff across countries according to flows of work and the landing of large projects, thereby effectively reducing the size of the domestically rooted IT skilled labour force (as many of these workers had been transferred from domestic companies to the MNCs through mergers and takeovers). These processes of internationalising skilled staff may have implications for the diffusion of IT expertise in the domestic economy of these semi-industrialised countries (Miozzo and Grimshaw (2007)).

National-level institutions and the outsourcing/offshoring of IT-related activities

Propensities to offshore IT-related activities may reflect practices with respect to outsourcing in the domestic market. It has been suggested that German companies were reluctant to offshore their activities to India because this involved too large a change to arm's length contracting for companies used to either in-house arrangements or outsourcing with local providers based on close inter-organisational relations including joint venture arrangements. It was thus first necessary for international IT companies to set up offices in Germany with which the German companies could develop closer working relations. Over time these MNCs have increasingly taken on the management of outsourcing, including the offshoring of projects (Amberg (2006)). In contrast, the United Kingdom is considered to be more used to arm's length outsourcing and in addition does not face the same language barriers either to IT software offshoring or more specifically to offshoring of front of office work to countries where there are supplies of labour educated to a high level in English. Differences in the take-up of outsourcing and offshoring opportunities are thus related both to the dominant national model and to colonial legacies including language competences. However, it should be noted that Germany has recently seen a major expansion in outsourcing and offshoring, suggesting that these differences between countries will not necessarily persist and that models do change as companies adjust to new ways of operating.

A recently completed global call centre project covering 40 countries has reported that there are differences in the organisation of call centres that relate to the characteristics of the particular country concerned (Holman et al (2007)). Thus, the coordinated capitalism countries have tended to design call centres that provide more scope for job discretion and better terms and conditions than those in the more liberal developed economies and newly industrialising countries. However, these characteristics are more noticeable in in-house than in subcontracted operations; for example in Germany works councils are three times more likely to be found in in-house than subcontracted call centres and the latter pay wages on average 25% less than the in-house operations. Thus, national characteristics that favour better terms and conditions also provide more financial incentives towards subcontracting (which may be modified by more difficulties in downsizing when operations are outsourced (Farrell (2005)).

The impact on work organisation and terms and conditions of employment

There is clear evidence from the global call centre project and from direct comparisons of Indian call centres with other call centre models that both outsourcing and offshoring are associated with more restrictive and narrow job designs, offering lower levels of discretion to employees and involving more intensive monitoring. Less training is provided by subcontractors than by in-house operations. Pay levels are also lower in subcontracted operations, particularly where there are big differences in the extent of collective bargaining coverage between in-house and subcontracting operations. Both domestic contractors and offshored operations are more often engaged in extending operating hours, a further incentive for outsourcing and offshoring in addition to low wage costs. Offshoring of call centre work has been argued by Taylor and Bain (2006) to be a further stage in the search for low costs. The first stage in the United Kingdom involved setting up call centres in areas of high unemployment, but over time the cost advantages decreased as the workforces became mobile between the different call centre operations. The second stage has been offshoring but, again as we discuss below, problems of turnover have been encountered so that there has been no simple geographical fix to the search for efficient and low-cost operations (Taylor and Bain (2005, 2006)). Until now, European laws on transfers of undertakings have not tended to cover offshoring decisions but recent amendments to the laws may make it more difficult for companies to offshore and avoid the barriers to downsizing simply to cut labour costs that arise out of the European legislation.

Where trade unions (or works councils) have a voice, as for example in Germany, alternative structures for managing fragmentation may be devised that support employment stability, as in the use of joint ventures to manage IT outsourcing in Germany (Grimshaw and Miozzo (2006)). Outsourcing of IT operations is not so clearly linked to reducing wage costs, at least for the original client organisation; the large MNCs operating in IT outsourcing often pay higher wages than are earned by IT staff employed in non-specialist organisations, but transfer to a specialist IT firm on higher pay may require staff to accept more flexible pay, location and hours of work (Marchington et al (2005)). It is these large MNCs, primarily from the United States but also now from India, that are responsible for the offshoring of work aimed in part at reducing labour costs.

Efficiency and equity issues

The model of outsourcing/offshoring of call centre work is not universally regarded as providing efficient outcomes. It is notable that firms working in financial services, one of the main and the first sectors to engage in offshoring, have also begun to use home-based call centres as a mark of quality in their advertising campaigns. The problems of working at a distance have pushed the Indian call centres into adopting routinised systems of work organisation that have caused service quality problems in the West. These are exacerbated by problems of high turnover among the Indian workforce that intensify the general problem of overcoming linguistic and cultural differences. Taylor and Bain (2005, p 278) summarise the dilemmas of workforce management in India.

> "Januslike, Indian employers face two ways, appealing to overseas clients that its Indian workforce is inexpensive, well-educated and more than capable of handling the routinized services they might wish to migrate, while simultaneously promising to Indian workers high wages, interesting work on behalf of prestigious clients and career opportunities. Managerial rhetoric conflicts with agents' experiences, as the realities of work – relentless call-handling, extensive monitoring and strict conformance to clients' SLAs, long nocturnal working hours and travelling times – can take their toll on health and domestic life, leading to disengagement and exit."

There are much clearer indications that the development of IT outsourcing and offshoring to India has facilitated the independent and dynamic growth of not only the IT sector but also the Indian economy. While there appear to be tangible gains for the country's economy, there are risks that developed and industrialising economies may become too reliant on the dominant IT MNCs to deliver their IT solutions and in practice thereby neglect the development, regeneration and diffusion of a skill base in these areas.

3. Conclusions and policy considerations

The cases we have discussed provide an at best time-limited and partial assessment of the consequences of migration and outsourcing processes. In particular the focus has been on the impact on Western economies and little has been said about the consequences for the receiving countries, in the case of offshoring, or the sending countries, in the case of migration. The purpose here is not to attempt a full and long-term cost benefit analysis of prospects for economic and social development with or without offshoring or international migration; not only do we not have the information for this exercise but it is also clear that the internationalising of markets and production systems and the development of international migration is a long-term trend that is not only likely to continue but is also part of the path to development for developing countries. Instead, the objective has been to demonstrate the importance of institutional arrangements in the shaping of these developments and their impact on advanced economies. Moreover, these institutional arrangements are not simply temporary distortions to the long-term inevitable working-through of independent market forces; migration has always been a politically and institutionally controlled process and will continue to be so. Likewise labour markets are not simple price clearing markets; both employers and employees place value on long-term codified relationships as a platform both for delivering high-productivity work systems and for providing the employment and income security that is vital for social cohesion and political stability. Institutional arrangements are likely to have a long-term impact on the extent to which migrant workers are effectively integrated into the economy and society and thus on whether or not the outcome of migration is a more fragmented and less cohesive society or a richer multicultural society, less divided along ethnic or other lines. Negative outcomes for social cohesion may occur in both deregulated and regulated economies, with the former risking the further development of wide inequalities within the core labour market, including reduced security at the bottom of the labour market, while the latter may risk more the emergence of strongly segmented labour markets between the included, the core, and the excluded, in an informal or illegal periphery.

Thus this focus on institutions is not a disguised plea for inertia in labour market institutions; in fact, as the case studies illustrate in various ways, there is a need for institutional arrangements to adapt and change to respond to processes of globalisation and opening-up of markets. Our first conclusion, or policy principle, is that the increasing permeability of national borders does not mean that national institutions will become unimportant but this opening-up will require institutional innovation, particularly for some variants of national models where these developments are challenging the current arrangements. There needs to be a process of rethinking appropriate forms of regulation in this new context, if national models are to provide a basis both for social cohesion and for long-term economic development. Here we can for example cite the case of Germany, where the growth of outsourcing and migrant workers has been undermining established labour standards as the country does not have mechanisms to extend protection across the labour market, unlike the case in most coordinated economies. In the interests of maintaining social cohesion – by limiting the range of wage levels – and limiting the destabilising impact of companies competing on the basis of employing workers from outside the society on much lower wage rates, Germany may well need to consider introducing new forms of regulation such as a national minimum wage. Likewise the southern European countries may need to consider regularising their migrant workforces to reduce risks of long-term segmentation.

Our second conclusion or policy principle applies both at the level of public policy and societal systems and at the organisational level; that is, that offshoring or migration should not be used as quick fixes where more fundamental changes are required. New forms of working may be used by countries and indeed organisations to postpone much needed changes – eg in welfare systems, education and training systems, wage structures, work organisation or product and service quality. This argument relates to that of Harvey (1982), who suggested that the more the world is open to geographical restructuring, the more easily temporary resolutions can and are likely to be found. One example from the case studies is the resort to migrant workers to provide for care in response to the ageing of the population and the changes in family systems and gender relations. It is not clear, however, that the recipients of care will receive both continuity and quality of care until the more fundamental problems of valuing care work as a profession are resolved. It may still be the case that care workers will include migrant workers, but without professionalising the work, the problems of casualisation and insecurity in the quality of the delivery of care are likely to continue. A second example of public policy relates to the use of IT offshoring or insourcing to fill skill shortages; here the question is why these shortages occur in societies with ample educational facilities. The danger here is that companies in the host country will actually cut back on their provision of training unless required by public policy to invest in skills due to the apparent ready supply of skilled labour from other countries, but skills are a produced good in which Western societies need to continue to have a comparative advantage. A third example relates again to IT but is more an issue at the organisational level, where organisations decide to offshore call centres because they are not able to deal with the problems of high turnover in their existing plants, a problem which may relate to, for example, their system of work organisation, the quality of their products and services or their HR policies. Offshoring may not be a panacea, however, as these problems may continue or re-emerge in the new setting, alongside new problems associated with working at a distance. Organisations need to be certain that offshoring is the appropriate solution to their problems and not simply a means of evading more fundamental changes to their services and products, their HR practices or their customer relationship strategy.

So far we have been considering organisations that may not be acting strategically and not facing up to the need for more fundamental change. However, many organisations are in fact using and developing offshoring and migrant workers in highly strategic and purposeful ways. Organisations are important actors in developing new markets and opportunities – for example opening up eastern European labour markets to TSAs or encouraging client firms to extend their outsourcing in IT and HR areas. Our third policy issue is the need to identify areas and contexts where there is a need for greater control or influence over the activities of these organisational actors. Two prime contexts can be suggested: first there need to be new regulations or tighter enforcement of regulations where organisations are operating below the radar of legality – or where legal regulations are so weak that they are facilitating the development of highly segmented labour markets even without explicit breaches. Many examples of these problems were found in the case studies on TSAs and care workers. The second context is where there are major imbalances in power relations between clients and subcontractors (Milberg and von Arnim (2006)). Weaker organisational actors along the supply chain need to be given support in negotiating their rewards within supply chains and ensuring that outsourcing and offshoring is based on productivity and development enhancement.

The final policy conclusion is that the pursuit of the opportunities arising from the opening-up of national borders should not result in the treatment of labour as a disposable commodity. Stable employment relationships provide for the development of skills and capacities and for the delivery of quality services in both public and private settings. This need to foster open-ended, rather than spot employment relationships applies also to developing countries, who will gain the most from the processes of outsourcing if they establish longer-term relations with suppliers and are in a position to promote quality and efficiency improvements that do not rely on the simple exploitation of labour. More attention needs to be paid to the welfare and efficiency losses that may arise from the development of fragmented and short-term employment relations in either host or home countries. Of course the division of labour between organisations and countries is constantly changing and developments that may appear to be fragmenting operations and reducing quality and efficiency may lead in the longer term to new/smarter ways of working under the new forms of specialisation. However, while change is inevitable, it should not be constant, such that spot rather than long-term employment relations become the norm. As Leamer (2006, p 53) comments on the desirability of a "flat earth" uninterrupted by frictions:

> "Frictions are our friends. Frictions give us the peace of mind that we will still have our jobs when we wake up tomorrow. Frictions reduce the chances that one party will try to "hold-up" the other, absconding with the lion's share of the mutual benefits. Frictions thus give us the confidence to make the relationship-specific investments from which great returns can flow. It's the friction we call "falling in

> love" that allows the human species to flourish. I am not endorsing the French solution of permanent jobs for all, which creates a forced one-sided "marriage" between a willing worker and an unwilling employer, without even the benefit of a first "date". That makes French employers reluctant to marry workers and leaves the French unemployment level unnaturally high. But we should be thinking long and hard about how we can make our "single" workers more "lovable" and what we can do to maintain the "marriages" between employers and employees that are working".

Another metaphor may be relevant here. Just as has been the case with the war in Iraq, the pursuit of regime change is not sufficient to bring about a new stable employment regime or social order. The task of reconstituting and reinstitutionalising a new social order is much harder than tearing down the old one. This example should suggest both caution in the claims that should be made for benefits that come from the opening-up of labour market borders per se and that attention and effort at the international and national level should be focused not on dismantling institutional orders but on rebuilding them in innovative and imaginative ways.

References

Abowd, J and R Freeman (1991): *Immigration, trade and the labor market*, NBER, Chicago.

Amberg, M (2006): *Critical success factors of offshore software development projects*, University of Erlangen, www.international-outsourcing.de/CSF-Tool/research_background/market.html.

Athreye, S (2005): "The Indian software industry and its evolving service capability", *Industrial and Corporate Change*, vol 14, issue 3, pp 393–418.

Barney, J B (1991): "Firm resources and sustained competitive advantage", *Journal of Management*, vol 17, no 1, pp 99–120.

Bergström, O (2003): *New Understanding of European Work Organization (NUEWO): Final Report*, www.ec.europa.eu/research/social-sciences/pdf/finalreport/hpse-ct-99-00009-final-report.pdf.

Bettio, F, A Simonazzi and P Villa (2006): "Change in care regimes and female migration: the care drain in the Mediterranean", *Journal of European Social Policy*, vol 16, no 3, pp 271–85.

Beynon, H, D Grimshaw, J Rubery and K Ward (2002): *Managing Employment Change*, Oxford, Oxford University Press.

Bosch, G, J Rubery and S Lehndorff (2007): "European employment models under pressure to change", *International Labour Review*, vol 146, no 3–4.

Castles, S and G Kosack (1973): *Immigrant workers and class structure in Western Europe*, Oxford University Press.

CIETT (International Confederation of Private Employment Agencies) (2005): *Agency Work Statistics 2005*, http://www.ciett.org/fileadmin/templates/ciett/docs/CIETT_2005_Statistics.pdf.

——— (2007): *Agency Work's Key Indicators*, www.ciett.org/index.php?id=56.

Coe, N, J Johns and K Ward (2007): "Mapping the globalization of the temporary staffing industry", *The Professional Geographer*, vol 59, no 4, pp 503–20.

——— (2008): "Flexibility in action: the temporary staffing industry in the Czech Republic and Poland", *Environment and Planning A*, forthcoming.

——— (2009a): "Slow growth: fragmented markets and competitive margins in the Australian temporary staffing industry", *Journal of Economic Geography*, forthcoming.

——— (2009b): "Managed flexibility: labour regulation, corporate strategies and market dynamics in the Swedish temporary staffing industry", *European Urban and Regional Studies*, forthcoming.

Esping-Andersen, G (1990): *The three worlds of welfare capitalism*, Cambridge, Polity Press.

European Foundation for the Improvement of Living and Working Conditions (2006): *Employment in social care in Europe*, Dublin, www.eurofound.europa.eu/publications/htmlfiles/ef05125.htm.

Experían (2007): *Overseas workers in the UK social care sector*, January, www.nmds-sc.org.uk/download.asp?ref=research&file=Overseas-workers-in-Social-Care-Final-Report.pdf.

Fagan, C and K Ward (2003): "Non-standard work in the UK and the Netherlands", in S Houseman and M Osawa (eds), *Nonstandard work in developed economies: causes and consequences*, Upjohn Institute, Kalamazoo, Michigan, pp 53–88.

Farrell, D (2005): "Offshoring: value creation through economic change", *Journal of Management Studies*, vol 42, issue 3, pp 675–83.

Friedman, T (2005): *The world is flat: the globalized world in the 21st century*, New York, Farrar, Straus & Giroux.

Grimshaw, D and M Miozzo (2006): "Institutional effects on the market for IT outsourcing: analysing clients, suppliers and staff transfer in Germany and the UK", *Organization Studies*, vol 27, no 9, pp 1229–59.

Guardian (2005): "Is this the way to treat nurses who want a job?", 5 February.

——— (2007a): "Visa rule changes put care homes on alert", 20 August.

——— (2007b): "Facing deportation – over 87p an hour", 11 November.

Hall, P and D Soskice (eds) (2001): *Varieties of Capitalism. The Institutional Foundations of Comparative Advantage*, New York, Oxford University Press.

Hart, P and A Shipman (1991): "Skill shortages in Britain and Germany", *International Journal of Manpower*, vol 12, issue 4, pp 18–24.

Harvey, D (1982): *The Limits to Capital*, Oxford, Blackwell.

Henderson, J, P Dicken, M Hess, N Coe and H W C Yeung (2002): "Global production networks and the analysis of economic development", *Review of International Political Economy*, vol 9, no 3, pp 436–64.

Holman, D, R Batt and U Holtgrewe (2007): *The Global Call Center Report: International Perspectives on Management and Employment*, Report of the Global Call Center Network, www.ilr.cornell.edu/globalcallcenter/upload/GCC-Intl-Rept-US-Version.pdf.

Home Office (Border and Immigration Agency) (2007): *Accession Monitoring Report, May 2004–December 2007*: http://www.ukba.homeoffice.gov.uk/sitecontent/documents/aboutus/reports/accession_monitoring_report/

Home Office and DWP (Department for Work and Pensions) (2007): *The economic and fiscal impact of immigration: a cross-departmental submission to the House of Lords Select Committee on Economic Affairs*, London, The Stationery Office.

Leamer, E (2007): "A flat world, a level playing field, a small world after all, or none of the above? A review of Thomas L Friedman's *The World is Flat*", *Journal of Economic Literature*, vol 45, no 1, pp 83–126.

Lepak, D and S Snell (1999): "The human resource architecture: toward a theory of human capital allocation and development", *The Academy of Management Review*, vol 24, no 1, January, pp 31–48.

Locke, R, F Qin and A Brause (2006): "Does monitoring improve labor standards?: Lessons from Nike", *MIT Sloan Research Paper* no 4612–06, July.

Lorenzo, F, J Galvez-Tan, K Icamina and L Javier (2007): "Nurse migration from a source country perspective: Philippine country case study", *Health Services Research*, vol 42, Supplement 1, June, pp 1406–18.

Mann, C (2003): "Globalization of IT services and white collar jobs: the next wave of productivity growth", *International Economics Policy Briefs*, no PB03–11, Institute for International Economics, December, www.iie.com/publications/pb/pb03-11.pdf.

——— (2006): *Accelerating the globalization of America: the role of information technology*, Washington, Institute for International Economics.

Marchington, M, D Grimshaw, J Rubery and H Willmott (2005): *Fragmenting Work: Blurring Organizational Boundaries and Disordering Hierarchies*, Oxford, Oxford University Press.

Marsden, D (1999): *A theory of employment systems*, Oxford, Oxford University Press.

McDowell, L, A Batnitzky and S Dyer (2007): "Division, segmentation and interpellation: the embodied labours of migrant workers in a Greater London hotel", *Economic Geography*, vol 83, no 1, pp 1–26.

Milberg, W and R von Arnim (2006): "US Offshoring: Implications for Economic Growth and Income Distribution", *SCEPA Working Paper* 2006–3: www.newschool.edu/cepa/ publications/workingpapers/SCEPA%20Working%20Paper%202006-3.pdf.

Miozzo, M and D Grimshaw (2007): "Service multinationals and forward linkages with client firms: the case of IT outsourcing in Argentina and Brazil", *International Business Review*, vol 16, no 6.

Mitlacher, L (2007): "The role of temporary agency work in different industrial relations systems – a comparison between Germany and the USA", *British Journal of Industrial Relations*, vol 45, no 3, pp 581–606.

Nienhüser, W and W Matiaske (2006): "Effects of the 'principle of non-discrimination' on temporary agency work in 15 European countries", *Industrial Relations Journal*, vol 37, no 1, pp 64–77.

Nowak, M J and A C Preston (2001): "Can human capital theory explain why nurses are so poorly paid?", *Australian Economic Papers*, June, pp 232–45.

Organisation for Economic Co-operation and Development (2007a): *Offshoring and employment: trends and impacts*, Paris, OECD.

——— (2007b): *International migration outlook: annual report*, Paris, OECD.

Peck, J and N Theodore (2002): "Temped out? Industry rhetoric, labor regulation, and economic restructuring in the temporary staffing business", *Economic and Industrial Democracy*, vol 23, no 2, pp 143–75.

Penrose, E T (1959): *The theory of the growth of the firm*, New York, John Wiley.

Pratt, G (2007): "From migrant to immigrant: domestic workers settle in Vancouver, Canada", in L Nelson and J Seager (eds), *A Companion to Feminist Geography*, Oxford, Wiley-Blackwell.

Priem, R L and J E Butler (2001): "Is the resource-based theory a useful perspective for strategic management research?", *Academy of Management Review*, vol 26, no 1, pp 22–40.

Purcell, K and J Purcell (1999): "Insourcing, outsourcing and the growth of contingent labour as evidence of flexible employment strategies", in R Blanpain and M Biagi (eds), "Non-standard Work and Industrial Relations", *Bulletin of Comparative Labour Relations*, 35, pp 163–81.

Simonazzi, A (2008): *Care regimes and national employment models*, www.dynamoproject.eu.

Streeck, W (1987): "The uncertainties of management and the management of uncertainty", *Work, Employment and Society*, vol 1, no 2, pp 317–49.

Taylor, P and P Bain (2005): "India calling to the far away towns: the call centre labour process and globalization", *Work, Employment and Society*, vol 19, no 2, pp 261–82.

——— (2006): "Work organisation and employee relations in Indian call centres", in J Burgess and J Connell (eds), *Developments in the call centre industry*, London, Routledge.

Theodore, N and J Peck (2002): “The temporary staffing industry: growth imperatives and limits to contingency”, *Economic Geography*, vol 78, pp 463–94.

Urwin, P and J Rubery (2007): *The elderly care sector in the UK*, EWERC, Manchester Business School, www.dynamoproject.eu.

Ward, K (2003): “UK temporary staffing: industry structure and evolutionary dynamics”, *Environment and Planning A*, vol 35, pp 889–909.

——— (2004): “Going global?, Internationalization and diversification in the temporary staffing industry”, *Journal of Economic Geography*, vol 4, no 3, pp 251–73.

Ward, K, D Grimshaw, J Rubery and H Beynon (2001): “Dilemmas in the management of temporary work agency staff”, *Human Resource Management Journal*, vol 11, issue 4, pp 3–21.

Discussion comments on "Exploring international migration and outsourcing through an institutional lens"

David T Coe

Let me start with a few words about Palle. I first met Palle in 1978 when I joined the Economics Department of the Organisation for Economic Co-operation and Development (OECD), fresh from graduate school. I was impressed by the diversity of economists from so many countries in the Economics Department. Many of my new colleagues, most of whom came from government ministries or central banks, had a very different way of looking at economic developments, prospects, and policies, compared with what I had learned in graduate school, which, among other things, was biased toward formal econometrics and econometric models. Among the senior staff, Palle stood out. Not only was he interested in applied policy research, as were most OECD economists, but he could do it exceedingly well, based on up-do-date theoretical models and using modern empirical techniques. For junior economists, Palle was someone you could learn a lot from, and he was generous with his time in providing comments and guidance. It may sound trite, but I always thought of Palle as an economist's economist. He was also a very good friend. I can think of no one more fitting than Palle to be honoured by such a conference.

Last summer I had the good fortune to spend two months visiting the OECD while on leave from the IMF. To be again in Paris working on labour market issues brought back many good memories of working with Palle on similar issues almost 30 years earlier. It was a nice coincidence that the paper I wrote while visiting the OECD was on the same topic as this conference, and I am honoured that it has been included in this volume.

Turning to the paper on "Exploring international migration and outsourcing through an institutional lens", by Jill Rubery, Annamaria Simonazzi, and Kevin Ward, I find there is much to like. The focus on institutions is welcome since, in the areas of migration and labour markets, institutions are central to understanding developments and cross-country differences. The paper thus contributes to the broader literature emphasizing the importance of institutions for economic growth and for understanding why some countries are rich and others poor.

The authors are right: the world is not flat. Country-specific institutions and circumstances – including endowments and history – are important in the process of globalisation, and will remain so. And although globalisation will shape institutions, this does not mean a homogenisation of institutions across the globe is either imminent or inevitable. I agree with the authors that there is no clear tendency towards a convergence of employment models – nor should there be, because we know that very different models can deliver good labour market outcomes.

I also liked the three case studies, which are rich in detail and very informative, particularly the case study on the IT sector. Anyone interested in developments in European temporary staffing agencies and the elderly care sector, will find much useful material in these two studies.

While agreeing with much of the paper, I have a number of comments, mainly related to its conclusions and policy implications. The first is that, while it is understandable that the authors focus on Europe, a broader discussion to include key emerging market countries would have been welcome, particularly in the concluding section. For every country that off-shores jobs or tasks, there is, by definition, a recipient country that on-shores those jobs or tasks. On-shoring and migration have made important contributions to economic growth and poverty reduction in many developing and emerging market countries such as China and India. From a global perspective, focusing only on developments in the off-shoring countries gives an unbalanced view of the costs and benefits of off-shoring.

This takes me to my second comment. In my view, the paper is unduly negative about the economic effects of international migration, outsourcing, and off-shoring, partly because of the Eurocentric focus. This negative patina is particularly evident in the concluding section discussing policy conclusions. The authors conclude, for example, that outsourcing/off-shoring and migration may be used to avoid the need for modernisation and adjustment. This may be true. But I would also expect that outsourcing/off-shoring and migration would be key aspects of modernisation and adjustment for many firms. Similarly, in their closing paragraph, the authors emphasize the potential major long-term costs associated with the use of migrant workers with only scant recognition of potential benefits.

I also found some of the policy conclusions to be overly dirigiste, at least for my tastes. The authors conclude, for example, that it is important to balance the promotion of outsourcing and off-shoring with the "recognition that companies may be outsourcing activities and processes that are better provided in house for quality/strategic reasons" (policy conclusion four). While it is difficult to argue with this, who rather than the companies themselves are better placed to judge if activities are best done in house or outsourced?

A final comment concerns references in the paper to the need to introduce a national minimum wage in Germany. While not disputing that a national minimum wage may have an impact on German labour standards, I think a more balanced discussion would have tempered this with some caution about the need to ensure that minimum wages are not set so high that they contribute to higher levels of unemployment.

Discussion comments on “Exploring international migration and outsourcing through an institutional lens”

Adrian Blundell-Wignall

Introduction

It is a privilege to be asked to comment on this paper in honour of my friend Palle Andersen. Palle was a gentle person and his interest in empirical research had a certain power that I believe came from his “detachment”. He focused on data quality and thoroughness, and he never had those blinding priors for which empirical support is all too often too easy to find. I will miss him.

I found the paper by Professor Rubery and colleagues to be very interesting. It is refreshing to look at issues through the institutional lens and to challenge my own understanding of globalisation through outsourcing, offshoring and migration. The paper looks at three case studies: temporary staffing agencies; elderly care; and IT-related outsourcing/offshoring. The methodology used is to consider two-way causation issues between migration/offshoring and institutional forms through which growth takes place. The paper then assesses the impact on employment conditions and uses a qualitative cost-benefit assessment (based on an equity versus efficiency discussion) to lead to some policy conclusions. The focus of the paper is primarily on European countries and the resources used are data snapshots, research citations, anecdotes and a thorough knowledge of institutional forms.

The paper is convincing in illustrating how outcomes vary according to different governmental and organisational actors. The four policy conclusions are strong, and seem to lend more weight to equity rather than efficiency in comparing costs and benefits. These conclusions are:

1. That re-regulation may be needed, including for minimum wages, to maintain labour standards.
2. That offshoring and migration risk postponing much needed domestic retraining to meet skill shortages.
3. That organisations facilitating globalisation sometimes fly under the regulatory radar screen and codes of practice need enforcement.
4. That offshoring, etc may be encouraging a trend towards the short term in labour relations that may harm efficiency (better quality and safer strategies).

1. The long-cycle setting

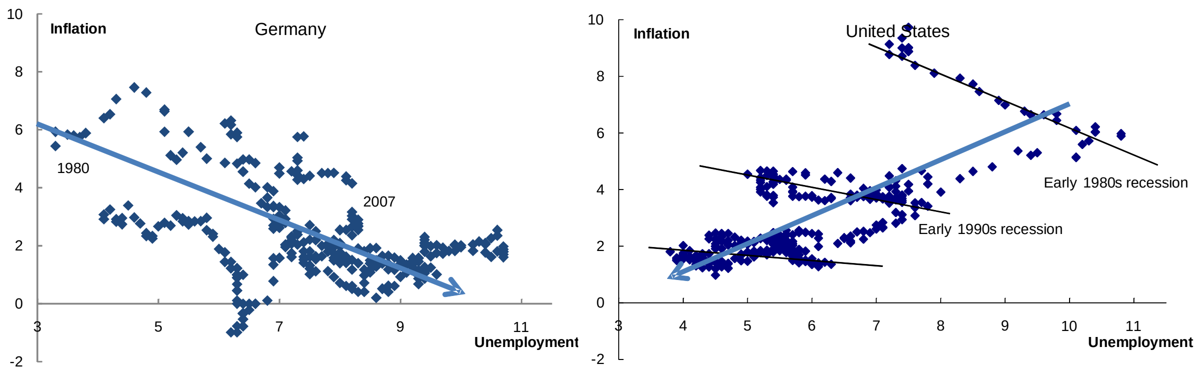
There is a methodological issue at the outset: the role of complex institutional forms (like regulation, culture, unions, form of economic system (liberal or coordinated), training and qualifications, role of agencies, outsourcing, etc) versus structural long-cycle trends (like migration, outsourcing, female participation, ageing, improving health and global industrialisation) all influence labour market outcomes and equity versus efficiency issues. There are many moving parts here, and inferences to be drawn about policy presumably need to take all factors into account while weighing what is important in any one area.

Aggregate outcomes such as the Phillips curve trade-off are all-inclusive – so my comments start there, and work backwards to the specific case studies. A look at the aggregate outcomes over the past three decades certainly makes the authors' point concerning the power of institutions to influence the economic adjustment path very well. Graph 1 shows the Phillips curve for Germany and the United States, and the arrows reflect the general time direction of the trade-off. In the "coordinated economy" there is a downward-sloping curve, and dynamics that see the trade-off deteriorating over time. In the liberal economy the reverse is the case. The institutional forms in Europe appear to have been very successful in ensuring the world is "not flat". The authors argue at one point that institutional forms in Europe should not be seen as "obstacles". But these differences are so marked they do suggest materially different impacts on efficiency.

Graph 1

Phillips curves over time

In per cent



Source: Datastream.

Even as reforms are still being developed within Europe to improve efficiency, a new set of secular pressures on a scale not seen since the industrial revolution in the West is only just beginning.[1] I refer of course to the massive global supply shock associated with integrating the BRIC economies and others into the global economy. China is undergoing an industrial revolution with an urbanisation process on a gigantic scale: some 350 million people (compared to 18 million Australians) will move from rural to urban areas by 2020, and even then the country's urbanisation level will still be significantly below that of the West. India is industrialising and will experience strong growth in working age population over the next 50 years. Market forces – factor price shifts and trade – will ensure that these massive global labour and production resources are utilised and, provided policy is supportive, living standards should rise in both the East and the West.

I suspect that while we do not, as the authors say, know how things will work out, social choice considerations with respect to pay, pensions and standards of work will be subject to these secular pressures too. The West is ageing, and this is bringing falling potential growth, rising health care costs, pension shortfalls and age care pressures. Newly industrialising

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[1] Eichengreen points to this issue in his book on Europe in the postwar period: the coordinated capitalism approach, involving growth-orientated governments, bank financing of investment, unions holding wages back to permit investment, unions on boards, apprenticeships, etc worked well for catch-up convergence (mobilising capital to utilise existing licensed technologies), but much less well in the last 25 years, which have required a greater focus on increased efficiency and internally generated innovation.

countries are saving massively, driving down the global cost of capital, and educated labour outside of the West is cheaper. Western countries are currently able to borrow at the lower global cost of capital to invest in the restructuring and IT necessary to manage global supply chains while maintaining consumption. The use of offshoring and migration necessary to take advantage of relatively cheaper global labour pools is integral to this process. Joint ventures and foreign direct investment in emerging countries are equally important. These mechanisms are allowing the West to move out of activities producing lower value-added and up the value-added chain, thereby enhancing productivity.[2] Protectionism and regulation to resist these pressures are not supportive policies and would probably be very costly in both the East and the West over the longer run.

These dynamic forces mean the very idea of a company's "core competency" is going to be subject to change, as technology platforms shift and population dynamics and factor price changes come into play. Institutional forms may influence the adjustment path, but whether these serve to erect costly barriers or, alternatively, to influence the terms and conditions under which globalisation happens in a favourable way, remains an open question.

2. The case studies

In looking at the authors' three case studies, it is helpful to keep a broad supply and demand framework in mind when assessing equity versus efficiency conclusions; in particular:

- An excess demand situation at the pre-globalisation wage in a high-skill occupation: strong demand and tight supply with a demographic and institutional context of tough migration rules and the ability to police them (eg no land borders, etc); slow growth of working age population (ageing, birth rate, etc); a liberal domestic economy framework; multicultural social norms; low union power; and low monopoly practices in qualifications and regulations.

  Prediction: relaxing migration rules in selective skill shortage areas will help productivity and be accepted in the host country without prejudice to pay or conditions of work. Outsourcing/offshoring will be low.

- An inelastic demand for a low-skill/low social status occupation at the pre-globalisation wage: with weak migration rules (or ability to police migration); tight domestic supply due to demographic and status issues; a coordinated economy policy framework; more xenophobic social norms; high union power; and strong monopoly practices in qualifications and regulations.

  Predictions: migration will be perceived as undermining standards, taking jobs and/or reducing wages. Offshoring will rise if the work can be commoditised and exported. Black economy practices and flying under the radar of the law will rise where jobs cannot be taken offshore.

[2] See, for example, Mann (2004). Mann argues that global sourcing in the 1990s reduced the price of IT hardware, which led to increased IT investment and more jobs for IT workers, and that the same is now happening with software. The widespread use of IT has led to higher productivity for the US government. Mann argues that in the United States, IT jobs are moving up the skills ladder. She advocates policies to increase the skill level of current and future IT workers, provide a safety net for displaced workers, and open up international trade.

Temporary staffing agencies

The paper by Rubery et al notes the role of temporary staffing agencies (TSAs) in creating more flexible labour markets and facilitating mobility. While emphasising the need to be context-specific, the authors conclude that: “TSAs appear to have higher penetration rates where there are more opportunities to change the terms and conditions of employment. This provides some a priori evidence that employers are motivated to use TSAs to reduce labour cost not through smarter working but through reduced rewards for work. As such, the availability of cheap labour provided through TSAs may in some cases allow employers to postpone the search for higher productivity through modernising of technology and work systems”. They also suggest that sometimes worker standards are even lowered, with agencies pushing legal limits. Without the benefits of productivity gains, the four policy conclusions reached by Rubery et al might be justified by these sorts of observations. The evidence presented, however, is not conclusive. Table 1 of the paper shows the TSA sector to be fairly small, while Table 2 and most of the text summarise institutional differences between four countries, including my own country Australia. This does not bring to the table convincing evidence for the efficiency versus equity conclusions. More quantitative survey data, including outcomes on conditions and pay, with the two above supply/demand contexts in mind, throw up alternative hypotheses.

Table 1

Temporary skilled migrants in Australia

Survey of temporary (“457 visa”) migrant workers, 2003–04, in per cent

Mode of recruitment	Managers/ admin	Professionals	Associate professionals	Trades	Other	Total
Overseas office of company transfer	29	16	6	1	1	16
Direct approach to employer	24	28	32	36	36	29
Direct approach by employer	23	15	22	17	12	18
Employment agency	8	20	9	4	9	14
Family/friends	10	7	25	26	17	12
Newspaper/internet advertisement	5	13	6	13	19	11
Migration agent	0	1	1	0	0	1
Survey question on whether foreign workers receive the same treatment as locals						
(a) Work conditions						
Agree	69.1	71.1	50	73.3	61.1	67.4
Disagree	8.8	14.8	25	13.3	11.1	14.2
(b) Pay						
Agree	67.6	66.4	43.8	73.3	50.0	63.2
Disagree	8.8	14.8	15.6	13.3	33.3	14.6

Source: Khoo et al (2005).

Australia's mining-led boom, tied into the structural industrialisation in China, led to significant skill shortages in the "professionals" (eg engineers, IT workers, etc), "managers" and "trades" (eg electricians) categories. So-called "457 visas" were introduced in the early 2000s mainly to target these "hot" areas. Less skilled "associate professionals" and "other" workers (clerical, back office, etc) are more available locally. In the skilled group the jobs (eg minerals extraction) cannot be commoditised and taken offshore; in the less skilled occupations they can.

TSAs played a significant (20%) role in finding professionals (engineers, IT workers and accountants, for example) – consistent with Skilled Engineering being the biggest player shown in Table 2 of the Rubery et al paper. But even here the Australian study suggests that direct approaches by employees were dominant, and other alternative recruitment categories were significant too. For the "management", "trades", "associate professionals" and "other" categories, TSAs played a very small role. In an excess demand situation the market finds a way, with agencies apparently playing a partly residual rather than driving role – markets will not incur systematic transaction costs with a middle man unless other mechanisms cannot cope. Other aspects of the Australian survey showed that:

- A wide range of ethnic origins were involved in the migrant labour market;
- There was almost universal positive feedback on the visa scheme by participants, with 68.6% reported as being in the highest category of "very satisfied" with their experience, and 60% wanting to apply for permanency. So good was the experience that the government introduced the "Employer Nomination Scheme" permanent visas in 2005, allowing 457 visa workers to convert to permanent residents.
- On pay and conditions, the high excess demand occupations showed very positive responses, whereas the low-skilled occupations were noticeably less happy (see Table 1 above).

I suspect that controlling for supply and demand in different occupational skill levels would also be found in other countries – investment bankers in London versus child and elderly care workers, for example. The world may not be "flat", but it might look a lot flatter if the same skill excess demand panels are controlled for.

Future work on TSAs might look at:

- The skill/excess demand situations in which TSAs operate;
- The residual role of TSAs in buffering firms' labour requirements over the business cycle (this is consistent with equity prices in listed temporary manpower companies being strong leading indicators of the business cycle in the United States and Europe).

Elderly care

Elderly care is different to the issues discussed so far – it is in the health care sector, the demand for it is inelastic beyond a certain point, and sometimes it is an "at home" or "within the family" occupation. While the case study is short, it is intuitively convincing. Elderly care cannot easily be offshored in a scalable way. I suspect that it is less skilled work, and that it will not enhance national productivity, as compared with an occupation like my mining engineer above. But perhaps we need different yardsticks in this area – such as "well-being indexes" that take into account quality of life factors.

Bearing in mind future demands posed by the ageing population issue, the authors' discussion of budget constraints that, with less regulation, may provide supply agents (family, private or government) with an incentive to use lowest-cost sources without quality assurance is instructive. Furthermore, any attempt to regulate elderly care in a way that significantly increases costs, particularly to families and private providers, may lead to black market solutions. In the general health care area these policy issues are difficult to assess, and it may well be that greater public responsibility for quality assurance is warranted. Even liberal economies that focus on use of private providers need full public scrutiny and provider accountability. Further research in this area is to be strongly encouraged, and conclusions 1 and 3 of the Rubery et al paper may warrant further attention by politicians and regulators. This research would benefit from more direct evidence on quality problems, including: social "well-being indexes" for the elderly; illness rates; and "death by cause" (including suicide) rates across jurisdictions. Identifying how institutional forms, regulations and oversight can improve the cost-quality trade-off will become increasingly pressing as populations age.

Offshoring

Some literature references, and anecdotes from the United Kingdom, Germany and India, are the main tools in this short section on the use of IT outsourcing/offshoring and migrant labour in call centres. The section is very short and no data is provided. This is a pity, because this type of activity is at the very core of the earlier theme of globalisation and moving up the value-added chain in the West. Use of foreign labour pools also provides a coherent avenue of inquiry for coping with the future demographics of ageing.

While the mining engineer needed in Panawanica in Australia's north-west cannot be "offshored", call centres for financial institutions certainly can. The authors note that over the past couple of decades this activity has shifted from 100% in-house work to widespread outsourcing to places like India, the Philippines and Sri Lanka, resulting in profit gains. The extent of outsourcing depends on how commoditised the labour function can be made: ie the extent to which it can be replaced either by IT or by an off-site/offshore centre. Answering calls for high net worth private clients often remains in house, where value-adding skills are required ("client advisers"), while information concerning balances and errors, transfers, processing of loan applications, etc is easily outsourced. The authors are right to suggest that labour is not a commodity. But it is also the case that turnover rates are high when commoditised work is done in house, and fewer of these problems are encountered in the value-adding areas. Future research might look at turnover costs at alternative skill levels to help determine the point where outsourcing becomes sensible from everyone's point of view: the worker, the client and the company.

More work on offshoring, foreign direct investment and global joint ventures in manufacturing, health care, education and other service areas is also needed to assess efficiency versus equity issues. Australian clothing companies today have become a growth success story in a previously declining sector – companies like The Just Group and Billabong manufacture virtually all of their goods in China, and have turned themselves into IT-based supply chain management and service sector employers.

Offshoring is also moving into pharmaceuticals, and in the longer run will be a part of the solution to ageing and health care costs. As much as 20% of finished generic and over-the-counter drugs, and over 40% of the active ingredients for those made within the United States, already come from India and China. By 2020 the latter share is expected to rise to 80%. Technology is also moving into simple medical diagnosis, and education. To be sure there are going to be implications for quality and adjustment costs for current providers of these services. But that is why the focus needs to be on the terms and conditions under which globalisation proceeds rather than policies to arrest it.

3. Conclusion

To conclude I will reiterate a few key points. A thorough analysis of institutional forms is important for identifying adjustment costs and for allowing for quality and social choice issues to be taken into account as globalisation proceeds. The paper by Rubery et al is a good contribution to this debate. In terms of cost/benefit and equity versus efficiency, the issues should be discussed hand in hand with conventional economic analysis, and with some consideration of the longer-run secular trends now in play that will limit choices. While the policy conclusions in the paper appear to be a little strong at this point in the debate, the authors make an interesting contribution and raise the right questions.

References

Eichengreen, B (2006), *The European Economy Since 1945: Coordinated Capitalism and Beyond*, Princeton University Press.

Khoo, S-E, P McDonald and G Hugo (2005): *Temporary skilled migrants in Australia: employment circumstances and migration outcomes*, Aust Centre for Population Research, ANU & University of Adelaide.

Mann, C L (2004): "What Global Sourcing Means for US IT Workers and for the US Economy", *Virtual Machines* 2, 5, July/Aug.

Labour markets in newly integrating economies such as India and China: are they different?

Suresh D Tendulkar[1]

Introduction

We start with an elementary economic proposition distinguishing labour markets from commodity markets with implications for economic growth. Labour markets differ fundamentally from commodity markets because the price of labour cannot be pushed to zero in the situations of oversupply typical in the developing countries. Their functioning is therefore subject to some socially determined (positive) minimum supply price of labour and is characterised by perpetual disequilibrium as reflected in the rate of unemployment. In the advanced industrialised countries with very high elasticity of capital, labour supply is a primary constraint on economic growth and unemployment is of a frictional or cyclical nature. The reproducible tangible capital-constrained developing countries are characterised by unlimited labour supplies at some positive socially determined minimum supply price. Lewis (1954) proposed a two-sector model of economic growth for such countries. This model postulated a gradual transfer of labour from a subsistence (S) sector (using traditional low-productivity technology and acting as a residual absorber of unlimited labour supplies) to a capitalist (C) sector using modern, higher-productivity technology with high output supply elasticity and operating on a profit-maximising commercial basis. The critical difference here in comparison with the two-sector neoclassical model of growth was that the socially determined minimum supply price of labour was given by the average product in the S sector and not the marginal product of labour, which is zero in the S sector. Labour being in abundant supply, the primary constraint on growth in a closed economy was argued to be wage goods (primarily food grains) supply produced in the S sector with low elasticity of supply.

As regards the analytical framework, we adopt the evolutionary institutional framework suggested by North (1990). In this framework, the economic performance of nations, which interacts with and shapes labour market outcomes, is taken to be determined by demography, technology and institutions. Slow-changing and path-dependent demographic forces control long-term labour supply – its characterisation changes from being infinitely elastic in developing countries to being the ultimate primary constraint on economic growth in the advanced industrialised countries. Technology determines the process of transformation of primary and produced inputs into outputs of goods and services which contribute to the welfare of the population. The pace of technological change has accelerated in the last three decades or so. Mutually reinforcing interaction between demographic and technological changes is governed by institutions. North proposes the notion of an institutional matrix (IM) comprising formal and informal rules of the game along with their enforcement characteristics in social, political and economic domains. Formal rules comprise all formally binding procedures while informal rules include society-specific ideological beliefs, traditions, customs, conventions and widely accepted codes of conduct and other behavioural norms. For a given society, IM may be regarded as a society-specific customised institutional

[1] I am thankful to the Bank for International Settlements for the invitation to the conference and to the two discussants for their comments, which complement my paper by providing a wider perspective in terms of coverage of issues as well as countries. The views expressed in this paper and any errors that remain are mine.

software governing interaction in social, political and economic domains involving competition and cooperation among the participants. Self-interest-based society-specific motivating forces for action are provided by the incentive structure embedded in a given IM that indicates opportunities for gains in the social, political and economic sphere. North maintains that institutions, in combination with demography and technology, constitute the key determinants of the economic performance of nations. In the specific context of the labour market, labour participation practices, minimum acceptable supply price of labour in a situation of unlimited labour supplies and adjustment lags in responding to incentives and disincentives, the factors that influence labour market flexibility, are all socio-politically determined such that the labour market becomes a social institution.

1. A brief perspective on global integration in China and India

The pace of globalisation has been governed by technological changes in transport and communications, national trade policies and international institutions such as GATT and its successor the WTO, which, by laying down and enforcing rules for international exchange, have reduced the uncertainties involved in exchanges separated in time and space.

By a deliberate choice of trade policy, both India and China chose to insulate themselves from the global economy immediately after independence in 1947 (India) and 1949 (China). China, after remaining closed since the revolution in 1949, started integrating its economy with the global economy aggressively in 1978, beginning with merchandise trade in the 1980s and following it up with private foreign investment. Similarly, after remaining one of the most heavily regulated and closed market economies in the world for more than three decades after independence, India started hesitant liberalisation of domestic investment in the 1980s and followed with systemic liberalisation (including foreign trade and investment) from 1991 onwards. The US dollar value of total exports of goods and services from China grew at an annual rate of 18.1% between 1995 and 2004, whereas that of India grew at 12.6% over the same period. There was acceleration in total exports between 2000 and 2004, at 23.8% per annum for China and 16.6% for India (Bosworth and Collins (2007), Table 5).

Progressive integration of these two most populous economies should be obvious. Being the late starter, India has been growing at a slower rate than China. These two economies are included among the E7 emerging market economies (EMEs) along with Brazil, Indonesia, Mexico, Russia and Turkey. It is important to note that the recent growth spurts in these economies have been associated with their increasing integration with the world economy. They appear to have clearly benefited in terms of economic growth from their participation in the international division of labour.

The degree of integration among the two Asian giants differs, however. In the just released *Trade and Development Index* (TDI) for 2006 prepared by the United Nations Conference on Trade and Development (UNCTAD), India ranks at the lower end of the third quartile, at 86 among 123 countries. The remaining six EMEs are in the upper half, with Korea at 21, China at 25 and Russia, at 58, being the lowest-ranked among the six. While India led the seven EMEs in terms of international finance, macroeconomic stability and trade performance, it lagged behind other EMEs in respect of human capital, physical infrastructure and openness to trade (*Economic Times* (2007a)). In other words, despite strong trade performance in terms of growth rates of trade variables and significant trade liberalisation in comparison with the pre-1991 period, especially non-trade barriers to trade in India remain high in comparison with other developing countries.

2. Demographic trends

This section can be brief as other papers in the conference will be dealing with demographic trends in detail. Ageing of the population and labour force in the developed countries are well known facts. Population growth rates have slowed and life expectancy has been extended in most developing countries as well. In the present context of labour markets, we may only briefly note the contrast between the two most populous countries, which account for 40% of the world population.

Focusing on the prime or working age group (between 15 and 59 years of age), over the 20-year period between 2005 and 2025, the prime age population in China is projected to rise from 885,182 million to 896,091 million or 0.62% per annum, and its share in the total population to decline from 67.4% to 62.0%.[2] In contrast, the working age population in India is projected to rise from 671,609 million to 899,652 million between 2006 and 2026 (about the same magnitude as that in China in that period) or 1.47% per annum while its share in the total population is expected to rise from 60.4% to 64.3%.[3] As part of the demographic transition, in this scenario India would thus be getting the so-called demographic dividend of a rising share of working age population and hence a rising potential labour supply despite a slowdown in the rate of growth of the total population. With a large pool of working age population, India and China would then face the challenge of putting them to productive uses by maintaining strong economic performance, which would be partly reinforced by the savers exceeding the dissavers (those with negative savings) in a younger population. It is estimated that more than half the world's working age population will be located in these two countries in the next five years.

3. Recent trends in economic growth in India and China

As mentioned earlier, since labour markets interact with and are shaped by economic performance, we note recent trends in economic growth in India and China. In this regard, we draw on Bosworth and Collins (2007), who undertake a comparison of the economic performance of these two Asian giants over the period 1978–2004. This period captures the growth spurts in the two economies in comparison with their pre-1978 past. The authors divide the period into two subperiods: 1978–93 (Period I) and 1993–2004 (Period II). As noted in Section 2, the second period covers the post-1991 systemic reforms in India, which included significant external trade liberalisation. The Chinese economic reforms process, seeking to establish a "socialist market economy", spanned the entire period. The first subperiod involved the replacement of agricultural collectives by a household responsibility system that restored economic incentive in production. The second saw the reform of state-owned enterprises.

Aggregate GDP experienced acceleration from Period I to Period II in both countries although the annual growth rate in China was much higher, at 8.9% (Period I) and 9.7% (Period II), compared to 4.5% and 6.5% respectively in India. With a slowdown in workforce growth in both countries, per worker productivity also accelerated from 6.5% to 8.5% annually in China and from 2.4% to 4.6% annually in India. Around half of this was contributed by total factor productivity growth (TFPG), which reflects outward shifts in production function through technological changes. TFPG in China was three times higher than in India in Period I and about twice as high in Period II. At sectoral level, TFP in the

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2 See United Nations (2007).

3 See Office of Registrar General (2006).

secondary sector (whose major component is industry) experienced acceleration in China from 3.1% annually to 6.2% and the level of TFPG was as high as 10 times (Period I, 1978–93) and five times (Period II, 1993–2004) that in India. TFP accelerated in the services sector in India, from 1.4% annually to 3.9%, while it decelerated in China. It should be obvious that increasing integration of these two countries has been associated with acceleration in both GDP and TFP, thus bringing out a powerful instrumental role played by international trade in economic growth. However, the composition of export earnings between goods and services presents an interesting contrast. The share of exports of goods in total current export earnings increased in China from 87.0% in 1995 to 90.4% in 2004. In India's case the share of services increased from 17.8% to 32.9% over the same period. In other words, China has become the manufacturing powerhouse of the world while a similar role is being assumed by India in respect of services.

4. Labour market outcomes of economic growth

In a stylised version, the labour market outcome of economic growth is the result of interaction between supply of and demand for labour in productive activities. Supply of labour is determined by demographic factors, labour force participation behaviour and socio-culturally determined minimum supply price expectation. Demand for labour is derived from economic growth triggered by expanding domestic and external demands and technological changes, both of which generate incentives for domestic producers to employ labour in productive activities. To begin with, we first present stylised outcomes at the economy-wide level before introducing broad details regarding labour markets. We note up front that our discussion of China is handicapped by our lack of acquaintance with the finer details of Chinese official statistics. The discussion focuses on employment, the concepts of which appear to be broadly similar in the two countries.

Starting with work participation behaviour as reflected in worker population ratio (WPR), for the entire Indian population (all ages), the estimated number of workers in 2004–05 (from the National Sample Survey (NSS)) was 458 million with a WPR of 41.88%. From the *Key Indicators of Developing Asian and Pacific Countries* published by the Asian Development Bank, we find that the Chinese workforce stood at 752 million in 2004, with a WPR of 59.10%. The Chinese workforce was thus 60% larger, and its WPR 17 percentage points higher, than that in India. The WPR reflects behaviour shaped by sociocultural and economic factors and is known to differ across gender and location (rural-urban). The NSS-based reported WPR for India in 2004 was 54.6% for rural males, 54.9% for urban males, 32.7% for rural females and as low as 16.6% for urban females. We could not trace corresponding details for China. Li and Zax (no date) quote a sample survey-based estimate of WPR for 1995 of 79.7% for males and 68.7% for females. They expect this to decline over time. The corresponding rural-urban population-weighted WPR for India was 54.7% for males and 28.2% for females. China thus has a much larger workforce with a significantly higher average WPR than India for both male and female workers, but very significantly higher for females (by 40.5 percentage points) than for males (by 25 percentage points).

We turn next to the inter-sectoral shifts in workforce that are also described as structural changes. It may be noted that changes in the composition of domestic demand with rises in per capita income bring about shifts in workforce from agricultural sectors with lower than average productivity per worker to non-agricultural sectors with higher than average productivity per worker during the growth process in a closed economy. These inter-sectoral shifts accelerate with integration with the global economy and technological changes which make for a faster pace of structural changes. In general, the higher the rate of economic growth, the faster in pace and greater in quantitative magnitude are the inter-sectoral shifts in workforce.

As a result of the average annual GDP growth of 9.3% in China during 1978–2004, the share of the primary (mostly agricultural) sector in the workforce declined by 24 percentage points from 71% to 47%. The industrial sector gained only 6 percentage points from this shift, while the tertiary sector picked up the remaining 18 percentage points. With nearly half the aggregate GDP growth rate of China, the Indian average annual growth rate of 5.4% during 1978–2004 brought about a 14 percentage point decline in the primary sector share from 71% to 57%. Of this decline, 5 percentage points were taken by the industrial sector and 9 by the tertiary sector, to reach shares of 18% and 25% respectively in 2004.

5. Social consequences of structural changes

Kuznets (1972) had pointed out 25 years ago that underneath the innocuous looking macro-level percentage point shifts in workforce are micro-level pains of adjustment – rural-urban, inter-industrial, inter-occupational and inter-factory movements of workers – involving uprooting from a familiar social and production environment and adjustment to new socioeconomic surroundings in new jobs. Pains of adjustment also involve unemployment for varying intervals, obsolescence of technologies forcing reskilling or the prospect of permanent unemployability, and widening earning differentials that result from technology upgrades and emergence of demand-supply imbalances (a) between existing and newly required skills, (b) between locations of faster-growing sunrise and lagging sunset industries and (c) between locations of slower- and faster-growing units. It is important to note that labour market turbulence involving pains of adjustment resulting from structural shifts in workforce during economic growth is inherent in every growing dynamic economy, with or without globalisation, and cannot be escaped even in a closed economy. It is a necessary price of having economic growth that enables sustained improvements in living standards of the population that includes workers undergoing pains of adjustment. Globalisation merely adds to the turbulence in the labour markets while providing a potential boost to economic growth. Globalisation is not the only factor causing turbulence in labour markets, however. There are also internal factors contributing to this turbulence. These include, apart from technological changes, changes in the structure of domestic demand in response to a rise in per capita income and domestic infrastructural deficiencies in the transport and communications network that impede mobility in large continental countries like China and India. In the Indian context, religious, linguistic, cultural and caste-based diversities also contribute to social networking difficulties and hence act as barriers to labour mobility.

The pains of structural adjustment generate social tensions and human problems to which every government – democratic or authoritarian – has to be sensitive in order to maintain legitimacy to rule. Alleviation of these pains through social safety nets and other social institutional arrangements for socially acceptable sharing of pains of adjustment become important in this context.

6. Emerging labour market problems

In this section, we focus mostly on India for reasons of greater familiarity, although the nature of the problems discussed would be similar in China also.

Over the last five years, the Indian economy appears to have entered a higher growth path. GDP at (constant 1999–2000) factor cost has accelerated from an average annual rate of 6.3% from 1992–93 to 1999–2000 to 7.0% during the seven-year period from 2000–01 to 2006–07. This acceleration has been greater in the last five years (since 2003–04) with average GDP growth of 8.7% (quick estimate for 2006–07 and advance estimate for 2007–08) on the basis of a mutually reinforcing interaction between booming domestic and external demand and liberalised domestic entrepreneurship. The acceleration in GDP has been supported by a sustained increase in gross domestic investment rates (at current prices) from 24.3% of GDP in 2000–01 to 35.3% in 2006–07 and in the gross domestic saving rate, which rose from 23.7% to 34.8% (quick estimate) over the same period.

While domestic demand continues to be dominant, a major change in the composition of external demand warrants discussion as it also reflects cost competitiveness. Exports of both goods and services have registered double digit growth over the last decade. Services export earnings as a ratio of current total (goods plus services) export earnings increased from an average of 18.0% during 1990–95 to 39.0% in 2006–07, the latest available fiscal year (April to March). Over the last decade, India's service exports have grown at a rate exceeding 20% annually and their share in world exports of services rose from 0.6% in 1995 to 2.2% in 2005 (RBI (2007), p 89) and further to 2.5% in 2006 (RBI (2008)). With its low cost of operations, high quality of service products, readily available technical manpower (so far), a favourable time zone difference and a general facility with the English language, newer and newer services are being sourced internationally from India. This is reflected in the fact that while the share of widely discussed software exports in total services export earnings has stagnated around 40%, that of non-software (new) miscellaneous services (which started being classified separately in 2004–05 in balance of payments statistics; see RBI (2008)) has rocketed from 21.3% to 38.2% in 2006–07 (RBI (2007), p 90). This indirectly corroborates the finding of Bosworth and Collins (2007) that TFPG contributed an overwhelming 72% to the 5.4% average annual growth in per worker productivity of services in India during 1993–2004. Export growth combined with the booming domestic economy has been generating increasing direct and indirect demand for high- and middle-level skills and is beginning to be reflected in labour shortages, especially in urban centres with high attrition and turnover rates. This is a manifestation mostly of demand-supply imbalances in terms of requirements and availability of educated and trained workers, but it is partly also accentuated by the barriers to mobility arising from inadequacies in transport and communication infrastructure and social networking difficulties arising from socio-cultural and linguistic diversities. This issue has several dimensions, which we discuss on the basis of the latest available NSS of employment and unemployment for 2004–05.

7. Rural-urban, gender and educational dimensions of the Indian workforce

We may mention that the rural-urban composition of the relevant categories of workforce is relevant in the context of demand-supply imbalances because rural-urban migration in search of jobs, though rising, is still not significant. The gender dimension is relevant because of the very low WPRs – lower among urban women, who are better educated, than among rural women – reported earlier (Section 5). In the absence of appropriate quantification of skills, we use education as a surrogate for the same.

The total Indian prime age (15 years and older) workforce was estimated to be 449 million in 2004–05 (see Table 1 below). Of this figure, 284 million (63%) were either illiterate or had four years or less of schooling (lines 1 and 2 in Table 1). Another 109 million (24%), two thirds of whom were based in rural locations, had between four and nine years of education (lines 3 and 4 in Table 1). Thus 87% of the workforce possessed education and skills just enough for absorption either in low-productivity primary activities or low-skilled secondary activities. Just 22% of the workforce was employed in the secondary sector in 2004–05, with only one-and-a-half times the average productivity per worker. Bosworth and Collins (2007) noted that per worker productivity in the secondary sector grew at a meagre annual rate of 3.1% during 1978–2004, of which only a little over one third was due to TFPG necessary for international competitiveness. In other words, technological dynamism was not as widespread in the secondary sector as in the tertiary sector.

The remaining 13% (56 million) of the total workforce had completed at least 10 years of schooling (lines 5 to 7 in Table 1), one third of whom were located in rural areas. This subset included 28 million workers having graduate level or higher education, of whom only 16% were females. In addition, about 7 million reported having some form of technical diploma or certificate, 50% of whom were located in rural areas.

Table 1

Estimated number of workers aged 15 years and older in India in 2004–05 by completed level of education

In millions

Description	Rural males	Rural females	Urban males	Urban females	Total workers
1. Not literate	72,721	80,091	11,741	8,799	173,352
2. Literate up to primary	63,254	22,194	20,345	4,789	110,582
3. Middle school	38,942	10,494	17,387	2,807	69,630
4. Secondary	20,009	4,342	13,444	1,722	39,517
5. Higher secondary	9,897	1,689	8,245	1,203	21,034
6. Diploma/certificate	2,152	603	3,316	802	6,873
7. Graduate and above	8,176	1,086	15,146	3,468	27,876
8. Total	215,151	120,499	89,624	23,590	448,864

Source: Calculated from the tables given in Sundaram (2007) based on the 61st Round of the National Sample Survey on Employment and Unemployment (July 2004 to June 2005).

Turning to new sources of demand for labour during the post-integration period, these have been rising at a rapid pace more in services than in manufacturing. High-value services in international demand for sourcing from India are mostly located in urban centres and require professional training and often pre-qualifying entrance tests in view of wide diversity in the quality of formal education in India. These opportunities have generally been beyond the reach of the overwhelmingly unskilled and less educated workforce.

Even the formal degree holders are afflicted by indifferent quality and often fail to clear the entrance tests for some high-value service sector jobs. India produces 441,000 technical graduates, nearly 2.5 million other graduates and more than 300,000 postgraduates every year. According to Mr Kiran Karnik, the former President of the National Association of Software and Service Companies (NASSCOM), one fifth of India's annual tertiary educational output is "world-class", one fifth "passable" and three fifths "lamentable" (*Economist* (2006)). Thus, a large proportion of the reported formally educated segment of the Indian population, though qualified on paper and large in numerical magnitude, has been found to be unemployable or earning much less than commensurate with their formal qualifications due to the unsatisfactory quality of their training. Diversion of the remaining limited talent to the mostly urban, fast-growing services sector has been generating shortages of high-level skills in the manufacturing sector. In addition, the booming domestic demand arising from the fast pace of growth has been adding to the urban shortages of middle-level skills. Shaped by socioeconomic and cultural factors, very low work participation rates even among educated and qualified women, though changing, further accentuate the scarcity of skilled and educated labour. Increased turnover and high attrition rates have, therefore, been a widely reported item in the Indian commercial and general newspapers.

The Indian case thus represents a paradox. Islands of acute scarcity of skilled and educated labour are reported in the urban areas in fast-growing service industries while the large bulk of the workforce – both rural and urban – is absorbed in low-productivity activities.

Comparable details for the Chinese workforce could not be easily traced. Reports indicate that the manufacturing sector has been experiencing labour shortages especially in the fastest-growing (eastern) coastal belt. From Bosworth and Collins (2007) we observe that despite phenomenal growth in exports of goods amounting to 18.6% annually between 1995 and 2004 and 11.0% annual growth in secondary GDP between 1993 and 2004, the share of the workforce in the secondary sector increased only marginally (by 1 percentage point, from 22% to 23%) between 1993 and 2004.[4] We also find from Brooks and Tao (2003) that employment in manufacturing declined from 98.0 million in 1997 to 80.8 million in 2001 and, more importantly, that in labour-intensive textiles, garments and leather and fur also declined from 11.1 million in 1997 to 8.4 million in 2001.[5] These facts seem to indicate that the 18.6% annual growth in exports of goods between 1995 and 2004 was driven more by raising per worker productivity and volume expansion of exports than by exploiting labour intensity.

Another piece of evidence is quoted from two urban household surveys for 1988 and 1995 (Li and Zax (no date)). It indicates that the proportion of the population having an education level equivalent to lower middle school and below declined between 1988 and 1995 from 51.2% to 36.1% for men and from 60.2% to 47.6% for women. Interestingly, the proportion of technical and professional workers increased from 15.5% to 21.7% for men and from 15.6% to 23.4% for women over the same period. (As late as 2004–05, the corresponding proportion in India was much lower, at 7.8% for urban male workers and 14.3% for urban female workers.) The Chinese shares must have risen higher by 2004 because there has been a massive increase in educational and training programmes as reported in a recent white paper on China's Employment Situation and Policies (see China Daily (2004) for details).

Another report mentions labour shortages being mostly confined to "advanced skilled workers" in the Pearl River delta industrial zone.[6] It appears that the demand for professional and technical workers resulting from 18.6% annual growth in exports of goods must have outstripped the available supply. Interestingly, quoting a private researcher, the same report also mentions (local) shortages of manual workers in the last two years in Guangdong factories "partly as a result of new agricultural policies that had raised farm incomes (thereby raising minimum supply price expectation) and partly due to low wages in Guangdong factories" as well as poor working conditions and low job security. It thus appears that demand even for manual labour has been rising more rapidly than supply in the fast-growing eastern belt due to rising minimum supply expectations despite relaxation of regulations on rural-urban migration.

8. Responses to imbalances and scarcities in India

The evidence presented in this section is anecdotal, based on newspaper reports rather than systematic research, as no nationwide scientific survey has been carried out so far. However, the available evidence is in line with what a priori reasoning would suggest.

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4 See Tables 2 and 5 in Bosworth and Collins (2007).

5 See Tables 3 and 8 in Brooks and Tao (2003).

6 See McDonald (2004).

Historically, government administration and public sector enterprises (PSEs) had been the major source of secure and lifetime jobs in India, encouraged by the state policy of indiscriminate expansion of government activities in the commercial sphere producing non-public (or, in the terminology of public economics, "private") goods and services (Tendulkar and Bhavani (2007)). Many PSEs operating in commercial areas that had earlier enjoyed monopoly positions were subjected to competition from the private units after their entry was permitted as part of the systemic liberalisation in 1991. As a consequence, PSE employment has been on the decline in recent years. Some labour restructuring at the enterprise level in the private sector had been taking place despite overprotective labour legislation but in the aggregate, employment gains have dominated over the employment losses in the manufacturing sector.

A major response to the internationally traded services sector expansion in the recent period has been the emergence of half a dozen temporary staffing agencies supplying temporary white-collar workers to multinational corporations and other Indian companies. This new phenomenon is described as just-in-time, short-term flexi-hiring or simply temping (see *Business World* (2005)). It is a three-way institutionalised arrangement between employees looking for work, companies that do not want permanent staff on their rolls or have short-term projects and the intermediary staffing agency, which keeps temporary workers on its rolls and also maintains an employee database to supply multiple skills at short notice on a commission basis.

While this is new in India, such staffing agencies have been in existence in the advanced industrialised countries since the Second World War. Some international staffing companies set up shop in India around 2000 and have expanded through the acquisition of local startups. Some new Indian startups have emerged in the face of high rates of attrition of professional workers in major cities like Chennai, Bangalore, Delhi, Kolkata and Mumbai. The *Business World* report quoted above estimated that there were some 50,000 temporary workers on the payroll of the staffing agencies, including a top 2% earning more than INR 100 thousand (approx USD 2,500) per month; 3% in junior to mid-management positions (six to ten years' experience) earning between INR 30 and 50 thousand (approx USD 750–1,250) per month; 15% in engineering services, customer support and marketing with two to six years' experience and drawing between INR 10 and 30 thousand (approx USD 250–750) per month; and an overwhelming 80% at the bottom end of the scale, with one to two years' experience in sales, marketing, administration and other miscellaneous services and earning between INR 6 and 10 thousand (approx USD 150–250) per month. This was the case in the nascent stage two years back; the market for temporary workers must have expanded since then. The staffing agencies represent a more sophisticated and organised version of the labour contractor system in India that has been prevalent for supplying workers for agricultural operations in peak seasons in the agriculturally prosperous states and for other urban construction projects by bringing in temporary workers from other states. It is also worth mentioning that large armies of labourers hired from labour contractors in large-scale urban construction projects used to be a familiar sight. That is no longer seen and in its place, large-scale mechanised equipment handled by skilled workmen has become a common sight in all metropolitan construction projects.

A recent report (*Times of India* (2007)) mentions the findings from the *India Labour Report 2007*, a study commissioned by the staffing agency TeamLease Services based in Chennai in the southern state of Tamil Nadu. It noted that 90% of (presumably mostly urban, white-collar) jobs are skill-based and talked about the "skill deficit", poor-quality skills or education resulting in 58% of the country's graduate degree holders earning less than the lowest of the bottom 80% in the *Business World* estimate discussed above. It traced the unemployability of youth to failure in receiving quality education and lack of vocational and technical training at the middle and high school levels.

We now discuss two reports appearing side by side on the same page and by the same correspondent of a widely circulated commercial daily (*Economic Times* (2007b,c)).

The first report narrates the woes of educated rural youth turning to urban jobs in the face of the uneconomic and declining average size of agricultural holdings and the declining trend rate of agricultural growth in India. They are finding the going difficult because of limited holding capacity in the absence of social networking and an inability to speak English, a common handicap in rural schools. The report describes the pains of transition from farm to non-farm jobs, involving mental stress, new and often unanticipated challenges and great hope, expectations and aspirations. However, failure to adjust in unfamiliar urban surroundings and other unpleasant cultural shocks are making such transitions difficult and prolonged.

The second report discusses a welcome experiment that provides a possible pointer towards a remedy to the problem posed in the first report. Two years ago, the government of the southern agricultural state of Andhra Pradesh started the Employment Generation and Marketing Mission (EGMM) to address the employability problem among underprivileged rural youth. It is a public-private partnership venture started by the state government with the help of the World Bank, the central government and seed capital of INR 50 million (approx USD 1.25 million). It is a training-cum-placement programme wherein the training areas and course modules are identified and put together by private companies in accordance with their commercial requirements. Different vocational modules are being developed for rural youth having different levels of education ranging from illiterate, to those having completed 10 to 12 years of schooling, to those with graduate degrees and above. Teachers are being locally recruited and put through aggressive training programmes with the help of companies. Private companies are being encouraged to support the programme financially. In 2006, the EGMM trained 45,000 rural youth, 80% of whom went into a job on completion. Many large corporates, including multinationals, are collaborating in the programme – and not out of altruism; rather, they are finding that the programme is well tailored to their requirements and in the face of rising attrition rates among urban youth, it is giving them an opportunity to recruit better motivated and trained youth with much lower rates of attrition.

Most large companies are going to the reputed educational institutions before final examinations take place and recruiting fresh graduates who are not necessarily trained in the required jobs and following up with orientation and in-house training programmes tailored to their specific requirements. Several large companies are also maintaining “bench strength” in anticipation of demand and apprehending labour shortages. Other companies are establishing their offices in tier one and two cities and spreading their recruitment net wider. Still others are recruiting middle-aged ladies with grown-up children for training in an effort to reduce attrition rates and offering them flexible working hours. Flexible hours are also being offered to male workers.

We may also mention one more recent report appearing in the *Economic Times* of 13 November 2007 (*Economic Times* (2007d)). It notes that the average salaries of IT workers are growing at 12% annually, while the Indian rupee, too, has appreciated 12% since April 2007. Despite these adverse factors, an Indian software engineer’s average salary is one fifth of what his/her counterpart in the United States and Europe earns. The report claims that this is still a profitable proposition even though the salary differential is up in one year from the one tenth mentioned in *Economist* (2006). This survey cites many more anecdotes of labour scarcity as well as exploring the means adopted to overcome it.

Our discussion in this section is admittedly selective and subjective. The idea is to give a flavour of the emerging labour market problems arising out of scarcity of skilled labour in certain fast-growing service industries in metropolitan areas. While these are in the limelight of public discussions, we should not be oblivious to the fact that they apply only to a small part of the total Indian workforce.

9. Medium- to long-run issues in labour markets in India and China

It should be obvious that, with 57% of the workforce in India and 47% in China in 2004 being engaged in the primary sector, where the average productivity per worker was estimated to be one fifth that in the non-agricultural sector, labour markets in both these countries would continue to be characterised by unlimited labour supplies and pains of transition from traditional agricultural to modern non-agricultural activities, as the currently advanced countries historically were during their industrialisation phase. The transition to the industrialisation of the workforce has been prolonged in both countries, partly by the past demographic pressures on land and partly by very slow growth of GDP (around 3.5% annually for three decades after their respective independence). The result has been the emergence of a large and persistent informal or unorganised segment of the workforce since the 1978 reforms in China and from an earlier period in India due to the preferential state policies towards small-scale and traditional industries.

Both countries indiscriminately expanded the ambit of state-owned enterprises (SOEs) as a matter of state policy for three decades starting in the 1950s. In India this was done to discriminate against large private capitalist enterprises while in China, it was part of the transition to socialism. China has successfully carried out the transition from the pre-reform system of direct allocation of jobs and administrative control of wages to a gradual evolution of the labour market. In India, the labour market in the large-scale private organised factories and public sector enterprises continues to be regulated by overprotective legislation that introduced formal inflexibility in hiring of labour. It may be mentioned, however, that faster growth of private factory manufacturing output during the post-1991 reform period has taken place on the basis of informalisation of flexibility in the labour markets at the factory level under which trade unions at the national level keep opposing any dilution of the overprotective labour legislation while workers at the factory level have come to accept the fact of flexibility in hiring, including layoffs and retrenchment (Tendulkar and Bhavani (2007)).

In the 1990s, China appears to have successfully implemented the downsizing of SOEs as well as public administration. As many as 8.9 million workers are reported to have been laid off in 1996, 5.74 million of which were from SOEs (*Chinese Labour Statistics Yearbook* (1997) quoted in Li and Zax (no date)). A three-stage social security system was introduced for the laid off workers with an in-built disincentive of a declining magnitude of compensation for workers remaining without an alternative job for long intervals. Under this system, until the laid off worker finds alternative employment, he/she continues to be linked with the SOE for three years on the basic salary, unemployment compensation (lower than basic salary) for the next two years and (still lower) minimum income assistance thereafter. In India, there has been no downsizing of public administration and very gradual downsizing of public sector enterprises forced by having to face competition from domestic and international private sector units in the same operations.

One adjustment that China has to undertake but not India relates to the accession to the World Trade Organization that has been partly driving labour market reforms. It was estimated that this could involve job losses – some 13 million in rural areas, especially those on marginal lands without much chance of moving to higher value-added crops and 1.5 million in urban areas, mainly in automotive and machinery industries (Li and Zhai (1999) quoted in Brooks and Tao (2003)). The same paper also mentioned the IMF staff estimate of some slowdown in GDP growth in the short run due to restructuring, but higher growth in the medium run.

The final interesting question relates to the possibility of mutual competition in the world markets between the two Asian giants with unlimited labour supplies. So far China has scored over India in manufacturing while India has established a competitive advantage over China in internationally traded technical and professional services. Both countries have been making efforts to establish themselves against each other in the world markets in their current areas of disadvantage. This process is clearly going to be driven by per worker productivity. Bosworth and Collins (2007) provide some broad pointers in this regard. They estimate that Chinese labour productivity in each of the major three sectors was 70% that in India in 1978. By 2004, the level of Chinese output per worker had risen to 110% in services, 130% in the primary sector and 220% in the secondary sector of the Indian levels of productivity per worker. Noticeably, more than double the level of productivity per worker in the secondary sector in China particularly might translate into higher real labour costs and erode China's labour cost advantage in manufacturing vis-à-vis India and other developing countries. However, China has been much better placed than India in respect of physical infrastructure, labour market flexibility and political capacity to take quick decisions and assure effective implementation. In macroeconomic management, too, China has managed to successfully keep its exchange rate undervalued despite running current and capital account surpluses and accumulating foreign exchange reserves. In comparison, India has to manage the impossible trinity of interest rate, foreign exchange rate and inflation rate in the face of mounting foreign exchange reserves and an appreciating exchange rate.

10. Concluding remarks

Finally, we briefly turn to the thematic poser suggested by the organisers of the conference in the title of the paper. Are labour markets in newly integrating economies different?

Labour markets in newly integrating economies like India and China are clearly different from those in the advanced industrialised countries at least in two obvious respects. First, as noted earlier, the advanced countries have successfully completed the transition from agricultural to industrial workforces and, unlike India and China, they are not characterised by unlimited labour supplies. In the advanced countries, labour supply is the primary constraint on economic growth, which has to be driven by total factor productivity raising technological changes. With unlimited labour supplies, inter-sectoral shifts from agricultural to non-agricultural sectors provide an independent source of growth in addition to technological changes. Second, labour markets are unified in the advanced countries with much narrower differences in inter-sectoral marginal productivities, whereas in countries such as India and China, the labour markets in the modern and traditional sectors are loosely integrated, with the traditional sector providing the store of unlimited labour supplies (albeit after getting equipped with requisite human capital).

Are the labour markets in India and China different from each other? Despite the common analytical feature of unlimited labour supplies, Indian and Chinese labour markets differ in at least two respects. First, India will but China will not be experiencing the demographic dividend of a rising share of working age population. The challenge facing India more than China is how fast society and polity can manage to upgrade the skill and education base of the growing working age population and raise their work participation while maintaining the momentum of present rapid economic growth so as to reap the benefits of the demographic dividend. This realisation is reflected in the more than fivefold increase in the proposed outlay on higher education in the government's Eleventh Five Year Plan (2007–12) from USD 3,278 billion in the earlier Tenth Five Year Plan to USD 18,776 billion, which means that 3.5% of the total proposed plan outlay has been allocated to higher education alone. The share of total outlay on education (school education and literacy plus higher education) has been increased from 6.6% of total plan outlay in the Tenth Five Year Plan to 11.1% in the Eleventh Five Year Plan (Planning Commission (2007)). Second, the two countries also differ with respect to their degree of labour market flexibility. This follows from the fact that, shaped by socio-political constraints, the formal as well as informal rules of the game and their enforcement characteristics governing minimum supply price perceptions and labour market participation practices differ between China and India and hence, the speed of responses to incentives and disincentives implicit in the incentive structure embedded in the institutional matrices in the two countries, even though the responses of individuals would be motivated by the universal self-interest-based behaviour in both countries. These differences enable us to understand Robert Solow's (1990) characterisation of the labour market as a social institution that evolves in a unique fashion in each country. A detailed examination of these differences is, however, outside the scope of the present paper.

References

Bosworth, B and S M Collins (2007): "Accounting for growth: comparing India and China", *National Bureau of Economic Research Working Papers*, no 12943, February, p 24 (http://www.nber.org/papers/w12943).

Brooks, R and R Tao (2003): "China's labor market performance and challenges", *IMF Working Paper* no WP/03/210, International Monetary Fund, Washington DC, November.

Business World (2005): "The rise and rise of the temporary job", vol 24, issue 34, 11–17 January, pp 32–44.

China Daily (2004): "China working to improve quality of workforce (Xinhua)", updated www.chinadaily.com.cn/english/doc/2004-04/26/content_326368.htm.

Economic Times (2007a): "India moves up on TDI list", New Delhi, 7 November, p 7.

——— (2007b): "Farmers look beyond farm for jobs", New Delhi, 7 November, p 5.

——— (2007c): "Jobs for rural youth", New Delhi, 7 November, p 5.

——— (2007d): "Surging rupee: No impact on IT salaries in the short run", report by Ranganathan, C and NS Ramnath, Times News Network, 24 September, http://economictimes.indiatimes.com/Infotech/ITeS/Surging_rupee_No_Impact_on_IT_salaries_in_short_run

Economist (2006): "A survey of business in India", 3 June, p 18.

Kuznets, S (1972): "Innovations and adjustments in economic growth", *The Swedish Journal of Economics*, vol 74, no 4, December, pp 431–51.

Lewis, W A (1954): "Economic Development with Unlimited Supplies of Labour", *Manchester School of Economic and Social Studies*, vol 22, pp 139–91.

Li, H and J Zax (no date): "Economic Transition and Labour Market in China", e-mail contact: Jeffrey.zax@colorado.edu

McDonald, H (2004): "China's workforce shunning poorly paid factory jobs", 26 August, www.smh.com.au.articles/2004/08/25/1093246623753.html.

North, D C (1990): *Institutions, institutional change and economic performance*, Cambridge University Press, UK.

Office of Registrar General (2006): "Population projections for India and states, 2001–26", Report of the Technical Group on Population Projections constituted by the National Commission on Population, New Delhi, May.

Planning Commission (2007): *Eleventh Five Year Plan (2007–12)*, volume I, "Inclusive Growth", 54th NDC Meeting, government of India, New Delhi, December, mimeo.

Reserve Bank of India (2007): *Annual Report*, 2006–07, Bombay.

——— (2008): "Invisibles in India's balance of payments: an analysis of trade in services, remittances and income", *Reserve Bank of India Bulletin*, February, pp 261–302.

Solow, R M (1990): *The labour market as a social institution*, Basil Blackwell, Cambridge, UK.

Sundaram, K (2007): “Employment and poverty in India, 2000–2005”, *Economic and Political Weekly*, vol XLIII, no 30, July, pp 3121–31.

Tendulkar, S D and T A Bhavani (2007): *Understanding reforms, post-1991 India*, Oxford University Press, New Delhi.

Times of India (2007): “Indian youth are simply ‘unemployable’: Report”, 8 November, p 23.

United Nations (2007): “World Population Prospects: The 2006 Revision”, Department of Economic and Social Affairs, Population Division, New York.

Discussion comments on “Labour markets in newly integrating economies such as India and China: are they different?”

Supply constraints, education and the risk of inflation

Patrick Artus

Introduction

When considering the overall global situation, we conclude that there should not be any inflation, even if the world’s monetary policy is very expansionary. The overall global capacity to produce more is in fact very substantial, due to a very high level of investment and to disguised unemployment, particularly in rural areas, which means that there is scope to increase the labour force significantly. In this situation of excess global supply of goods and labour, monetary expansion is leading to a rise in asset prices, not in prices of goods – of course with the exception of commodities. Nevertheless, inflation is appearing in some countries, for example China, Hungary, India, Romania, Russia and Turkey, as these countries are characterised by rapid growth in liquidity, and therefore in domestic demand.

Professor Tendulkar’s paper focuses on the differences between the way the labour markets function in India and China. We follow a similar approach.

If current inflation is not a result of the recent rises in commodity prices, it can only be explained by rigidity in the supply of goods and services, despite its apparent abundance.

This rigidity can be explained by a shortfall in investment; problems related to education; problems of sectoral specialisation which does not match demand; and insufficient international mobility of goods and services.

We find that these problems are specific to the above-mentioned countries, and there is no reason to conclude that global inflation is reappearing.

1. Apart from the effect of commodity prices, there is no global inflation

It is sometimes argued that global inflation is reappearing. This argument is based on inflation rates in a few countries, which we analyse below. However, the world economic situation seems to exclude a comeback by inflation, apart from that resulting from the recent rise in commodity prices. World inflation is currently fluctuating at around 3%, and world core inflation at around 1½%.

Global underlying inflation is actually muted, which can be explained by:

- the rapid growth in global investment and the increase in the world investment rate (from 22% in 2002 to 27% currently). The increase in the world saving rate driving this rise in the global investment rate is linked to the global transfer of income towards regions where the saving rate is high (China, other emerging Asian countries, oil-exporting countries, etc);
- the very high level of disguised unemployment in the world, particularly in rural regions in emerging countries, which is shown by the low global employment rate

(45% vs 64% in OECD countries). This means that there is scope to increase employment without difficulty, thanks to migration from the countryside into cities.

We are therefore in a global situation of excess supply in both goods and labour markets, which in theory does explain the lack of underlying inflation mentioned above, as well as the low level of wage rises compared with productivity gains (2½% vs 4%).

Against this backdrop, the effect of the expansionary monetary policy being conducted worldwide (as shown by trends in the global monetary base, the relative level of the interest rate and the growth rate) is to boost credit and demand, and therefore growth, but without any effect on inflation since there is excess supply. The consequence is a rise in asset prices (in turn equities, real estate and bonds).

It is therefore surprising that there has been talk of a comeback by inflation, and also that high inflation rates are being witnessed in certain countries, since the current world economic situation implies that inflation will not pick up, apart from with the effect of commodity prices.

High inflation rates in certain countries

While inflation is low worldwide, it is high in certain countries. This is not the case in the large OECD countries, where inflation is only accounted for by commodity prices, but it is the case in China, Hungary, India, Romania, Russia and Turkey. Inflation is around 6% in China, 8% in India, 6% in Hong Kong SAR, 10% in Russia, 11% in Turkey, 9% in Romania and 7% in Hungary.

We obviously cannot cover all countries, but we will look at the causes of inflation in a few important countries, ie China, India, Romania, Russia and Turkey.

What can cause inflation in a country if there is no global inflation?

If there is no global inflation, and if inflation in a country is not explained by commodity prices, it can only result from a particular rigidity in the supply of goods and services (or labour, causing rigidity in the supply of goods) in this country.

There are several possible explanations for rigidity in the supply of goods and services:

– a shortfall in investment;

– problems related to education;

– a sectoral specialisation which does not match demand.

These factors cause a rigidity in the supply of goods if there is insufficient international mobility of goods and services. If the supply of goods and services is rigid, a sharp increase in domestic demand will lead to inflation, even if there is excess supply at worldwide level.

It is interesting to see that the five countries analysed here as examples of countries with high inflation have recently seen a sharp increase in domestic demand, except in the most recent period in Turkey, as well as in liquidity and in credit.

Credit expanded by 15 to 25% in 2007 in China, India, Russia and Turkey, and by 60% in Romania. So when brisk domestic demand comes up against inelastic supply in these countries, inflation is the result.

We will look at the five countries from this point of view, but we can immediately eliminate the case of China from our core analysis, retaining it as a reference for our analysis of the other four countries. Inflation in China is in fact due only to food prices, not to increases in the prices of other products; the country's core inflation figure is under 1%. One therefore cannot attribute it to rigidity in supply. Thus the question we need to ask is: what can we see in the other countries (and in China by comparison)?

2. Investment and savings

Rigidity in supply can be shown by the presence of an external deficit (ex energy). It can result from a shortfall in productive investment or (and) productivity gains. The investment rate is low in Russia, and falling in Turkey. India, Romania and Turkey have very substantial trade deficits, while Russia's surplus of course is explained by energy exports. Productivity gains are quite low in Turkey. There is therefore quite clearly a shortfall in investment used to meet domestic demand in all four countries.

3. Problems related to education

This is the central point raised by Professor Tendulkar. An insufficient level of education among a large section of the population in an emerging country prevents any noticeable transfer of the labour force from agriculture into industry and services, and can therefore lead to a situation of shortfall in supply.

Even if a considerable proportion of the population has an advanced level of education, but the rest of the population has little, the only possible growth strategy (ie to develop a few sophisticated sectors) will not allow the economy to meet domestic demand, hence the appearance of inflation.

The illiteracy rate is high and the level of education low in Turkey and especially in India (nonetheless, there is a quite large, highly skilled elite; see Tables 1A, 1B and 1C).

Employment is not growing very fast in these countries, except in China; migration from the countryside into cities is boosting the labour force in China and to a lesser degree in Turkey, but not in Russia or Romania. The problems related to labour resources therefore seem to be present in India, Romania, Russia and Turkey.

Table 1A

Illiteracy rate

As a percentage of the population aged 15 and over, 2005

China	India	Romania	Russia	Turkey
9.1	39.0	2.7	0.6	12.6

Source: World Bank.

Table 1B

Percentage of upper secondary graduates in the population aged 25 to 64		
	2004	**2005**
China	15	...
Russia	89	89
Turkey	26	27

Percentage of tertiary graduates in the population aged 25 to 64		
	2003	**2005**
China	1	...
Russia	54	55
Turkey	10	10

Percentage of upper secondary graduates in the population at the typical age of graduation			
	2003	**2004**	**2005**
China	31	...	...
India	21	...	...
Russia	77	...	...
Turkey	41	55	48

Percentage of tertiary graduates in the population at the typical age of graduation			
	2003	**2004**	**2005**
Turkey	10.5	10.8	11.2

Source: OECD, *Education at a Glance* (2005, 2006, 2007).

Table 1C

Enrolment rates

Gross, in per cent

	China			**India**			**Romania**		
	Primary	**Second-ary**	**Tertiary**	**Primary**	**Second-ary**	**Tertiary**	**Primary**	**Second-ary**	**Tertiary**
2000	...	62.9	7.6	98.8	47.9	10.2	102.5	80.6	24.1
2001	117.7	65.1	9.8	98.3	48.0	10.5	99.4	82.9	28.5
2002	116.0	67.2	12.6	99.0	49.8	11.0	98.9	84.8	31.8
2003	115.0	70.3	15.4	107.4	52.3	11.5	100.2	85.3	36.3
2004	117.6	72.5	19.1	116.2	53.5	11.8	106.5	85.1	40.2
2005	112.8	74.3	20.3	119.3	56.6	11.4	106.9	85.3	44.8

	Russia			**Turkey**		
	Primary	**Secondary**	**Tertiary**	**Primary**	**Secondary**	**Tertiary**
2000	...	...	...	96.3	...	23.2
2001	107.5	...	...	97.7	77.8	23.3
2002	112.5	93.1	...	99.3	81.5	24.4
2003	117.5	93.0	65.2	94.7	85.3	28.0
2004	122.9	93.0	68.2	93.3	79.2	29.0
2005	128.7	91.9	71.0	93.3	75.3	31.2

Source: World Bank.

4. Productive specialisation

This issue is similar to the problems related to education. If the (sectoral) productive specialisation of the economy is such that supply does not match demand, in terms of products, the result is a shortfall in the supply of certain goods, and hence an inflationary risk if the international mobility of goods is not sufficiently large to let imports totally replace domestic supply. Of course, if there was perfect international mobility of goods, a shortfall or inadequacy in domestic supply would have no effect.

Table 2

Structure of added value

As a percentage of GDP

Added value in agriculture

As a percentage of GDP

	China	India	Romania	Russia	Turkey
1999	16.5	25.0	15.2	7.3	12.7
2000	15.1	23.4	12.5	6.4	14.9
2001	14.4	23.2	15.0	6.6	9.3
2002	13.7	20.9	13.1	6.7	12.0
2003	12.8	20.9	13.1	6.8	12.8
2004	13.4	18.8	14.7	6.1	12.6
2005	12.5	18.3	10.1	5.5	11.7
2006	11.7	17.5	9.1	4.9	11.3
2007	11.0	16.6	8.6	4.6	10.9

Added value in industry

As a percentage of GDP

	China	India	Romania	Russia	Turkey
1999	45.8	25.3	33.9	24.9	28.9
2000	45.9	26.2	34.1	24.8	28.5
2001	45.2	25.3	34.6	20.9	30.9
2002	44.8	26.4	39.0	32.9	29.5
2003	46.0	26.1	38.5	27.7	28.4
2004	46.2	27.5	37.5	37.3	28.6
2005	47.5	27.6	35.0	39.4	29.9
2006	48.9	27.9	34.9	39.3	29.5
2007	49.0	28.4	35.5	39.1	29.5

Added value in service

As a percentage of GDP

	China	India	Romania	Russia	Turkey
1999	37.8	49.7	51.0	54.8	58.4
2000	39.0	50.5	53.4	55.0	56.6
2001	40.5	51.5	50.4	56.9	59.8
2002	41.5	52.7	48.8	59.6	58.5
2003	41.2	52.9	49.8	59.7	58.8
2004	40.4	53.7	49.1	56.5	58.8
2005	39.9	54.1	54.9	55.0	58.4
2006	39.3	54.6	56.0	55.8	59.2
2007	40.0	55.0	55.9	56.3	59.6

Source: Economist Intelligence Unit.

India and Turkey specialise in services, as shown by their trade balance: the surplus on services amounts to 4% of GDP in both these countries. The weight of industry in GDP is low in India and Turkey (Table 2). Tables 3A to 3E show the relatively low weight of factory employment in these two economies (if the weight of agriculture is taken into account). One can therefore understand why there is excess demand for manufactured products in these countries.

Table 3A

Russia: employment by sector

As a percentage of total employment

	1999	2000	2001	2002	2003	2004
Agriculture	13.7	13.4	12.7	12.2	11.4	10.8
Industry	22.4	22.6	22.7	22.2	21.8	21.5
Construction	7.9	7.8	7.8	7.6	7.7	7.9
Transport and telecom	7.7	7.8	7.7	7.7	7.8	8.0
Trade	14.6	14.6	15.4	16.6	16.8	17.2
Construction + services	64.0	64.0	64.6	65.6	66.8	67.7

Source: Vienna Institute for International Economic Studies (WIIW).

Table 3B

China: employment by sector

As a percentage of total employment

	1999	2000	2001	2002	2003	2004	2005	2006
Agriculture	50.1	50.0	50.0	50.0	49.1	46.9	44.8	42.6
Industry	23.0	22.5	22.3	21.4	21.6	22.5	23.8	25.2
Services	26.9	27.5	27.7	28.6	29.3	30.6	31.3	32.2

Source: Ministry of Labour and Social Security.

Table 3C

Romania: employment by sector

As a percentage of total employment

	1999	2000	2001	2002	2003	2004
Agriculture	41.2	41.4	40.9	36.2	34.7	32.0
Manufacturing	20.6	19.6	20.0	22.0	21.6	21.8
Total industry	24.4	23.2	23.6	25.5	24.8	24.9
Construction	4.0	4.1	4.0	4.4	4.8	5.1
Services	30.4	31.3	31.6	33.9	35.7	38.0
Construction + services	34.4	35.3	35.5	38.3	40.4	43.1

Source: WIIW.

Table 3D

Turkey: employment by sector

As a percentage of total employment

	2000	2001	2002	2003	2004	2005	2006
Agriculture	38.7	39.4	37.1	36.6	36.5	32.4	29.1
Industry	18.6	18.7	19.0	18.5	18.8	19.0	19.4
Construction	5.9	4.9	4.9	4.9	4.8	5.7	5.8
Services	36.8	36.9	39.0	40.0	39.9	42.9	45.6

Source: IMF.

Table 3E

India (urban): employment by sector

As a percentage of total employment

	1999	2000	2001	2002	2003	2004	2005	2006
Agriculture	5.7	6.0	6.0	6.0	5.3	5.1	4.8	4.6
Industry	27.6	27.2	26.7	26.1	25.7	25.5	25.4	25.2
Services	66.7	67.0	67.4	68.3	69.0	69.4	69.9	70.2

Source: Ministry of Labour and Social Security.

5. Conclusion: no comeback of global inflation

The global macroeconomic situation rules out a resurgence of global inflation: there is excess supply of goods (due to the high level of investment) and of labour (with the rural labour reserves of emerging countries). In this situation of across the board excess supply, the expansionary global monetary policy being pursued is driving asset prices upwards, but not goods prices.

We can, however, see a rise in commodity prices in this situation, due to the pace of global growth and the limited supply of many commodities, but this is nothing that would cause a rise in global underlying inflation. Nevertheless, we can currently see inflation that is not caused by commodity prices in several large emerging countries: India, Romania, Russia and Turkey (but not China, where inflation is accounted for by food prices). These countries are also characterised by rapid growth in credit and domestic demand.

We have shown that this inflation is a result of causes that are specific to these countries: the supply of goods and services is rigid or ill adapted to rapidly growing demand, either because of a shortfall in investment (in all four countries), or due to insufficient education of the population, which hampers the creation of the jobs that would make it possible to meet demand (in all four countries), or due to a sectoral structure of production that is out of step with the structure of demand (in India and Turkey); all this in a situation of imperfect international mobility of goods with regard to these countries.

There is therefore no overall inflation, but what we are seeing is specific episodes of inflation in countries where supply is insufficient or ill adapted, ie countries not in a position to benefit from the global situation of excess supply. The comparison between China and India is very instructive. Underlying inflation is muted in China, but significant in India, and this can be attributed to the situation with regard to education and, consequently, productive specialisation.

China has a population that is reasonably well educated, with a low proportion of individuals that are very well educated. It has therefore chosen a growth strategy based on mass industrialisation and the related massive migrations from the countryside to the cities, which is logical given its circumstances.

India has a high proportion of individuals with a high level of education compared with the average of the population, but the bulk of the population has a very low level of education. It has therefore chosen a growth strategy based on certain sophisticated services, but with low industrialisation and internal migration.

China therefore generates a supply of goods that matches domestic demand, hence the lack of inflation. In contrast, India generates a supply of advanced services, above all intended for the export market, and consequently cannot meet domestic demand, thus explaining its inflation experience.

Discussion comments on “Labour markets in China, India and other newly integrated economies: are they different?”

Johnny Åkerholm

Introduction

The topics chosen for this conference are all very close to Palle’s professional interest, and Palle would have been keen to contribute to the debate. Moreover, they reflect in a succinct way recent changes in the world economy, something which Palle was always quick to grasp and analyse. This is particularly true for the issues discussed by Professor Tendulkar. A decade ago, few would have been interested in analysing how labour markets in emerging markets might be different from those in the developed world. Today, given the rapid increase in the relative importance of these markets, this is a highly topical question.

The paper presented by Professor Tendulkar provides a lot of interesting information and stimulates the reader to raise a number of questions. The performance of the labour markets will heavily influence how these economies will be able to perform in future and benefit from a globalised world. I limit myself to some issues related to labour supply and the functioning of the markets.

1. Labour supply

Demographic trends. There seems to be a clear difference between China and India, the former facing in the medium-term the same kind of ageing problems as much of the industrialised world.[1] This is not surprising, given the one-child policy in China, and the differences with India seem to be escalating in the next couple of decades. However, over the longer term, the dependency ratio also starts to increase in India, producing a situation not dissimilar to that in the developed world.

Education. Future growth will be dependent not only on the quantity of labour but, to an increasing extent, on the quality of labour. In this respect, there are great differences between the two countries and also in relation to the industrialised countries. While China has been able to raise the level of education and fares well in comparison to the rest of the region, India faces important challenges. Moreover, the differences have not narrowed in the last 40 years, and it seems that the business sector has had to start providing not only training but also basic education. Without a sufficiently good basic education, the attractiveness of the markets will suffer and structural changes might become increasingly difficult to cope with.

Migration. It is interesting to note that Professor Tendulkar does not discuss this issue, which has potentially important implications for future growth prospects. This is an area where the labour markets clearly differ from those of the industrialised countries. Emerging economies always run the risk of losing labour, as the population might be looking for faster income

1 See eg Jaumotte and Spatafora (2007).

increases than even a rapidly growing economy can provide.[2] In both China and India, a high number of well-educated students have studied or are studying abroad. This improves future prospects if they return after completing their studies and gaining some work experience. But it will be a challenge to draw them back and, as we know, a large number of well-educated people of Indian origin are already working abroad.

2. Functioning of the labour market

It is interesting to learn that, according to the OECD (2007), India has one of the most restrictive Employment Protection Legislations (EPL) among the countries that OECD has studied. In particular, the restrictions on collective dismissals are very severe, and the differences with China are large. This has resulted in a situation where employment growth is concentrated in unorganised employment and in companies with less than 100 employees. Clearly, this will not help India's participation in the international division of labour.

China seems to be tightening regulations, and new legislation is in place as of 1 January 2008, which aims at increasing labour rights and the role of the All-China Federation of Trade Unions (ACTFU). According to the International Labour Organization (ILO), labour costs will rise by between 3 and 7% a result of the new legislation.

All in all, while there are differences with industrialised countries, there are also striking similarities. This is particularly true of the ageing problem over the longer term. But it is also interesting to note that regulations are severe in India and are being tightened in China. However, the major challenge is education. Given the international mobility of well-educated labour in particular, countries run a clear risk of increasing upward pressures on labour costs. In these circumstances, employment can be safeguarded only if skills develop at the same pace.

References

Jaumotte, F and N Spatafora (2007): "Asia rising: a sectoral perspective", IMF Working Paper, No 07/130.

OECD (2007): *Economic Surveys: India*. Paris: OECD.

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2 Recent examples are to be found in the Baltic countries which, despite rapid economic growth and full employment, have experienced a large outflow of well-educated people.

Globalisation and labour markets: implications of the emergence of China and India

David T Coe[1]

Introduction

The impact of globalisation on labour markets has re-emerged as an important policy issue, reflecting the broader public debate about the interrelated concerns of downward pressure on wages, increased job insecurity, and jobs moving from OECD countries to developing countries with lower wages.

Two relatively recent phenomena are at play here. One is the accelerating participation in world trade of many developing and transition countries, particularly the large, vastly populated economies of China and India (Graph 1). These countries' increased trade and foreign direct investment (FDI) have, according to IMF estimates, contributed to a fourfold rise in the effective global labour force over the past two decades (IMF (2007a)).

The second phenomenon is that the nature of globalisation is changing. Technological advances, and particularly sharp reductions in communication and coordination costs, have allowed the emergence of global supply chains that are increasingly fragmented geographically (OECD (2007b)). To feed these supply chains, international trade is increasingly in intermediate inputs rather than in final goods and services or commodities. Moreover, often these intermediate inputs are business services that were previously non-tradable but are now, with technological advances, tradable. This type of international trade, whether in services or other intermediate inputs, is referred to as offshoring. Here too China and India have been key players.

What are the labour market implications of the current wave of globalisation for OECD countries?[2] OECD (2007a) summarises them as follows:

- There has been an overall improvement in employment and unemployment rates and continued real wage growth during the past decade, albeit in the context of rising earnings inequality and a reduced share of labour income.
- Heightened import competition and increased offshoring have had little if any impact on aggregate employment, but they have affected the sectoral composition of employment and reduced the demand for low-skilled workers relative to medium- and high-skilled workers.

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[1] This paper is a revised version of Coe (2007), written when the author was on leave from the IMF as a visiting scholar in the Directorate for Employment, Labour and Social Affairs of the Organisation for Economic Co-operation and Development during June and July 2007. He thanks DELSA for its hospitality and Martine Durand, Alexander Hijzen, John Martin, Mark Pearson, Paul Swaim and Raymond Torres for helpful comments and suggestions. The paper also benefited from fruitful discussions with Dennis Snower during a visit to the Institut für Weltwirtschaft (IfW) in Kiel, Germany in August 2007. The paper was not presented at the BIS Conference in Honour of Palle Andersen.

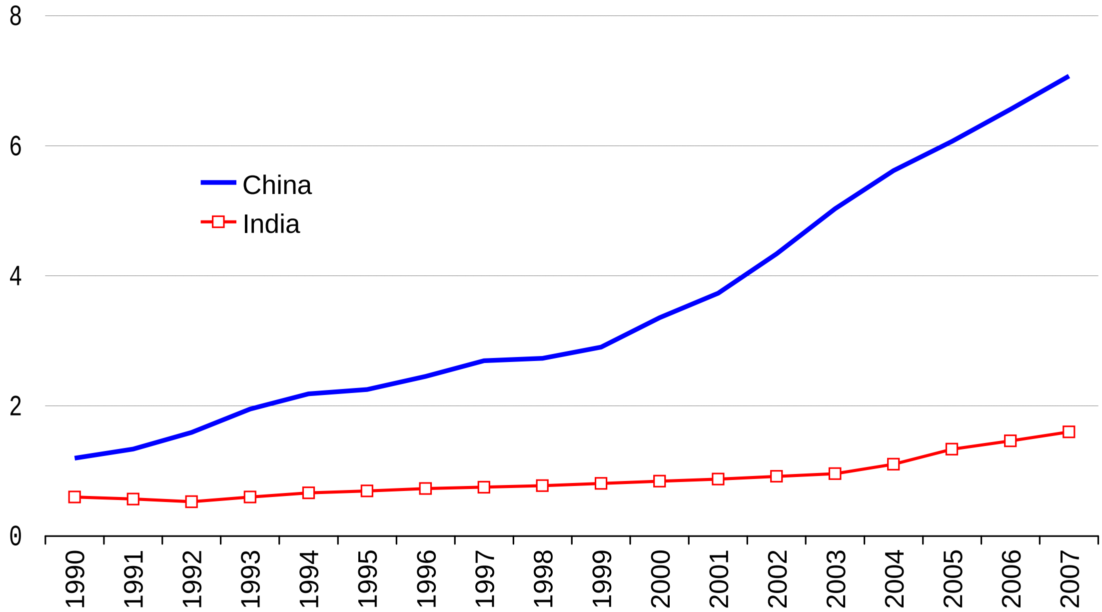
[2] This paper focuses mainly on international trade rather than on FDI, capital flows, international migration, or other aspects of globalisation.

- Offshoring, and particularly intra-industry offshoring, may also have caused wages and employment to become more sensitive to economic shocks, and is a potentially important source of vulnerability for workers.

Graph 1

Shares in world trade[1]

As a percentage of total world trade in goods and services



[1] Trade is defined as the sum of exports and imports of goods and services.

Source: IMF, World Economic Outlook database.

OECD (2007a) concludes that globalisation increases the urgency of implementing a comprehensive policy programme to reap the associated benefits while addressing adjustment and distributional concerns. The IMF's conclusions are similar: IMF (2007a) states that policies should seek to improve the functioning of labour markets, strengthen access to education and training, and ensure adequate social safety nets that cushion the impact on those adversely affected without obstructing the process of adjustment.

These policy conclusions are familiar. More detailed policy recommendations are set out in the so-called "Restated OECD Jobs Strategy" (OECD (2006)). While the strategy has been refined to put more weight on promoting labour market participation and employment and to take into account concerns about low incomes of certain groups, the broad lines are consistent with the original 1994 OECD Jobs Study. This is reassuring, not least because it bolsters confidence in the pertinence of the analysis of labour market policies by the OECD and the IMF during the past 10 to 15 years. But it is noteworthy that there are no specific recommendations related to the emergence of China and India as major trading nations and key players in the segmentation of value chains and the growth of offshoring.

This paper looks more closely at the question of whether there are special employment policy issues or other, more general, policy implications stemming from the emergence of China and India.

1. China and India

China and India are different from other developing and transition countries. The most obvious difference is their enormous size: they are the only countries in the world with populations exceeding a billion – 1.3 and 1.1 billion, respectively – and together they account for 38% of world population.[3] Not only are they large, they have also been among the fastest-growing economies in the world: during the 10 years to 2007, economic growth has averaged about 9½% a year in China and 7% in India, compared with about 2½% in advanced countries (IMF (2007b)).

Rapid economic growth means that China and India are catching up. But both remain relatively poor, with per capita incomes of about USD 1,740 and USD 730, respectively, in 2005, well below average per capita income of USD 43,560 in the United States and USD 32,097 in the euro area.[4] This income disparity points to potentially large gains from trade with industrial countries to take advantage of the gap in wage levels adjusted for productivity. In both countries, however, these possible gains from trade have only recently started to be exploited: in China, this started with the open-door policy in the late 1970s; in India, with the pro-market reforms of the early 1990s (Kochhar et al (2006)). When countries this large rapidly increase their integration into the world economy, it is bound to have major impacts on trade and the pace of globalisation.

Another way that China and India differ from most other developing and transition countries is that they both have large, entrepreneurial diasporas. While there are other similarly entrepreneurial diasporas, none have contributed to the development of large developing countries like the Chinese and Indian diasporas. Investors from China's large and wealthy diaspora in East Asia were the first to seize the opportunity offered by China's open-door policy (Cheung (2004)), contributing more than half of China's FDI during the 1990s (Huang and Khanna (2003)). India, after keeping the diaspora at arm's length prior to the 1990s, now embraces it, although its contribution may prove to be more intellectual than financial (Huang and Khanna (2003)). Both countries have large, highly educated, and prosperous diasporas in Silicon Valley, the technological epicentre of the world's technological leader, and there has been a steady flow of highly educated and trained professionals returning home from the West.[5]

The Chinese and Indian diasporas have played key roles in adopting new technologies that have facilitated the fragmentation of global value chains, including the growth of outsourcing, what Baldwin (2006) has referred to as the "second great unbundling".

2. Baldwin's great unbundlings

According to Baldwin, globalisation has consisted of two great unbundlings, both of which stemmed from technological advances that decreased the cost of trade, resulting in rapid

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[3] The other so-called BRIC economies have comparatively small populations: 186 million in Brazil and 143 million in Russia. The United States is the third most populous country in the world at 296 million inhabitants, although this is somewhat smaller than the total population of the euro area (314 million). All figures are from World Bank (2007) and refer to 2005.

[4] Valued at purchasing power parity exchange rates, which are arguably less relevant in this context, per capita incomes in 2005 were USD 6,760 in China, USD 3,452 in India, USD 41,890 in the United States, and USD 28,807 in the euro area (World Bank (2007)).

[5] *Business Week* reported in 1998 that nearly 40% of Silicon Valley startups in the 1990s had at least one founder of Indian origin, as quoted in Pandey et al (2004).

increases in the quantity of trade. The first unbundling was stimulated by rapidly falling transportation costs that ended the necessity of making goods close to where they are consumed. Globalisation associated with this unbundling took place in two waves, one from roughly 1850 to 1914, and the other from the 1960s and continuing to the present. The rise in trade resulting from the first unbundling was primarily in final goods and services and in commodities.

The second unbundling has been stimulated by falling communication and coordination costs that have ended the need to keep most manufacturing stages in the same factory or in close proximity. This has allowed the geographic fragmentation of global value chains. Baldwin dates the start of this episode of globalisation from about the mid-1980s, roughly coinciding with the time when internet usage became commonplace, although arguably it started as early as the 1960s. A characteristic of the second unbundling is the importance of trade in intermediate inputs, initially intermediate goods and more recently also intermediate services. It is useful to distinguish between two types of unbundling: if the unbundling occurs within the borders of a country, whether among affiliates of a firm or to other firms, it is referred to as outsourcing; if, on the other hand, the unbundling is to other countries, it is referred to as offshoring. And, of course, for every country that offshores there is a recipient country that onshores.

Baldwin (2006) identifies three episodes of offshoring. The first was the Maquiladora programme on the Texas-Mexico border that boomed in the 1980s following the NAFTA agreement (Feenstra and Hanson (1997)). The second, most spectacular, episode was in East Asia.[6] This unbundling started in the 1970s as Japanese manufacturers offshored labour-intensive production stages to nearby East Asian nations. It then strengthened as Taiwan (China), Korea, Singapore, and Hong Kong SAR in turn offshored labour-intensive tasks to other countries where lower cost more than made up for lower productivity levels. China, as one of the main recipients of offshoring from more developed East Asian economies, and the Chinese diaspora were key players in this unbundling. The unbundlings in East Asia and along the Texas-Mexico border mainly affected production or assembly tasks and trade in intermediate goods, referred to as material offshoring. Blue-collar workers performing these tasks were, by and large, the same types of workers affected by earlier episodes of globalisation.

By contrast, the third example of offshoring given by Baldwin (2006) is the recent phenomenon of unbundling reaching into offices. Tasks that were previously viewed as non-tradable became tradable when telecommunication costs dropped to almost zero. Many of these tasks were business services performed by white-collar workers, some of whom were highly skilled. The classic, but by no means the only, example of service offshoring is the moving of call centres from the United States to India. The members of the highly educated, English-speaking Indian diaspora in the United States were key players in this unbundling.

Globalisation today reflects both of Baldwin's two types of unbundlings. An important question is whether the most recent unbundling phenomenon – material and service offshoring – merely represents an intensification of the process of globalisation or a fundamental change in its nature.

[6] Increased trade between developed countries in western and northern Europe and transition countries in central and eastern Europe since the early 1990s appears to be mainly a mixture of trade in final products and offshoring of intermediate inputs similar to that which took place in East Asia; see Ekholm and Hakkala (2006) and Lorentowicz et al (2005).

3. The offshoring debate: is it a "big deal" or "business as usual"?

The recent phenomenon of the offshoring of business services has stimulated a debate in the business press and academic literature in a number of OECD countries. In the United States, the debate was triggered by Gregory Mankiw, former Chairman of the Council of Economic Advisors, who stated in a 2004 interview that offshoring "is probably a plus for the economy in the long run" and asked "... does it matter [...] cables?" His response: "Well, no, the economics is basically the same".[7] Bhagwati et al (2004) are also on this side of the debate, arguing that the effects of offshoring are not qualitatively different from those of conventional trade in goods.

On the other side of the debate is Alan Blinder. Blinder (2007b) emphasises that he considers the debate to be neither about comparative advantage nor about the presumption that there are gains from trade, both of which he accepts. Instead, he says the debate is about whether offshoring and the entry of China and India into the global economy is a "big deal" or simply "business as usual". Blinder's view is that it is a big deal for the US economy in that it will force major changes in the US industrial structure and in the types of jobs available as well as in wages, job security, turnover, etc.

A good starting point to assess this debate is to consider the labour market effects of offshoring, including possible job losses.

Labour market effects of offshoring

The key labour market effects of offshoring identified in the literature appear to be the following:[8]

- Trade will increasingly affect workers doing particular tasks rather than workers in particular firms, sectors, or skill groups.[9] Data entry or computer programming tasks, for example, may increasingly be offshored by labour-intensive as well as capital-intensive industries.
- Whereas globalisation has in the past had a disproportionately large effect on low-skilled production or assembly workers, offshoring may increasingly also affect skilled workers, including in the service sector. However, some low-skilled service sector jobs are unlikely to become offshorable.
- The impact on relative wages will depend on a variety of structural features of economies, including factor endowments, the configuration of sectoral factor intensities, relative factor demands, and the relative factor intensities of tasks offshored.

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[7] Mankiw and Swagel (2006). There was an earlier US debate about the material offshoring effects of NAFTA, in which presidential candidate Ross Perot famously warned of the "giant sucking sound" of US jobs moving to Mexico.

[8] See Bhagwati et al (2004), Baldwin (2006), Mankiw and Swagel (2006), Grossman and Rossi-Hansberg (2008), Blinder (2007b), OECD (2007a,b) and IMF (2007a).

[9] In the Grossman and Rossi-Hansberg (2008) model, which focuses on trade in tasks rather than trade in goods, there is a productivity effect not present in conventional trade models whereby the productivity of workers in the offshoring country increases as they move to jobs where their comparative advantage is greatest. Thus, the technology transfer, which occurs in the transferring country's import sector, is unambiguously positive for the offshoring economy. This contrasts with potentially harmful effects on a country's export sector if its comparative advantage is eroded, ie as it trades less, by technology transfers, as noted by Samuelson (2004). See also Saint-Paul (2007), who presents a model in which trade liberalisation can have a negative effect on the more developed country if the less developed country has a greater comparative advantage in newly traded goods than in existing goods.

- Offshoring is likely to increase uncertainty and heighten job insecurity. This is partly because little is known about how tasks are organised within firms, making it difficult to predict which tasks may be unbundled and how rapidly, but also because offshoring may increase the responsiveness of employment and wages to economic shocks.
- In the long run, offshoring is likely to have beneficial economic effects for both the offshoring as well as the onshoring economies, although not all workers, industries, or sectors will be affected the same. Aggregate employment and unemployment will in the long run be determined by macroeconomic policies and structural aspects of labour markets.

Whether offshoring is a "big deal" or not will depend on a number of closely related aspects of the transition to long-run equilibrium: how many jobs have already been "lost", how many jobs might be lost, the potential impacts on job security and the incomes of different types of workers, and how long or smooth the transition process is likely to be.

4. How many service jobs have been or might be offshored?

Hard data on how many jobs have actually been lost due to offshoring are scarce, but estimates that are available suggest the effects have been limited to date. Baldwin (2006) summarises the estimates as in the order of 0.3 to 0.7% in the United States and those European countries for which estimates are available. Relative to layoffs, offshoring may have accounted for 4 to 5% of total large-scale layoffs in the United States and the (at that time) EU 15, and potentially less in Japan (Kirkegaard (2007)). There is also evidence, however, that the importance of service outsourcing, and hence presumably the impact on employment, has been steadily increasing in recent years (Amiti and Wei (2005)). Blinder (2007a,b) agrees that offshoring has thus far cost a limited number of US jobs, but argues that this is just the tip of a much larger iceberg of potentially offshorable jobs.

Van Welsum and Vickery (2005) have estimated the number of jobs in OECD economies that could potentially be offshored. They use detailed occupational and task descriptions to classify occupations according to the following "offshorable attributes": intensive use of ICTs, an output that can be traded/transmitted by ICT, high codifiable knowledge content, and no requirement for face-to-face contact. Blinder (2007a) does a similar exercise for the United States based on a distinction between impersonally delivered services, which can be delivered electronically from afar with little or no degradation of quality, and personally delivered services, which can not be delivered electronically or which suffer degradation when delivered electronically.

Van Welsum and Vickery (2005) estimate that in 2003 close to 20% of total employment could potentially be affected by ICT-enabled offshoring of services in the EU 15 countries, Australia, Canada and the United States. Blinder's estimates for the United States are somewhat larger, at 22 to 29%. Other studies using different methodologies yield different, but still large estimates.[10]

The most important point about these estimates, which are indisputably large, is that they refer to the potential number of service sector jobs that could be exposed to international competition. While the authors of these studies are careful to make the distinction between potential job losses and the number of job losses that might actually occur – van Welsum

[10] See the summaries, including estimates from management consulting firms, in Kirkegaard (2007) and van Welsum and Vickery (2005).

and Vickery (2005) refer to their estimates as the "outer limits" – the public debate is often less nuanced. Cohen (2007), for example, reporting for the *New York Times* cites Blinder as warning "that as many as 30 million to 40 million Americans could lose their jobs to lower paid workers abroad".

The problem with such statements is that they confuse the distinction between absolute and comparative advantage: the implicit assumption is that industrial countries will have no comparative advantage in any of the service sector jobs newly exposed to international competition; that is, that industrial countries will only offshore jobs but not onshore jobs. This ignores the fact that the United States, the United Kingdom and a number of other industrial countries are net exporters of services, and in many cases this net surplus has been increasing in recent years (van Welsum and Reif (2006), Amiti and Wei (2005)). Many newly traded services may be in areas where OECD countries have a comparative advantage. The net effect might be that OECD economies onshore more services than they offshore, potentially resulting in a net increase in service jobs in OECD countries. This, in fact, is what Hijzen et al (2007) find based on an analysis of British firm-level data: firms that import services have faster employment growth than those that do not.[11]

Impacts on incomes and job security

A key issue is whether offshoring will affect the relative wages of workers differently than earlier episodes of globalisation. In the past, skill-biased technical change and globalisation have tended to restrain wages of the low-skilled. It is more likely that offshoring will be a big deal in industrial countries if offshoring, particularly offshoring of services, affects medium- and high-skilled workers more than low-skilled workers. Indeed, Blinder (2007b) and Baldwin (2006) emphasise that offshoring will affect relatively high-skilled workers, and this is supported by anecdotal evidence: workers in India reading X-rays of patients in advanced countries, developing software for firms in advanced countries, and preparing tax forms for citizens of advanced countries.[12] Moreover some low-skilled tasks, such as those performed by gardeners, refuse collectors and carers are, with current technology, not offshorable, suggesting that wages for these jobs are unlikely to be affected by offshoring.

Whether on balance highly skilled service tasks are offshored or onshored in a specific country will depend on that country's comparative advantage. The comparative advantage of the Chinese and Indian economies is likely to remain in low- or medium-skilled tasks for some time given the challenges of improving the quality of education and increasing the average education levels of their vast populations. But China and India are made up of disparate regions and states at very different levels of development. Thus, factor proportions in Bangalore, for example, may mean that Bangalore has a comparative advantage in skilled labour and high technology relative to, for example, the United States as a whole. If this is so, substantial numbers of high-skilled tasks may in future be offshored to Bangalore. But developments in Bangalore cannot be extrapolated to India as a whole, or developments in the coastal regions of China to China as a whole.

In general the available evidence suggests that offshoring has tended to increase the wages of skilled workers relative to those of unskilled workers, which is the opposite of what would be implied if offshoring was having a disproportionately large effect on skilled tasks.[13] Of

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[11] Similarly, Klodt and Christensen (2007) estimate that German firms investing abroad increase employment.

[12] From media and other reports cited in Grossman and Rossi-Hansberg (2008).

[13] See Hijzen et al (2005) and Feenstra and Hanson (1997). In contrast to these studies, Ekholm and Hakkala (2006) find no statistically significant effect from offshoring in the Nordic/Baltic region on the wage bill share of different types of workers; and Lorentowicz et al (2005) find that offshoring has actually lowered the skill

course this may change in future if highly skilled jobs in OECD countries that are potentially offshorable actually do get offshored. Thus far, however, there appears to be little evidence that offshoring is disproportionately affecting high-skilled labour. If anything, the effects of offshoring appear to be consistent with the broader literature on the effects of skill-biased technical change and globalisation, as well as the evidence of increasing earnings inequality in most OECD countries.

Offshoring may also have important effects on workers' actual or perceived job security, and on labour's bargaining power. This would result, for example, if globalisation increased the responsiveness of employment and wages to economic shocks by increasing the own-price elasticity of labour demand, as hypothesised by Rodrik (1997). This hypothesis is supported by recent research by Hijzen and Swaim (2008), who present evidence, based on industry-level data for OECD countries, that the elasticity of labour demand has increased substantially and that more intensive offshoring is associated with more elastic labour demand.[14] Evidence of heightened job insecurity also comes from US survey data, where Anderson and Gascon (2007) find evidence that workers in tradable industries and occupations express higher levels of economic insecurity than other workers.

Will the transition be smooth or disruptive?

Whether the unbundling of tasks occurs smoothly or in a massive and disruptive transition – what Blinder (2007b) characterises as a "new industrial revolution" – will depend on a variety of macroeconomic and structural factors, both in OECD countries and in current and potential onshoring countries. An important set of factors are the macroeconomic, financial and exchange rate policies in China, India and their industrial country trading partners that will determine the overall size and configuration of world current account balances. Structural policies in OECD countries are also important since countries with flexible labour and product markets, with good educational institutions and training systems, and with effective employment and innovation policies will more easily and rapidly adapt to the challenges and opportunities from increased trade and offshoring.

The actual (not potential) number of tasks that become tradable and how rapidly they actually start to be traded will also depend on developments in onshoring countries. A key issue is the capacity in China and India to onshore new types of tasks from OECD countries. Bhagwati et al (2004) argue that growth in China and India in the near term is likely to remain concentrated in low-end information technology services that are already being exported to the United States. Capacity to onshore new types of tasks will require investments in education in both countries, improvements in infrastructure in India, and strengthened English-language skills, property rights, intellectual property rights enforcement, and rule of law in China (van Welsum and Xu (2007), Catching and Viswanath (2007)). These structural aspects of the Chinese and Indian economies suggest a drawn-out transition.

There is also the issue of how rapidly wages for suitably skilled workers in China and India respond to increased onshoring given the limited availability of skilled labour. There are already some tentative signs of rising real wages and anecdotal evidence of labour shortages in the coastal regions of China and in Bangalore. Other things equal, rising real wages in China and India will erode their comparative advantage and limit the number of tasks that are offshored.

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premium in Austria, which they suggest reflects that Austria is poor in human capital relative to its trading partners.

[14] The increasing sensitivity of employment to wages may reflect an increase in the speed with which labour demand responds, ie it may mainly reflect an increase in short-run rather than long-run elasticity. See also OECD (2007a).

Other things equal, the longer the transition takes, the less likely it is to be disruptive. But regardless of how long the transition is, it is clear that the ongoing integration of China and India into the world economy is likely to have lasting effects on the distribution of income and on job security in OECD countries.

5. Other offshoring issues

There are a number of other issues relevant to an assessment of the labour market policy implications of offshoring. These include the idiosyncratic nature of recent episodes of offshoring, the role of immigration and tourism, and the nature of technological progress.

How unique are recent episodes of offshoring?

How many other developing and transition countries are likely to join the party as onshoring destinations, and how rapidly? There have been a number of idiosyncratic factors behind each of the prominent episodes of offshoring that suggest that many countries may find it difficult to emulate China and India's recent successes as onshoring destinations. It is striking, for example, how important were the roles played by diasporas and factors such as geographic distance, cultural similarities or familiarity, and common languages in each of Baldwin's (2006) three "second unbundling" examples. The empirical significance of the latter set of factors as determinants of bilateral trade is well documented in the standard gravity model literature (Anderson and van Wincoop (2003)), and they have recently also been shown to be significant determinants of bilateral capital flows (Portes and Rey (2005)), remittance flows (Lueth and Ruiz-Arranz (2006)) and technology transfers (Keller (2002)).

An important question is whether any of these factors or a subset of them are critical for unbundling to take place on a significant scale. The Chinese and Indian diasporas played key roles in two of Baldwin's examples: geographic proximity and cultural similarities or familiarity were central to the East Asia and Maquiladora unbundling episodes.[15] Moreover, a common language, English, was important in the offshoring of tasks from the United States to India, while familiarity with trading partners' languages and cultures was also important in East Asia and along the US-Mexico border.

The fact that the English language is unique as the lingua franca of international business suggests that other developing countries without large English-speaking populations may find it difficult to replicate the success of India in onshoring service jobs from developed English-speaking countries. Although French companies have set up call centres in some francophone countries in Africa, the potential for offshoring in other languages is probably limited by the size of the markets and perhaps also by limited capacity in terms of human capital, entrepreneurial skills, and market institutions in candidate developing countries.[16]

The above considerations raise the following questions: how unique were the three episodes of unbundling and are they likely to be replicated? It is not clear, for example, if other diasporas, many of which have limited financial and human capital and entrepreneurial resources, could play a similar role to that played by the Chinese and Indian diasporas recently. Emulating India's success as a centre for onshoring of IT and ICT-enabled services may be particularly elusive since the emergence of IT companies in India was stimulated by

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[15] Reductions in tariffs and non-tariff barriers under NAFTA were also important in the Maquiladora unbundling.

[16] For these reasons, Blinder (2007b) argues that offshoring of services will have a larger effect on English-speaking countries than on continental Europe or Japan.

a number of one-time events, including the Y2K problem, the internet-telecom boom, and the dotcom boom in the late 1990s (Pandey et al (2004)). These considerations suggest it will be very difficult for other countries (including China, which was one of the first countries to benefit from material onshoring) to emulate the success of India in services offshoring (van Welsum and Xu (2007), Catching and Viswanath (2007)).

Becoming a centre for onshoring of intermediate material inputs and final assembly may be less difficult, but even here some of the cultural and geographic factors discussed above are likely to be important. For example, some countries in central and eastern Europe, the Baltic region, and North Africa have benefited from onshoring from nearby developed countries in western and northern Europe with whom they share cultural and linguistic similarities or familiarities and, in the case of North Africa, colonial ties. Furthermore, Asian countries are likely to continue to benefit from increasing integration of regional supply chains (Burton et al (2006)).[17]

It is an open question, however, if countries in sub-Saharan Africa, South America, Central Asia and the Middle East – relatively distant from major industrial countries, lacking strong cultural or linguistic links to industrial countries, and without the benefit of large, prosperous and entrepreneurial diasporas – will be able to emulate the recent success of India and China, and to a lesser extent Mexico and countries in Central America and central and eastern Europe, as onshoring destinations vis-à-vis OECD countries.

Immigration and tourism

Immigration is another subject of intense debate in many countries and, like offshoring, it is a key aspect of globalisation. While a full discussion of the implications of immigration and immigration policies is beyond the scope of this paper, it is worth noting that the potential impact of immigration on OECD labour markets may, under certain assumptions, be similar to the impact of offshoring.[18] In particular, if immigrants are not covered by the same labour market policies as OECD workers, the impacts may be qualitatively similar; if immigrants are subject to the same working conditions and receive the same wages as in their country of origin, as opposed to those prevailing in the host OECD country, the impact will be essentially the same as offshoring (Saint-Paul (2007)).

Certain types of tourism represent a type of offshoring. The most prominent example is medical tourism, whereby OECD citizens travel to certain developing countries to receive medical treatment to take advantage of lower costs, shorter waiting times, or some combination of the two. In some cases, medical tourism may also reflect different regulatory regimes making some procedures more readily available in developing countries. And some developing countries with highly trained health professionals may also develop comparative advantages in certain types of medical procedures (Brown (2007), Kurlantzick (2007)).

Technology and technological progress

A final issue concerns the nature of technological progress. Globalisation in the form of a rapid increase in international trade has been spurred by advances in technology that have lowered the cost of trade. Trade costs are not only the costs of transportation but also

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[17] Another example of the importance of geographic and cultural proximity and language is North Korea: the country is a recipient of material offshoring from South Korea, and this is widely expected to increase sharply when North Korea emerges from isolation.

[18] The factor-price equalisation theorem implies that the impact of increased immigration may also be similar to the impact of trade liberalisation (Mundell (1957)).

include the costs of search, information, coordination, communication and so on. With technological advances such as the internet, these costs have fallen dramatically and some have largely been eliminated. This raises the question of whether the pace of globalisation associated with the decline in these costs may slow.

Even if communication and coordination costs are unlikely to fall further, innovation to take advantage of these lower costs will continue, including innovation to expand offshoring to a wider range of tasks and to a wider group of countries. Other aspects of technological progress will also undoubtedly continue, and this too may further expand the scope of offshoring. Progress in areas related to voice recognition and computer-generated oral communication, for example, may decrease the importance of proficiency in the English language, allowing other developing countries to more easily emulate the success of India.

Technology itself is increasingly being globalised as R&D is offshored by multinational corporations to laboratories and R&D centres in China and India. This suggests that technological spillovers, which in the past were generally considered to flow from OECD countries to developing countries, may increasingly flow both ways.[19] To the extent that the globalisation of technology represents an increase in the global R&D effort, rather than a substitution of R&D among different countries, this will boost world productivity and incomes, and will also tend to increase relative incomes of R&D workers.

6. Policy implications

The above discussion suggests that while the emergence of China and India has developed hand in hand with the new phenomenon of offshoring, this is best characterised as an intensification and broadening of the process of globalisation rather than a fundamental change in its nature. Does this have important implications for labour market policies, or for economic policies more generally, in OECD countries? Is it a "big deal"? The answer must be yes: increased trade and the enormous growth in the global labour supply will affect the composition of employment, the distribution of wages and incomes, transitions into and out of employment and unemployment, job security, and other important aspects of the labour market; and it may also affect public support for liberal trade policies. These are bread-and-butter issues faced by policymakers in all OECD economies.

Labour market policies in OECD countries

What are the implications for labour market policies in OECD countries? One set of implications concerns policies directed at specific sectors or industries. The recent phenomenon of offshoring adds another, important reason to question the effectiveness of industrial or employment policies in industrial countries that seek to target sunrise industries or sectors. Such policies are even less likely to be effective in a world where international trade increasingly affects tasks rather than firms or industries. The possibility of perverse effects may even have increased: for example, if policies target particular types of skills or occupations, such as relatively low-skill "knowledge-based" jobs that become tradable and in which developing countries have or may soon develop a comparative advantage (Baldwin (2006), Blinder (2007b)).

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[19] Coe et al (1997) provide evidence of the importance of R&D spillovers from industrial to developing countries, but explicitly assume, citing UNESCO figures indicating that 96% of world R&D was done in industrial countries in 1990, that there were no spillovers from developing to industrial countries. Nowadays such an assumption would not be tenable for many emerging market countries.

Assistance or training programmes targeted to firms or industries may also be increasingly ineffective if trade mainly affects tasks. Moreover, the unpredictability of which tasks might be unbundled suggests that it may be futile to target specific jobs or tasks for assistance. The implication for assistance programmes is that they should be targeted to helping workers adjust, regardless of the sector or industry in which they were previously employed, through, for example, general worker retraining programmes. The implications for training programmes and education policies are that they should aim to facilitate lifetime employment, potentially in a variety of different jobs or industries (Blinder (2007b)).

A related point concerns the provision of targeted assistance to workers displaced by international trade, such as the Trade Adjustment Assistance programme in the United States. To the extent that technological change and innovation are the driving forces behind job losses, whether through offshoring or through outsourcing within the same country, it would seem that the same benefits should be made available to both groups of affected workers (Aldonas et al (2007)). Special programmes aimed at specific types of workers result in a proliferation of different types of assistance programmes that unduly increase complexity and administrative and bureaucratic costs. There is, however, a political economy justification, which is that assisting workers affected by international trade may help to ensure continued public support for trade liberalisation policies. It is not clear, however, that such assistance should be narrowly targeted only to workers who lose jobs and to their communities rather than to a broader group of workers adversely affected by globalisation.

A more general implication for labour market policies is that the unpredictability of which tasks might be unbundled, how rapidly they may be unbundled, and which tasks may actually be offshored or outsourced implies an additional premium on policies to increase labour and product market flexibility.[20] Countries with relatively flexible labour and product markets will be better able to avoid increases in long-term or structural unemployment due to offshoring. By contrast, policies aimed at resisting change, whether through employment protection legislation or industrial polices, are likely to become increasingly costly in a world of accelerating change. However, as emphasised in the Restated OECD Jobs Strategy, there are different roads to success, and different countries will choose different policy packages (OECD (2006, 2007a)). It is important, however, that policy packages be coherent to take advantage of potential policy complementarities (OECD (2006), Coe and Snower (1997)). In a few European countries, for example, policies to increase flexibility have gone hand in hand with policies to provide better social protection to improve worker security. In many other European countries further social reforms aimed at greater economic flexibility and social protection are needed (Sapir (2005)).

Is anything important missing from the Restated OECD Jobs Strategy?

The restated strategy has four pillars (OECD (2006)): setting appropriate macroeconomic policies; removing impediments to labour market participation and job-search; tackling labour and product market obstacles to labour demand; and facilitating the development of labour force skills and competencies. While the strategy is meant to apply to all OECD countries, it highlights the need to take into account policy interactions as well as national social preferences and circumstances, implying that different types of policy packages can be successful and that policy priorities will differ among countries.

Does the recent wave of globalisation affect the conclusions of the Restated OECD Jobs Strategy? In terms of labour market policies the leitmotif of the original as well as the restated strategy is the need to improve labour market flexibility to reduce high and persistent

[20] See Layard (2005) for an agnostic view on the benefits of labour market flexibility and mobility.

unemployment while strengthening social safety nets and other activation policies to ease transitions back to employment. Both reports emphasise that this is best done through active labour market policies to strengthen incentives rather than through passive income support measures that may dull incentives. This remains the challenge for labour market policies. This is not to deny that elaboration of some of the more detailed recommendations in the strategy may be useful to reflect that international trade increasingly affects tasks rather than firms or industries. In general, however, the policy recommendations in the Restated OECD Jobs Strategy appear to remain valid and relevant. The recent acceleration of globalisation does not suggest any major lacunae in the strategy,[21] although it does increase the urgency of implementing the policies recommended in the strategy. Such a conclusion is consistent with the view that the emergence of China and India and the growth of offshoring have intensified globalisation but do not represent a fundamental change in its nature.

Support for globalisation

The recent intensification of globalisation has occurred against the backdrop of the perception of an ongoing and sustained rise in economic inequality. Although the increase in inequality has been fairly general, it has been particularly large in some countries, and has often been especially pronounced when comparing the very top of the income distribution with the rest of the population: in the United States, for example, on some measures income inequality is greater today than at any time since the so-called "gilded age" of the 1920s (Scheve and Slaughter (2007)). And it is not only the low-skilled who are affected: workers with relatively high levels of education are also experiencing declining real wages. Aldonas et al (2007) present figures showing that in the United States the group of workers with masters and college degrees experienced a decline in average real earnings from 2000 to 2005, as did workers with lower levels of education; the only group of workers that did not experience a decline were those with doctorate, professional JD and MBA graduate degrees.

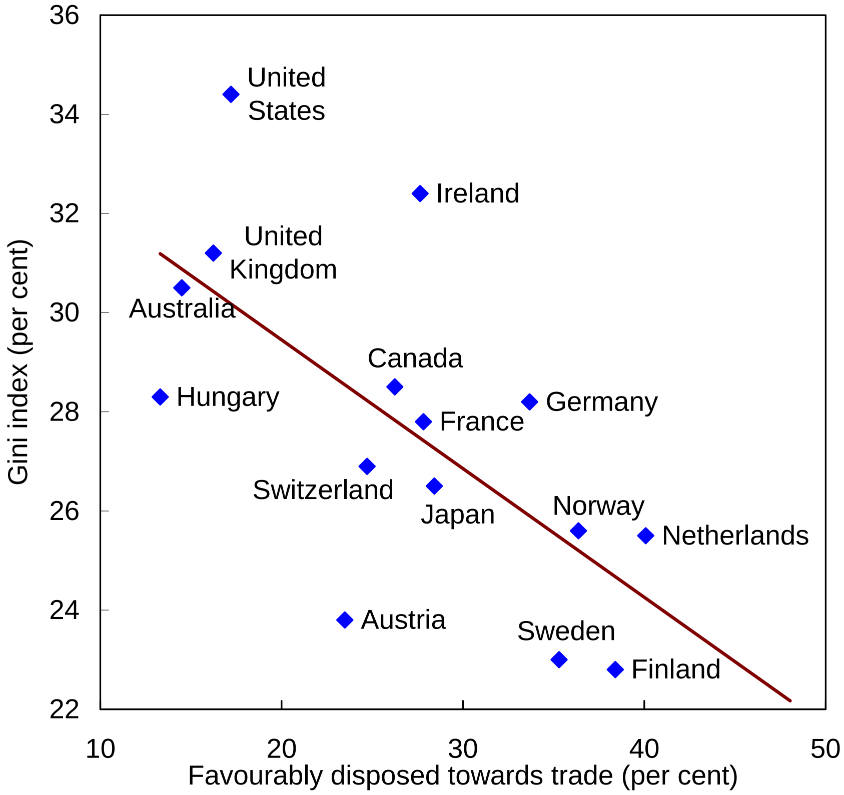
While the causes of the rise in income inequality are not fully understood, the balance of empirical research indicates that skill-biased technical change has been a more powerful driver of increased wage dispersion than increased trade, itself partly a reflection of technological advance (OECD (2007b), IMF (2007b)). Nevertheless, the acceleration of globalisation could in future further erode labour's bargaining power, potentially leading to wage stagnation or further declines in relative wages of low- and medium-skilled workers (OECD (2007a), Hijzen and Swaim (2008)).

The fact that the recent acceleration of globalisation has coincided with rises in income inequality in some countries has important implications for public support for globalisation. Voters whose incomes have been stagnant in an environment where globalisation is boosting the incomes of a few may see themselves as outsiders not benefiting from globalisation and may increasingly identify with the losers from globalisation. This may even be the case if voters view technology as the driving force behind income developments, since increased trade may be the most evident manifestation of technological change. Moreover, voters have the political power to influence trade policies that can slow, halt, or even reverse the process of globalisation, whereas they are largely unable to influence the pace of technological advance.

[21] It could be argued that a key omission of the original OECD Jobs Study was that it did not address the political economy of reforms and the possible importance of political complementarities emphasised in Orzag and Snower (1998). The Restated Jobs Strategy does discuss the issue of policy complementarities and presents some econometric evidence on their significance.

Graph 2

Inequality and attitudes toward trade



The Gini index is a measure of income inequality. At 0, there is perfect equality; at 100, there is total inequality. The Gini index is from the mid-1990s. Attitudes toward trade are from a 2003 survey. The graph shows that the higher the level of income inequality, the less positive are the attitudes toward trade.

Sources: Förster and Pearson (2002); International Social Survey Programme (2007).

Public opinion surveys in many countries indicate that an individual's relative economic status has a very strong positive association with pro-trade attitudes (Mayda and Rodrik (2005), Scheve and Slaughter (2007); see Graph 2 above). Aldonas et al (2007) argue, for example, that the US public are becoming more protectionist because of stagnant or falling incomes, not because they do not understand the benefits of globalisation but because the benefits of globalisation appear to be increasingly unevenly divided (Scheve and Slaughter (2007)). This suggests that the public appreciate that trade liberalisation can potentially be a Pareto improvement in the sense that the gains to the winners exceed the losses to the losers. But they also understand that liberalisation is only an improvement for the nation as a whole if the losers are actually compensated, which is seldom the case (Blinder (2007b)).

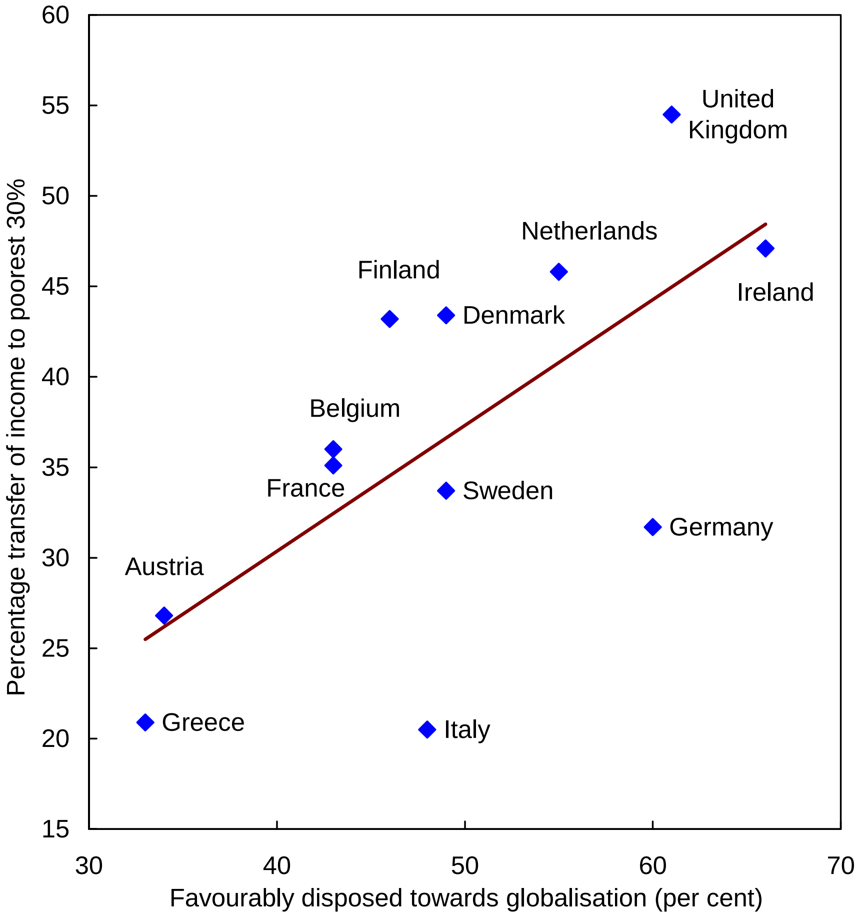
The most important policy implication of the emergence of China and India may stem from the fact that it has coincided with the perception of widespread increases in economic inequality in many OECD countries. The large number of potentially offshorable jobs – and here it is the potential number of offshorable jobs that is relevant, not the smaller number of jobs that actually get offshored – exposes new groups of white-collar workers, many of whom may be politically active, to international competition. If large numbers of workers believe that their jobs are potentially at risk of being offshored, while the benefits from globalisation are not being fairly shared, they are likely to be an increasingly receptive audience for special interest protectionists.

Policymakers need to ensure that the gains from trade are broadly shared and that social policies are in place to facilitate adjustment of those workers adversely affected by globalisation and technological change. One way to do this is to improve education and training, which is crucial to adapt successfully to globalisation. But this is likely to have only limited effects in the short run since educational reforms are often difficult to implement and have an impact only as new generations of students complete their education.

In the time frame relevant for political decisions, redistribution policies to compensate losers or outsiders may be key to obtaining political support for continued participation in – or to prevent a retreat from – globalisation. This appears to be the case in the European Union: countries that do relatively more redistribution, proxied by the percentage of total benefit payments that are paid to the lowest 30% of the working age population, are those where the population is most in favour of globalisation (Graph 3).

Graph 3

Income transfers and attitudes toward globalisation



Income transfer data are from the mid-1990s; attitudes toward globalisation from a 2003 survey. The graph shows that the more income is redistributed to the poorest 30% of the population, the more positive are attitudes toward globalisation.

Sources: European Commission (2003); Förster and Pearson (2002).

Although the need to compensate the losers from globalisation has been widely appreciated, the question of how best to do so has not received much attention. The changing nature of globalisation in recent years, however, suggests that this issue may become increasingly important in some countries because larger groups of workers may now consider themselves as losers. To maintain political support for globalisation, therefore, compensation may need to be broadened beyond the narrowly defined group of workers who lose their jobs due to trade liberalisation to also include redistribution to employed workers at the low end of the income distribution.

Increased economic inequality and heightened protectionism suggest the potential importance of political complementarities between policies to redistribute the benefits of globalisation and liberal trade policies to foster globalisation (Snower and Coe (2008)). That is, redistribution policies, which in general have adverse economic effects, may nevertheless be necessary to create the political consensus that makes it politically feasible to implement trade liberalisation policies or to resist protectionist policies that could halt or reverse globalisation.

7. Conclusions

The emergence of China and India as major trading countries during the closing decades of the 20th century and the associated rise in technologically enabled offshoring is certainly, from a historical perspective, a "big deal". Offshoring may have potentially long-lived effects on the sectoral distribution of employment, relative wages, and the job security of workers, many of whom were previously not exposed to international competition. The impact on workers in specific types of jobs or at different skill levels may be sudden and unpredictable. For the economy as a whole there could be large disruptions in the short run, particularly in countries with relatively inflexible labour markets. However, a variety of factors suggest the process is likely to play out over a relatively long time period. In the long run, most economists and policymakers agree that this most recent episode of globalisation – like previous episodes – will have beneficial economic effects, not only in China and India but also in their trading partners.

Although the pace of technological progress is inherently unknowable, it is unlikely to slow. Nevertheless, it is not clear how many other developing and transition countries will be able to emulate the recent success of India and China, and to a lesser extent Mexico and countries in Central America, central and eastern Europe, and North Africa as onshoring destinations vis-à-vis OECD countries.

The emergence of China and India and the rise of offshoring have not changed the fundamental nature of globalisation, although they have changed the pace at which globalisation progresses and the types of workers it affects. This has increased the urgency of implementing policies to improve labour market flexibility to reduce high and persistent unemployment while strengthening social safety nets and other activation policies to ease transitions back to employment. The recent acceleration of globalisation does not suggest any major lacunae in the Restated OECD Jobs Strategy, and the policy recommendations in the strategy remain valid and relevant.

The most important policy implication of the emergence of China and India in the context of widespread perceptions of increasing income inequality in many OECD countries has to do with political support for globalisation. The large number of potentially offshorable jobs exposes new groups of workers to international competition, and these workers may increasingly be a receptive audience for special interest protectionists. Policymakers need to ensure that the gains from trade are broadly shared and that social policies are in place to facilitate adjustment on the part of those workers adversely affected by globalisation and technological change. Only in this way will it be possible to maintain a political consensus for an open trading system and globalisation.

References

Aldonas, G, R Lawrence and M Slaughter (2007): "Succeeding in the global economy: a new policy agenda for the American worker", *Financial Services Forum Policy Research Paper*, June.

Amiti, M and S-J Wei (2005): "Fear of service outsourcing: is it justified?", *Economic Policy*, April, pp 309–47.

Anderson, J and E van Wincoop (2003): "Gravity with gravitas: a solution to the border puzzle", *American Economic Review*, vol 93, no 1, March, pp 170–92.

Anderson, R and C Gascon (2007): "The perils of globalization: offshoring and economic insecurity of the American worker", *Federal Reserve Bank of St Louis Working Paper* 2007–004A, February.

Baldwin, R (2006): "Globalisation: the great unbundling(s)", paper for the Finnish Prime Minister's Office, Economic Council of Finland as part of EU Presidency, September.

Bhagwati, J, A Panagariya and T N Srinivasan (2004): "Muddles over outsourcing", *Journal of Economic Perspectives*, Fall, pp 93–114.

Blinder, A (2007a): "How many US jobs might be offshorable?", *CEPS Working Paper* no 142, March.

——— (2007b): "Offshoring: big deal, or business as usual?", *CEPS Working Paper* no 149, June.

Brown, P (2007): "Have surgery. Go sightseeing", *New York Times*, Business, 24 March.

Burton, D, W Tseng and K Kang (2006): "Asia's winds of change", *Finance and Development*, June.

Catching, R and A Viswanath (2007): "Can China and India move up the value chain?", *Far Eastern Economic Review*, July/August.

Cheung, G (2004): "Chinese diaspora as a virtual nation: interactive roles between economic and social capital", *Political Studies*, pp 664–84.

Coe, D (2007): "Globalisation and labour markets: policy issues arising from the emergence of China and India", *OECD Social, Employment and Migration Working Papers*, no 63, DELSA/ELSA/WD/SEM(2007)18, November.

Coe, D, E Helpman and A Hoffmaister (1997): "North-South R&D spillovers", *The Economic Journal*, January, pp 134–49.

Coe, D and D Snower (1997): "Policy complementarities: the case for fundamental labour market reform", *IMF Staff Papers*, March, pp 1–35.

Cohen, P (2007): "In economics departments, a growing will to debate fundamental assumptions", *New York Times*, 11 July.

Ekholm, K and K Hakkala (2006): *International production networks in the Nordic/Baltic region*, Department of Economics, Stockholm University, Centre for Business and Policy Studies, mimeo.

European Commission (2003): "Globalization", *Flash Eurobarometer* no 151b.

Feenstra, R and G Hanson (1997): "Foreign direct investment and relative wages: evidence from Mexico's maquiladoras", *Journal of International Economics*, vol 42, issue 3–4, pp 371–94.

Förster, M and M Pearson (2002): "Income distribution and poverty in the OECD area: trends and driving forces", *OECD Economic Studies*, no 34, pp 7–39.

Grossman, G and E Rossi-Hansberg (2008): *Trading tasks: a simple theory of offshoring*, Princeton University, mimeo, February.

Hijzen, A, H Görg and B Hine (2005): "International outsourcing and the skill structure of labour demand in the United Kingdom", *The Economic Journal*, October, pp 860–78.

Hijzen, A, M Pisu, R Upward and P Wright (2007): "Employment, job turnover and trade in producer services: firm-level evidence", *University of Nottingham GEP Working Paper* 2007/37, August.

Hijzen, A and P Swaim (2008): "Offshoring, labour market institutions and the elasticity of labour demand", *University of Nottingham GEP Working Paper* 2008/05.

Huang, Y and T Khanna (2003): "Can India overtake China?", *Foreign Policy*, July/August, pp 75–81.

International Monetary Fund (2007a): *World Economic Outlook*, April.

——— (2007b): *World Economic Outlook*, October.

International Social Survey Programme (2007): *National Identity*.

Keller, W (2002): "Geographic localization of international technology diffusion", *American Economic Review*, vol 92, no 7, March, pp 120–42.

Kirkegaard, J (2007): "Offshoring, outsourcing, and production relocation – labor-market effects in the OECD countries and developing Asia", *Petersen Institute for International Economics Working Paper* 07–2, April.

Klodt, H and B Christensen (2007): "Home market effects of foreign direct investment: the case of Germany", *Kiel Institute for the World Economy Working Paper*.

Kochhar, K, U Kumar, R Rajan, A Subramanian and I Tokatlidis (2006): "India's development: what happened, what follows?", *Journal of Monetary Economics*, July, pp 981–1019.

Kurlantzick, J (2007): "Medical tourism: sometimes sightseeing is a look at your x-rays", *New York Times*, 20 May.

Layard, R (2005): *Happiness: lessons from a new science*, New York, Penguin Group (USA), Inc.

Lorentowicz, A, D Marin and A Raubold (2005): "Is human capital losing from outsourcing? Evidence for Austria and Poland", *Munich Economics Discussion Paper* 2005–22, November.

Lueth, E and M Ruiz-Arranz (2006): "A gravity model of workers' remittances", *IMF Working Paper* no 06/290, December.

Mankiw, G and P Swagel (2006): "The politics and economics of offshore outsourcing", *Journal of Monetary Economics*, July, pp 1027–56.

Mayda, A and D Rodrik (2005): "Why are some people (and countries) more protectionist than others?", *European Economic Review*, vol 49, issue 6, August, pp 1393–430.

Mundell, R (1957): "International Trade and Factor Mobility", *American Economic Review*, vol 47, no 3, June.

Organisation for Economic Co-operation and Development (2006): *Boosting Jobs and Incomes: Policy Lessons from Reassessing the OECD Jobs Strategy*.

——— (2007a): *OECD Employment Outlook*.

——— (2007b): "Moving up the value chain: staying competitive in the global economy", main findings of a study presented to the OECD's 2007 Ministerial Council meeting.

Orzag, J and D Snower (1998): "Anatomy of Policy Complementarities", *Swedish Economic Policy Review,* no 5, pp 303–43.

Pandey, A, A Aggarwal, R Devane and Y Kuznetsov (2004): "India's transformation to knowledge-based economy – evolving role of the Indian diaspora", *Evalueserve White Paper*, July.

Portes, R and H Rey (2005): "The determinants of cross-border equity flows", *Journal of International Economics*, February, pp 269–96.

Rodrik, D (1997): *Has globalization gone too far?*, Institute for International Economics.

Saint-Paul, G (2007): "Making sense of Bolkestein-Bashing: trade liberalization under segmented labour markets", *Journal of International Economics*, vol 73, no 1, pp 152–74.

Samuelson, P (2004): "Where Ricardo and Mill rebut and confirm arguments of mainstream economists supporting globalisation", *Journal of Economic Perspectives*, Summer, pp 135–46.

Sapir, A (2005): "Globalisation and the reform of European social models", background document for presentation at the ECOFIN Informal Meeting in Manchester, 9 September.

Scheve, K and M Slaughter (2007): "A new deal for globalization", *Foreign Affairs*, July/August.

Snower, D and D Coe (2008): "Globalization and redistribution", *Kiel Institute for the World Economy Working Paper*, forthcoming.

van Welsum, D and X Reif (2006): "Potential impacts of international sourcing on different occupations", *DSTI Information Economy Working Paper*, DSTI/ICCP/IE(2006)1.

van Welsum, D and G Vickery (2005): "Potential offshoring of ICT-intensive using occupations", *DSTI Information Economy Working Paper*, DSTI/ICCP/IE(2004)19.

van Welsum, D and T Xu (2007): "Is China the new centre for offshoring of IT and ICT-enabled services?", *DSTI Information Economy Working Paper*, DSTI/ICCP/IE(2006)10.

World Bank (2007): *World Development Indicators.*

Panel discussion[1]

Frederic Mishkin

It's a great pleasure to be here at this conference honouring Palle. I met Palle when I was visiting the Reserve Bank of Australia and he was the head of the research unit. (Bill, I have to tell you that I like Canadians a lot, but they are not nearly as much fun as Australians.) We had a wonderful time there. Palle and I became friends very quickly, and part of the reason was intellectual. He had an extremely insightful mind, and as you well know, he told you exactly what he thought; that's very very valuable when you are thinking about research. Now I should tell you that he did that in other contexts as well. I'll never forget one night, at the end of a dinner we had together, he said to me, "I have never seen anybody eat more or drink more at a single meal." So, his directness was there in other dimensions.

Well, today we are going to finish off the conference with a panel discussion on globalisation and labour markets and their implications for central banks, and I think there are a whole load of issues that can be discussed here. We will see exactly what the panellists want to talk about. But some of the possible topics include the impact of globalisation on labour markets and on the monetary transmission mechanism. For example, has it changed the Phillips curve? Has it made it flatter? Has it reduced the role of domestic output gaps versus foreign output gaps in determining the inflation process? Have there been effects on the flexibility of labour markets and the natural rate of unemployment? Has the expansion of labour markets to worldwide labour markets actually decreased the volatility of output fluctuations? Has it been the source of the Great Moderation? What has been the role of globalisation in terms of productivity growth? There are other issues; for example, has the cheap labour that we have integrated into the world trading system, particularly from places like China and India, been a key factor in reducing inflation?

There are also issues which are not directly related to central banking but I think are very important. For example, we have seen that the globalisation of labour markets has created some stresses and has received some of the blame for the increase in inequality; has that created a serious backlash against globalisation? And can globalisation go backwards? It has happened before. Many of you know that the first stage of globalisation ended with World War I, with very negative consequences.

In any case, we should have a very interesting discussion today. The panellists can talk about whatever they want. The only rule that I am going to be imposing is a time constraint. The discussants are going to be taking 12 to 15 minutes to lay out their positions. Már asked me to make some comments as well because we have one discussant fewer than initially intended. So I'll make a few comments in response to some of the things that the other panellists say and maybe give some other views of my own. Then I'd like to give three to five minutes for the panellists to respond to each other and then open the session to questions from the floor. Why don't we start off exactly in the order that's on the programme.

Anders Møller Christensen

Thank you, Mr Chairman. Reflecting the high degree of flexibility in the Danish labour market, I am here instead of our former governor Bodil Andersen, who had to attend a meeting in Copenhagen today.

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[1] This is an edited transcription of the tape from the panel discussion that concluded the BIS Conference in Honour of Palle S Andersen on 3 December 2007.

Regarding globalisation, one issue in which central bankers normally take great pride is the decline in inflation, at least until very recently. And whenever I try to take this as evidence that monetary policy in recent years has been conducted in a superior way compared with 30 years ago, there is always some idiot saying, “China, India, that’s the reason. It has nothing whatsoever to do with monetary policy. It is the impact of globalisation. Isn’t it just the amount of cheap labour that is causing low inflation in the developed world?” I must say, I think the answer is no. Certainly, there is a role for monetary policy with respect to the inflation performance, and globalisation comes too late in the period to fully account for it.

Of course, this does not imply that globalisation has been unimportant. In addtion the better inflation performance may be attributed to better economic policies in general and not just to monetary policy. We have seen in the OECD countries a lot more market orientation in all aspects of policy. Government regulation has definitely changed in this period, which I think is highly responsible for the inflation results as well.

Turning to monetary policy, it has a lot to do with a mandate for transparency and independence, but allow me a digression here. Sometimes [the good inflation outcome] is also presented as a document of the success of inflation targeting, which I think is simply not the case. Theoretically inflation targeting has been highly successful, and empirically it has done quite well, but it is impossible to state that it has led to superior monetary policy, at least in the OECD countries. Emerging economies are a different story. Conducting a study on the OECD countries since the 1970s, you can find a role for inflation targeting in the decline of inflation beyond the global trend, in the years after the change of regime, whereas you cannot find a decline in inflation volatilities or volatilities in output beyond the global trend. In contrast, taking many of the small countries now forming the European monetary union and Denmark as well – countries with what I call a consistent fixed exchange rate policy – you actually find they have actually improved beyond the global trend, not only on inflation but also on volatilities in inflation and in output. To me that suggests that in many respects the exchange rate is the “elephant in the glass shop” for small open economies. That being said, developments have definitely been favourable, almost everywhere in the OECD countries irrespective of the monetary policy regime.

So, the crucial thing in my opinion is: how do central banks anchor inflation expectations? What do the ECB and Fed do, for instance? I think it is fair to say that they have strong elements of inflation targeting in the way they conduct monetary policy but maybe less than in the more religious camps.

How did globalisation come into our world? I would say in two ways: one is via cheap imports; the other one via a flattening of the Phillips curve. I noticed from the Jackson Hole conference last year, Rogoff mentioned the likelihood that globalisation should steepen the Phillips curve. There is little agreement on this, but for various reasons I consider it most likely that we have seen a flattening of the Phillips curve. I think that the fear of losing jobs is a common feauture in many countries. It is the potential that is important, not the exact numbers. And at the same time, the institutions have in general become more flexible, which will give a wide range in which the Phillips curve has become flatter than it was before.

Then, at least from a Danish perspective, a very important issue is how to respond to people’s worries of losing their jobs. Would the answer be more employment protection? No, I think that’s quite obvious not the answer. In some respects, the Scandinavian welfare models work quite well here. The important issue is to protect people, never protect jobs. You can protect the income of people and have the labour force engaged in skill upgrading and the similar activities, in a period between two jobs. I will not go into a long discussion on “flexicurity”, but I believe that this way of thinking is a reason why we see the attitudes towards globalisation as rather favourable in the Scandinavian countries in general and definitely in Denmark in particular. Of course, it is also due to the good position in the business cycle, I believe. But I am also confident that it has something to do with a belief that it will not be a social disaster if your company moves its production to China or whatever –

we will find how to engage in something different. And as long as this is the attitude, I think it provides a better ability to cope with changes.

On cheap imports, yes, in periods we have seen direct price declines. But pricing to particular markets complicates matters. Many companies, I believe, have a strategy in which they design and develop a product and say, "The price for this product in market *A* should be so many euros or so many dollars. We can make a higher profit if we can produce it more cheaply, but no matter how cheaply it is produced, we will not lower the price." So this leads of course to the issue of income distribution. In our part of the world we only see a moderate downward pressure on prices to the extent that we are pricing to markets.

In periods, we are also importing deflation directly. In dealing with that – and I think it was mentioned this morning as well – there are some benefits from the careful analysis of price trends. So, remember both sides of the coin. Globalisation implies cheap textiles from China but also increasing prices of raw materials and of oil. So, whenever you remove food and energy from the price index and keep the cheap import, then there is definitely a risk of complacency from the central bank. The lesson is that one should never exclude commodity prices in any mechanical way.

A useful way to supplement the ordinary HICP is to calculate what I would call a value added deflator for supplies for private consumption. This is not exactly a GDP deflator because I do not want raw material prices to enter it significantly. And then, in periods – and this is a particularly important issue for small open economies – if one just tries to stick quite stubbornly to, say, a 2% target for headline inflation while importing price deflation, then of course it means that you try to be too activist. It entails the risk of a serious erosion of competitiveness of the economy because the domestic part of inflation then needs to be high to counteract the negative impulses of the import prices. So, one has to be flexible in the sense that you always need to explain carefully deviations between actual inflation and the inflation target in a consistent way, and I know a lot of you do it. You have to explain why you don't exactly reach the target. Thank you, Mr Chairman.

Kazumasa Iwata

Thank you very much, Mr Chairman. I would like to talk about this liaison of labour market integration and globalisation. I distinguish two parts of labour market integration. One is the direct effect arising from immigration and the outsourcing of services. The other is the indirect effect. I would also draw attention to the integration of the product market and the financial market in considering monetary policy implementation.

First, let me start with the direct effect of labour market integration. In Japan, both immigration and outsourcing are playing quite a limited role. The share of foreign workers in total employment is very low by international standards, only 1.3%. However, in the past couple of years there has been a significant rate of increase of foreign workers. The main reason is that some enterprises want to have more employees for training purposes. They actually sometimes employ these foreign workers in formal training and this is one of the reasons. Another reason is a significant increase of Japanese-Brazilian or Japanese-Peruvian immigration to Japan. In an earlier period, Japanese had emigrated to South America, and now the descendants find it quite comfortable to come back to Japan. They do not speak Japanese, and they behave like foreigners, but it is easier for them to find work in Japan. In some cities, therefore, there is a sizeable increase in the population of foreign workers. For instance, in Hamamatsu, or in parts of the smaller cities, there is a concentration of foreign workers. There will be some increase of this immigration in the future. An expert made a forecast: maybe by the year 2030, the current 1.3% ratio will increase to about 4.4%. But, still, the implication for the labour market is limited.

On outsourcing in the service sector, it is very limited in Japan. In manufacturing, the big companies have a very good network in Asian countries through foreign direct investment. That is one form of outsourcing that is different from the practice of US multinational companies. A Japanese company manages a farm located elsewhere in Asia, but their network works very well, and therefore they can maintain their strong competitive edge.

Regarding service outsourcing, I recently visited Hyderabad, in India, where there is a boom in business process outsourcing (BPO). I visited several BPO companies there. They are operating 24 hours a day and are free from all regulations, including social regulation – even the traditional caste system – and they seem to be very efficient. For instance, an American company in New York ordered statistical data for a presentation taking place the next morning. The time difference allowed the Indian workers to provide very nice presentation documents on time, and they do that not only for business purposes but for tax purposes or personnel management purposes. So this is quite wide-ranging. But in the case of Japan, I find there may be limited scope to utilise Indian BPO firms because of the language obstacle. Japanese may be difficult for people to learn quickly. However, I find it quite interesting that Okinawa now has special economic zones specialising in information technology and financial business. I visited one of the call centres there. It employs unskilled workers, but they want to upgrade and move to BPO work for Japanese companies. Therefore, I think that, with respect to the outsourcing of services by Japanese companies, maybe outsourcing could develop within Japan but not to foreign countries. So, taking this anecdotal evidence overall, I find that perhaps the direct effect of global labour market integration on the labour markets in Japan is minimal.

Moving on to the indirect effect of labour market integration, historically speaking, what is important is the slope of the relation between the output gap and the CPI. In the 1980s and 1990s, there was some shift of the slope, and the slope was rather stable. This was about 0.4, but after 2003 until 2006 the slope became much flatter, about 0.2. That implies a rise in the sacrifice ratio from 2.5 to 5. This is a significant increase in the sacrifice ratio, and the implication for monetary policy is very important. In implementing the optimal monetary policy, Svensson argued in terms of the marginal rate of substitution between inflation and the output gap. This marginal rate of substitution is very important. One of its elements is the sensitivity of price changes to changes in the output gap, which is the slope of the aggregate supply curve. But it creates some difficulty for me. If we rely on the microeconomic analysis initially conducted by Rutherford together with Rotemberg, the marginal rate of substitution is very very low, only 1.20 or something like that. But the sharp contrast in this sacrifice ratio – at least the sensitivity is more significant – but at the same time, if we carry out structural form estimation on the sensitivity of price changes to changes in the output gap, it is also very small – in recent years virtually zero. Therefore, I want to point out the flattening Phillips curve and the estimation of the slope: the implication for monetary policy is somewhat challenging for research.

And now I want to discuss why the slope changed. In my view, there are a number of hypotheses:

1. One strong hypothesis is provided by the BIS (Borio and Filardo 2007). The foreign countries' output gap or global output gap can affect the slope of the Phillips curve. That would work to flatten the observed Phillips curve by reducing the effect of the domestic output gap and increasing that of the foreign output gap. There are empirical studies providing some evidence of these effects. But there are also different results. For instance, a Federal Reserve study produced an outcome quite different from that of the BIS investigation.

2. A second hypothesis about why the Phillips curve is flatter is that the demand curve has become more elastic to price change. I find this to be a very good theoretical consideration because engaging in trade that provides more diversified goods and services to consumers implies a higher sensitivity of demand to price changes. And so this gives some support to the flattening Phillips curve.

3. The final hypothesis is the price setting behaviour of the enterprise, which has changed, at least in the case of Japan, rather significantly. I have argued that wage

norms seem to have changed in the recent period because of the severe condition of the labour market and the exposure to international competition. I find now that Japanese firms' new norm is to keep prices unchanged or constant as long as competitors, domestic or foreign, refrain from price increases. The implication is that there is a very strong nominal rigidity of price change because of the change of this price setting behaviour, which works to flatten the Phillips curve.

I have something to say about product and financial market integration, but my time is up, so I will stop here.

Leif Pagrotsky

Thank you. Well, I too would like to start by expressing my gratitude for being invited but, in contrast to most others, I actually never met Palle. I started working in the OECD just weeks after he left, but he was still present in the corridors and in the meetings we had as I started working with people that I now realise were so heavily influenced by him. I am talking about Flemming Larsen, Philip Turner, Adrian and others who are here today. Now I understand why that name was so present. And now, today, I am at the BIS for the first time and also too late to meet him. Maybe I am one of those laggards that, you may remember, Gorbachev described as always being too late when history moves.

I would like to address two questions. The first one: has globalisation lowered inflation? I would say that, in our case – the Scandinavian or Swedish case – the answer is absolutely yes, and as I know that some members of this panel have another view, I would like to expand on it. Globalisation is such a vague word that means more or less everything, so I would like to spell out in some detail what happened that made the world come closer, that influenced inflation in my country; and I suppose it is very similar in the rest of the Nordic region.

The first point that I would like to make – there are five altogether – is the introduction of the single market in the early 1990s. We already had abolished tariffs and other barriers, but when we established a single market, integration became real because many technical barriers by a stroke just disappeared. So I would like to point that out, rather than our membership in the European Union, which actually in this respect did not mean very much – it meant a lot in the limited field of agriculture, but not many of us think it was progress.

The second element is more global. That was the conclusion of the Uruguay Round in 1995, which meant that, in practice, tariffs were lowered to the extent that American and Asian products became a realistic alternative on the shelves of our shops everywhere in our countries. Tariffs had been lowered, but they were still high enough to maintain an advantage for domestic producers. But through the conclusion of the Uruguay Round, this was changed, and tariffs became so insignificant for the products that they covered – which did not include agriculture, for instance – that competition was dramatically strengthened.

My third element here is the spread of the internet. The first two elements that I mentioned created the conditions, but as long as purchasers and consumers did not know about what was available – beyond the borders, beyond the normal wholesale supplier, beyond the normal channels of distribution – they did not mean very much. So I would say that what has happened is that the first two elements became a day-to-day reality, influencing prices in the second half of the 1990s, and also now of course. But the changes alone didn't mean what they were meant to mean because information was not good enough. I think that, because of the internet, consumers were empowered, and suppliers were deprived of their information monopoly. I think this is an underestimated factor in this mechanism.

Fourth, I would like to address the issue that many have talked about – the increased supply of labour – but I don't want to say India and China. I say the economically very important Baltic republics and Poland. I say they are important because they are very near to us and, as you know, distance means a lot in this respect. So, we have a region so close, with a well educated labour force and a low cost of transportation, and that meant an enormous increase in competitive pressures. Of course, China and India meant that too, but, for the sake of the argument, I put it this way. And you know, for Sweden, our trade with Norway is still larger than our trade with all of Asia combined, so size is important but distance is even more important.

My last point is the abolition of the fixed exchange rate and its replacement by an inflation target oriented monetary policy. That is important, but it is important in the context I just described, when the whole world was changing and then suddenly somebody came in like an arbiter and said 2% inflation is what you can all count on. They did, and it materialised. So its impact on inflationary expectations was fantastic. I think the mechanism was the pressure on firms to stop their own behaviour of undisciplined wage negotiations. Cost increases to consumers without any questions asked suddenly became impossible. And they got enormous pressure for productivity improvements and more disciplined bargaining behaviour. I think this created miracles, miracles that were a surprise to central banks, for instance. They didn't catch up with this for 10 years and kept monetary policies too tight, I believe. These changes were not understood because they were too dramatic.

My second question relates to David Coe's point about globalisation: everybody likes it, but when it is under threat, nobody does anything about it, nobody defends it, nobody advises what to do when the losers are politically stronger than the beneficiaries. I would like to underline the importance of this by showing you today's *Financial Times*, in which Hillary Clinton says that not only do we need a time-out on new trade agreements but also that she will not sign any trade agreements signed by George Bush, that the Doha Round can be completed and shut down immediately. She makes a very strong stand here. So, I believe that, as all of us like globalisation, this is a tremendously important issue.

The core issue is that the balance between winners and losers must change. There are now losers in the middle classes and it's crawling upwards, which means towards politically more sensitive groups in the United States. We have seen it for a long time in Europe, where some countries are still very protectionist. So, how do we change the balance between winners and losers?

I would like to say a few words on how that balance works in our countries in northern Europe. I am not sure it works in the United States – maybe, I don't know; let's just talk about it for a while. I think the key is that globalisation means more change and more rapid change; that is the core of globalisation. We all need to change. China and India, the Baltic republics, and of course *we* need to change; everybody needs to change faster. The issue is: how do we deal with change, how flexible are we, and how do we treat those affected by change? Dave mentioned that, in the Nordic countries, people are positive about globalisation. I don't remember the numbers, but we were at the top end of the interval.

However, I can inform you of some still secret numbers: there was a poll conducted just a few weeks ago by the Swedish Industrial Workers Union, the blue collar workers at the front line of the globalisation battle, the workers most heavily affected by competition from low-cost countries. The numbers are not yet published, but 75% of those blue collar workers said that globalisation was good, and I think that's astonishing. I think the proportion in the United States on the whole who said it was a good thing was below 30%.

So, it is as Anders just said: we have fewer losers because the social protection is stronger. If you lose your job, you don't risk an income loss that would mean you would have to take your parents out of their old age homes, you don't risk taking your children out of their school, you don't risk the loss of medicine for your uncle or your aunt whom you are supporting, and it means also that perhaps you stay in your own apartment or even your own house, although you may be obliged to move to another area where there is a job.

There is one more, maybe equally important, element to the balance between winners and losers, and that is knowledge. To deal with change in globalisation, knowledge is crucial. We need to work on improving the knowledge base of the labour force, and I believe it is not enough to work with a knowledge base introduced in the labour force by the new cohort coming from the schools. That speed is simply insufficient. One cohort per year, a few percentage points a year or so, is not enough for the speed of change that we need. We need to raise the level of knowledge for the entire labour force. And here, I would agree with Jill Rubery: to make it profitable for employers to add new knowledge to the workforce, contracts cannot be too short because then the incentives will not be there to add to the knowledge of the existing labour force – I think this is very important. And of course it also means that the school system must prepare people for learning throughout their adult life by providing skills not only for a special machine, but also for computers, languages, mathematics and so on. This is extremely important, and we have not been good enough in our countries in northern Europe, but I think we have been better than others. That means that people who are laid off feel that they can absorb a new education and a new start when it is offered by society.

So, if we offer social protections like the ones I described – which are not free – and if we have this enormous attachment to education – which is not free either – doesn't this make the economy collapse? Doesn't this make it unable to fly? I would like to say that, what happened to our economy in the past decade, when globalisation developed to such a great extent, and we had high taxes and low incentives, and people could count on an income even though, when they were laid off, they did not immediately get new work? Well, in these past 10 years our competitiveness did not deteriorate. The fact is that our exports grew by 100%, and for services they even grew by 130%, which means that not only did exports grow, but they were also upgraded in terms of quality and value added. Our current account surplus accumulated to 50% of GDP over the past 10 years. Our growth is on a level with that of China for most of these years, 7% or 8% a year.

Frederic Mishkin: The good news is that you are a lot smaller, so people don't notice.

Leif Pagrotsky: Yes, so the Americans have not addressed us yet. We are waiting for their phone call. We are waiting for Hillary. We did not depress wages and reduce salaries to compete with the Estonian and Chinese wage levels. Actually, real wages increased 25% at the same time. Employment grew, although not enough, and so on. So I think that when Americans say, like Paul Samuelson obviously did, that as losers cannot be compensated, globalisation is a bad thing, Americans should not give up that easily. They should continue looking for ways to combine globalisation with a reduction in the number of losers and perhaps even make losers win. Those who lose in the first stage may actually win in the second stage. The battle is not lost; don't give up. That is my piece of advice. Thank you.

Frederic Mishkin

Thank you very much. I will put in my two cents' worth of advice and then open the floor to responses. I will primarily focus on two issues regarding globalisation that are crucial to central bankers: its effects on the monetary transmission mechanism and its effects on inflation. Maybe I'll also respond to some of your comments about the impact of globalisation in the political sphere.

First of all, let me talk about globalisation and the monetary transmission mechanism. We now have a globalised labour market, in a sense. Because of trade and also of the ability to provide services across borders very cheaply, we essentially now have a much larger pool of workers to access. Some of the questions that raises are if you are using a larger pool of workers, does that make what's going on in labour markets in your own country less relevant? And does that make the relationship of unemployment to the natural rate in terms of output gaps less important in terms of the inflation process?

This is an area that has been very actively researched. The work at the BIS has said, "Yes that is absolutely correct, the domestic output gaps don't matter nearly as much as they used to." I am quite critical of that reading of the literature; I find that it is not robust. It really does depend on very specific specifications. Other specifications that I think can be justified more soundly indicate that, in fact, domestic output gaps still matter a lot, and it's not clear that they matter much less than they used to. And the related issue, of course, is, if you are talking about a wider labour pool, then it may not be domestic outputs gaps that are important but foreign output gaps that are more relevant, and so that's the other side of the same coin. And again, the evidence I find is really not very strong, particularly for the United States – it does not look like foreign output gaps are particularly very relevant. So, from that viewpoint, it is not clear that there have been major changes in the transmission mechanisms.

A second issue that's very important in this regard is that the Phillips curve appears to have gotten flatter. One view, again, is that you have a larger labour pool to look at, which means that there are fewer bottlenecks, and therefore it is more likely that when the domestic markets are tight, that tightness will not spill over into inflation. The question is, is that a valid view of the world?

Again, I find the evidence here is not very strong, and I think there is a much simpler view, an Occam's razor type of view, for understanding a lot of phenomena regarding inflation dynamics. In fact, this is something that I have talked about earlier as a Federal Reserve Governor: the Phillips curve is flatter, energy price increases do not pass into inflation as fast as they used to, declines in the exchange rate do not feed into inflation as fast as they used to, which is something that's of course very relevant in the current US context in which we have had a very substantial depreciation of the dollar.

The explanation for all of these facts, I think, is a very simple one, which is: central banks are doing a better job. They have made a strong commitment, either through inflation targeting or in other ways. Sometimes they have done it the way that a small country like Denmark has, tying the exchange rate to that of their neighbours. In fact, Denmark first pegged to the Deutsche mark and then to the euro. But they established a strong nominal anchor and were serious about it, making sure the people understood that they will not let inflation get out of control. That is critical, not only for the success of monetary policy but also as an explanation of all these other facts. Because in this context of thinking about a current tightness of the labour market, will you ask yourself: is that going to lead to higher inflation? Well, in fact, what's relevant is not just what's going on in labour markets today but what you expect the central bank will do in the future; and if you expect that the central bank is not going to take the necessary steps to prevent overheating of the economy in the future, then there is no reason to wait to raise wages and prices.

I consider the grounding of inflation expectations to be the most important thing that central banks have to do – and there are many ways of doing it – but it is absolutely critical to successful monetary policy. It is also a very key reason why there is a flattening of the Phillips curve, and of course what that says is: don't count on the Phillips curve being flat as a structural phenomenon. If, in fact, your monetary policy stops doing its job well, believe me, we will see inflation accelerate, and the Phillips curve will get much steeper, but that's not because that's a good thing – that's a very bad thing. So, again, I think that's the simpler explanation of what's going on – not globalisation.

On the second issue: has globalisation of labour markets led to lower inflation, and has it been able to decrease inflation from its previously high levels? One of the points that you made, Anders, was, I think, exactly right; the timing doesn't fit. The real issue of globalisation is later, in the mid-1990s, which is when it really accelerated. Yet the decline in inflation really occurred well before that. Again, I would see this as a view that the central banks have been very important.

So let me talk about some elements of globalisation and debunk them in terms of their impact on inflation. One view is that it's the cheap labour from China and India that's helped our countries deflate, and I just don't buy this. When you look at the numbers, it is true that there are some benefits from the cheap goods coming in from places like China and India. In fact, estimates and research that I have seen indicate that import prices have been about

1 percentage point lower each year as a result of the entry of these billion new people into the labour markets. That's not insignificant. But remember that, for the United States, the tradable sector is reasonably small, so price decline translates only into one tenth of a percentage point in terms of lower consumer price inflation.

That's one side of the picture, but the other side is that having these countries come online and putting in these billion new workers has actually increased tremendously the demand for commodities. We are seeing that, of course, right now, with oil prices near $100 a barrel, and that tends to raise inflation. So when you put it together, you are not sure which way it is going to go. Estimates that have been done by the Federal Reserve, the OECD and so forth come out and say, "Maybe it has decreased inflation by a smidgen, not sure, maybe by one tenth of a percentage point, or maybe you can get up to one quarter of a percentage point." So, this is not a big deal. When you talk about the nature of the disinflation process, this is small potatoes.

The other issue that I think was raised is the Rogoff story, which is that there are greater incentives for central banks to lower inflation because the increase in competitiveness steepens the Phillips curve, and we know the Phillips curve didn't steepen. So that story doesn't seem to be very important. However, I think the globalisation of labour markets has helped in two areas. One is that it has made them more competitive and flexible, and that has the potential to increase productivity growth. And when productivity growth is higher, it is a little bit easier for central banks to keep inflation low.

The second area is that, when you have more competitive labour markets, it means that, at a given unemployment rate, workers may be willing to take slightly lower wages. Another way of saying this is: the natural rate of unemployment will fall. Another expression is the NAIRU – which is unfortunately an awful term, but that's the one people use – the NAIRU has fallen and as a result, again, that actually makes it easier for central banks to lower inflation. However, the bottom line still is that inflation is always and everywhere a monetary phenomenon. That does not mean money supply, but I agree with Milton Friedman that inflation is a monetary phenomenon, that is, central banks can control inflation. And in fact the reason that inflation is low is because central banks realised that lowering it was a good idea, and the public in these societies realised that it's a good idea. Therefore, the concern that, once this globalisation phenomenon of cheap goods from China disappears because China gets rich, then that will lead to very high inflation – and you know this is a point that Greenspan made in his latest book – I don't buy it. So, I think the answer is that we need to do our jobs properly.

The last thing to be mentioned is anti-globalisation, which really tremendously worries me. It is really remarkable how, across the board, Americans are turning against globalisation. And this is not just Hillary Clinton during the latest presidential campaign; it is the Republican candidates, it's the media, it's also public intellectuals and Sarkozy. One of the reasons I published a book last year on globalisation, called *The next great globalisation*, is that I feel there is a huge danger of us actually ending this second age of globalisation. The impact for the world could be disastrous. I think this issue is such that it will be not only a disaster for us, the rich countries – because I think we will be less productive – but it's basically saying that we are going to relegate a billion people to abject poverty. And so I think it is hypocritical: if you really care about poor people, then I think you have to be pro-globalisation. It's nice that the Swedes are still pro-globalisation, but I think that the issue that you raised is exactly right.

The concern that I have is that when you look at the polls – and David, you mentioned this – it turns out that in the United States it's very much stratified as to who supports globalisation. People like us all support globalisation; highly educated people are all very supportive, but we also are the beneficiaries because globalisation makes us more productive. What we've seen – I think globalisation has some role but I think lesser role – is that the income distribution is getting hollowed out. At the middle, anything that could actually be reproduced by computers – which turns out not to be high-level people like us who are actually work-enhanced by computers, and it's also not people who are sweeping the floor because computers can't do that – affects the people in the middle, bookkeepers, accountants and so forth. That's creating much less support in the middle class for globalisation, and therefore we have a potential for real backlash.

And I think the issue here is exactly the one that you raised, which is: how do we change the political environment so that it becomes more pro-globalisation? I think that you can't ignore the issue of income inequality. The fact that losers are turning against globalisation – and even people who are gaining but don't realise it are turning against globalisation – means we need to do something. Hiding our heads in the sand is something that's very dangerous; we have to look at other models.

So, with that, let me open the panel.

Anders Møller Christensen

I will be extraordinarily brief. I think that, for the OECD countries, the increased flexibility – not only in the labour market but in the whole relationship between producers and employees – has become important. Working hours, for instance, have become more flexible and nowadays people do not normally get overpaid if they work, say, 42 hours. That turns a lot of flexibility into company planning, and I think that is very important.

Kazumasa Iwata

Financial integration has changed the corporate governance of Japanese firms and the share of profits. We observed a structure of corporate governance significantly changed in terms of the share of foreign ownership on the Japanese stock market. Now the share reaches about 30%. Before it was about 10%. In the household sector, ownership is about 20%, so the larger share now is taken by foreign investors. This has changed corporate governance – now corporate managers in Japan are much more concerned about shareowner revenue than about employee wages. As a result, the profit share in Japan has increased very significantly. This increase is commonly observed among other advanced economies.

Notably, the dividend payment by the corporate sector to the household sector is now about 5 trillion yen. This is almost comparable to the increase of total employee compensation – Japan's employee compensation rose about 2% on average last year, and total employee compensation is 253 trillion yen, which, when multiplied by 2%, is 5 trillion yen. So, the increase in the dividend payment is now working to sustain consumption because of the large size of the dividend received by the household sector. This has been observed in the United States for a long time, but it is a rather recent phenomenon in Japan. The rising share of profit, I think, reflects the process of the international division of labour in China and India and emerging economies and stronger interdependence. Japan is moving more towards knowledge and capital-intensive industries; and also, in addition to this corporate governance incentive, globalisation works to restrain the wage growth of unskilled workers who are exposed to international competition.

I want to add another point on this: why is the rising share of profits so marked in the case of Japan? I find it reflects somehow the need to accommodate the consumption of the retired population in Japan. Very rapid demographic change implies we should have a higher rate of return on capital to accommodate consumption after retirement. Paul Samuelson, at the end of the 1960s, argued that if we employ the overlapping generations model, we can calculate the golden rule, a gross rate of return on capital. But if we employ the conventional neoclassical model, economic growth must be tied to the net rate of return on capital. That is only one necessary condition to maintain the golden rule in the overlapping generations model: an additional constraint must be satisfied because of the need to accommodate the consumption of retired persons. A threshold value, of this constraint depends on the size of capital consumption after retirement and the capital intensity employed by the economy. These are the two very important variables now that Japan is ageing very rapidly.

To cope with this demographic change, it is absolutely necessary to have a higher rate of return on capital. On this issue, I think that Friedrich von Hayek once argued that the Keynesian view, or the prescription of the Keynesian policy, was quite detrimental because it distorted the relative price change. The relative price change sometimes requires lower prices and wages in the consumption goods industry compared with the capital-intensive industry. That implies that the consumer price index must show a lower rate of growth compared with capital goods industry prices, and this is quite opposite to what happened during the course of the high growth era in Japan. But now we have the PCE deflator still negative, about a 0.5% decline, while at the same time we see the investment deflator showing the possibility of change, although not so sizeable. This change of the relative price structure is quite remarkable. There is both a possibility and need, to facilitate the move of capital accumulation to the more sophisticated industrial structure, notably under circumstances of an ageing society in Japan.

So a higher price must be attached to the capital goods industry, and there is a possibility that the higher target is now becoming more realistic. But at the same time I should add that if we focus on increased allocation to the capital goods industry, it would imply an increase in capital intensity that will lead to a lower rate of return. And so my argument is: it is better to focus on the increase of total factor productivity and not focus too much on the capital intensity issue.

Leif Pagrotsky

Two – I hope brief – points. First, of course central banks can stabilise prices, but I think globalisation contributed to making it possible for this stabilisation to occur at a much higher growth rate. That's what I believe we have achieved in the Nordic region, and it has been achieved probably in very many other places. They tried before and failed, even if they made growth become negative sometimes.

Those who gain from globalisation are anonymous. They don't even know that their gains have anything to do with it because nobody says so, and even if they did, they would have no name and address for the beneficiaries. But those who lose, and – even more – people who lose for some reason, can blame globalisation for their personal loss. This is the mechanism that is so dangerous, and because of this, there are no advocates for the benefits of globalisation in most countries. We have now used America as an example, but if you look at Europe, for instance, you can see easily who tried to win an election through these arguments. I saw the final debate between Ségolène Royal and Nicolas Sarkozy and they sort of escalated how effective they would be in preventing globalisation, in protecting France from globalisation, not making France cope with globalisation but keeping globalisation away from France. Under these conditions, we do not make progress on trade liberalisation.

I can say here that I think it was a mistake to start the Doha Round. I was part of it, I regret it, I could have vetoed it, but I didn't. I wasn't smart enough. I wasn't clairvoyant enough. But now I think it is quite clear that it was a mistake, and it has cost a lot to have 10 years of zero progress in world trade. Not one single deal has been signed because everybody is putting all their chips into this big negotiation. All the partial negotiations that were going on stopped, and we have had 10 years of no progress at all. Looking at America, looking at France, I believe there will be no further progress, at least before the year 2010. That means that this period has been wasted. That's very very bad, and I am partly to blame for it.

Frederic Mishkin

Usually we don't get so much honesty from somebody who's been in politics, but we are among friends, so thank you very much. So let me open the floor to questions.

Flemming Larsen

Thank you. There seems to be quite a bit of harmony on the panel about the success of central banks in stabilising inflation. The notion of a global labour market is tremendously useful in this context. And if you are using that notion and observing, over time, hundreds of millions of additional workers coming on to the labour market, it clearly follows that there must be a dampening effect on global price and wage developments. That is an esential part of the story. Central banks also played a key role in stabilising goods and price inflation, but I would still challenge the panel on the issue of whether central banks have so far fully come to grips with the challenges faced as a result of the globalisation of our economies.

Clearly, if you used the traditional yardstick of wage and price inflation – yes, you could say that you have been very successful. But, it could also be argued that, because of globalisation and technological changes, your traditional yardstick, or compass, has been influenced to quite a large extent by factors beyond your control. You may therefore have been put into a situation where you have felt that the inflationary pressures were under better control than they actually were because in this new world, the inflationary pressures tend increasingly, so it appears, to show up in asset markets.

So the question is whether in this new world you may not need to reconsider what your compass should be and how you should behave in a situation with rapidly rising asset prices, even when goods and price inflation may appear low and under control. How should you behave? Should you simply maintain an easy stance of monetary policy, as for example in Japan in the late 1980s or in the United States not so long ago? I don't have the answer to what you should be looking at instead, or precisely what you should be doing. But I am not quite comfortable that you have demonstrated that you have found the answers to the challenges you are facing in this new world.

William White

You made the valid point that globalisation can't be responsible for this reduction in inflation because the timing is wrong – the globalisation came later but the reduction in inflation really started in early 1980s. That's perfectly true, but when we talk about central bank credibility, there is also another timing problem. Look at the stance of monetary policy, certainly in the major industrial countries and in many of the emerging markets as well, since the mid-1990s: we have had declining real interest rates, we've had massive credit expansion, and the question that really arises is, with at least 10 or 15 years of that kind of history, how did the central banks manage to keep their credibility? And as you can see, my leaning is towards saying: underlining it all, this problem of globalisation has been a very important one in bringing prices down. And if, in an attempt to get the prices back up again, whether in terms of faster real growth in Sweden or avoiding serious downturns in the United States, monetary policy was able to be much easier than it might otherwise have been, then it just contributes to the kind of problems to which Flemming Larsen just referred.

Ulrich Kohli

Thank you. Well, just briefly, on the "has globalisation lowered inflation?" question, I think I would have to side with Ric and Anders, saying that globalisation is a real-side phenomenon, it affects relative prices, real income, the income distribution, and it has very little to do with the general price level. It might have facilitated the pursuit of price stability, but it's certainly not responsible for it; I think it is monetary policy that is ultimately responsible for the lowering of inflation.

But I have another question about the issue of whether the Phillips curve is flatter or not, or whether it's the domestic output gap that matters or not. It has to do with the measurement of the output gap and, in particular, with the fact that potential output becomes a very elusive concept with globalisation. In a closed economy, it is very simple. Potential output is a function of domestic factor endowments and technology. As soon as you have international trade, and certainly globalisation has enhanced international trade, then, as Kazumasa mentioned at lunch, you have the terms of trade impact that really messes up things. So, I think that real GDP is no longer the right reference for the estimation of potential output.

But when you have factor mobility, that's even more complicated because then you have labour mobility internationally. Our experience in Switzerland, for instance, with the bilateral agreements is that we have had a big increase in the foreign component of the labour force. So, if labour becomes a variable input, then it shifts out the production possibility frontier, and you don't know how far. Of course, labour supply is not going to be infinitely elastic because you still have congestion and other restrictions. But you have to wonder what is then the fixed factor. Physical capital is mobile, too, internationally, at least in the long run. I think the biggest impact of globalisation is the international transfer in technology. So, I just wonder, at the end of the day, what is the fixed constraining factor? It might be land, but nobody cares that much about land; it might be public infrastructure; it might be public inputs. But for central banks it really makes the concept of potential output extremely elusive and difficult to measure, and as a result, it is also difficult to measure the output gap.

Kazumasa Iwata

I will start with the last comment by Mr Kohli and the difficulty of correctly measuring the GDP gap or the potential growth rate. This is extremely difficult, and a similar problem applies to the financial market bubble. When the bubble starts to emerge, it is also very difficult to correctly measure the size of the bubble element and the fundamental price element. So, what can we do? We do our best to detect the potential growth rate and the GDP gap. Even though there is still uncertainty, we cannot escape this difficulty. So, this is my reaction to Mr Kohli's comment.

The second one is the comment by Mr Bill White on the financial market implications. If you continue low interest rates for a long period, what is the implication for global financial markets? Also relating to this issue is the extent to which the bubble element appeared. Of course, if we see the credit spread or risk premia unusually narrow, could this imply too much optimism appearing in the economy? In our case, the Bank of Japan has announced a new policy framework with two prospective approaches. One is based on a forecast short-run assessment, and the other is a longer-run assessment of risk. These two prospective approaches have not yet been tested, but I hope we can manage the issue more comfortably than we did in the previous experience.

Leif Pagrotsky

Well, I don't have much to add but a final, provocative view perhaps. The concept of the output gap is so difficult in practice; I don't understand why it is used. Is there such a thing as an end to capacity? Of course not, and if anybody tries to ask a manager of a factory, "Where does your capacity stop?", the answer is, "Never". They can find all kinds of ways to make any plant extremely flexible in terms of quantity, and that means that, although analytically this concept is useful, as soon as you start to use it in practice, it becomes useless, perhaps even counterproductive. So I never use the word, and I don't need to. But when I listen to people using it, I ask a few simple control questions, and I always find that the conclusions disappear. Thank you.

Frederic Mishkin

Let me respond to this in particular. I strongly agree that the concept of potential output is a very very difficult one. It's not only an issue of measurement and doing it in real time, it's that we are not even sure what the theoretical concept really means. The problem here is that you have to have something that pins down the inflation process. Otherwise, you end up with a view of inflation driven by inflation expectations and stop there. But I think the key point here is that, because this concept is so hard to nail down, it means that you cannot rely on it in several dimensions. If you have a strong view that output gaps are reliable measures regardless of what goes on in the inflation process, you think that you're OK when in fact you have a lot of excess capacity. That mistake was a very serious one made in the United States in the 1970s, with a very high cost.

In the United States, we have a dual mandate – so that we talk about price stability and we also talk about maximum sustainable employment. It is reasonable to talk about what price stability means in terms of some kind of quantitative framework. The Federal Reserve has just recently published our projections at three years to give more information about what our view is in terms of a mandate consisting on an inflation rate. On the other hand, when you talk about potential output or potential GDP growth, you have to be aware that it can't be viewed in the same light. They are fundamentally different, and I think that that is the key point.

On some other issues: Bill, the key point that you raised is, when people think about how the war against inflation was run, it was done in the 1980s in the United States because we had a Federal Reserve Chairman who was willing to bring out the baseball bat. And the reason why inflation was reduced in Canada. – I don't know if you were still at the Bank of Canada when [...]

William White: I was responsible!

Frederic Mishkin: You were responsible! Good, OK – even though you are not as fun a guy as the Australians. But it has to be done the hard way. I do think it is true that the environment has been more favourable in terms of the general economic climate, but I don't think that's what's kept the central bankers' eyes on the ball. I think they understood that this is important. They paid a high price to get inflation down and will continue to do so in the future.

However, the benefits of globalisation and having cheap capital have been that we had a lower cost of capital and more investment, and that helped raise productivity. So, I do think it is a real-side phenomenon that has maybe made central bankers' lives easier. But nonetheless, the reason that inflation is under control is because central bankers have committed to doing that. And that's not just because they are good guys; it's because both economic analysis and events on the ground helped convince the public as well as central banks what the right thing to do is.

On asset prices, by the way, my views are very well known on this. I take a very strong view that the central banks should be very concerned about asset prices in terms of what they tell you about the future evolution of the economy, but it is a big mistake for monetary policy to try to focus on them over and above that. Not only from the point of view of making mistakes in policy but, as in the case of Sweden, it led to a very serious problem of communication; it was one of the reasons, I think, that they asked me to do a report on Swedish monetary policy. The parliament hired me along with Francesco Giavazzi to do it, and I think part of it was because of this concern that the communication strategy of the Riksbank had run into trouble exactly on this issue.

Leif Pagrotsky: Not only an information problem, a decision problem [...]

Frederic Mishkin: [...] and decision as well. So, with that, let me conclude our session. I just want to say personally that I miss Palle. He was a very special person, and I know that all of us in this room who knew him will miss him. Thank you.

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[1] Institutional affiliations shown are as of the time of the BIS Conference in Honour of Palle S Andersen (3 December 2007).

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