

## **Rakesh Mohan: New economic geography and monetary policy in a flattening world**

Comments by Dr Rakesh Mohan, Deputy Governor of the Reserve Bank of India, as an overview panelist at a symposium sponsored by the Federal Reserve Bank of Kansas City, Jackson Hole, Wyoming, 24 August 2006.

All the papers presented in the Symposium are available at <http://www.kansascityfed.org/PUBLICAT/SYMPOS/2006/Sym06prg.htm>

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Let me first thank Tom Hoenig and his colleagues for inviting me again to this symposium. It is always a treat to be here in more ways than one: to partake of the rich feast of insightful and interesting papers, illuminating commentaries and discussions, accompanied by the warm hospitality of the Kansas City Fed in this incomparable setting in the shadow of the majestic Tetons.

It is difficult to provide an overview of this rather disparate set of sessions reflecting various facets of globalisation ranging from the new economic geography to monetary policy. Only someone as skilled as Martin Feldstein can do that effectively. As it happens, however, speaking on a personal note, the sequencing of this symposium coincidentally reflects my own evolution as a professional economist. I started out in research and policy as an urban economist, made my way through policy making in industry, trade and fiscal areas; while finally ending up as a central banker in charge of monetary policy. So I will go through a similar sequence in my remarks in this overview, but perhaps spending more time on my first love, urban economics, since that is central to understanding the new economic geography. Depending on the time I may not be able to get past my first love today. In any case I feel more comfortable with my first love than my current marriage to monetary policy!

### **Asian urbanisation: proximity promoting productivity**

Anthony Venables set the stage for this symposium through his succinct presentation on the new economic geography. Among other issues, he focused on the productivity promoting aspects of proximity through the realisation of agglomeration economies from clustering of economic activities in large urban agglomerations. Gene Grossman and Esteban Rossi-Hansberg characterised today's trade pattern as trade in tasks in trying to understand the burgeoning off-shoring trends in production and service activities. I would like to draw your attention to some particular characteristics of Asian urbanisation that have, in my view, contributed to the whole off-shoring process as we now know it – first in terms of merchandise trade in East and South East Asia and later in the outsourcing of service activities for which India has come to attention in recent years.

To begin with, one may note that a key characteristic of Asian urbanisation has been the heavy concentration of economic activities in coastal based urban regions.<sup>1</sup> In fact, Japanese economic growth in the 1950s and 1960s owed much to the conscious strategy of concentrating economic activity in the 500 km Tokkaido urban corridor stretching from Tokyo through Nagoya to Osaka. Douglas Irwin talked about the absence of policy effects in Venables', paper. The concentration of economic activity in this corridor in Japan was policy driven through focused infrastructure investment in the region as typified by the *Shinkansen* - the bullet train. By 1970, 60 per cent of Japan's urban population (and a larger proportion of the economy) was concentrated in this region. This economic concentration economised on infrastructure investment that would have been larger had it been spread out over a larger part of the country. The geographical proximity of different activities gave rise to agglomeration economies that aided rapid productivity growth and also enabled innovation in traditional production processes through the introduction of new systems such as Just-in-Time (JiT) modes of inventory management, great outsourcing of components, and total quality control processes that contributed to the drastic reduction in manufacturing costs that was the foundation of Japan's competitiveness. The more efficient inventory management resulting from JiT, overall supply management, total quality control systems also enabled significant reduction in corporate need for bank financing, leading to significant change in bank portfolios. Furthermore, the Japanese economy

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<sup>1</sup> For detailed discussion see Mohan (2006).

benefited from high savings and investment rates, in excess of 40 per cent of GDP by the late 1960s, a pattern repeated by some of the later star performers of East and South East Asia. Thus high economic growth has been achieved in much of Asia, the main growth story of the latter part of the last century, without significant absorption of foreign savings. It is no wonder then that Raghuram Rajan and his colleagues cannot find correlation between the use of foreign capital and economic growth.

I describe this process at some length to essentially make the point that this was the precursor to today's off-shoring of tasks. The idea of outsourcing components in the engineering industry, particularly the automobile industry, originally emerged in the Tokkaido corridor of Japan where economic distance between suppliers and assemblers was reduced through investments in efficient transportation and other infrastructure. What was traditionally done at one plant location under the same roof got outsourced to many distinct companies located within striking distance in the same region. Thus intra-regional trade in tasks arose: the way the production process was organised in the region locally has now been extended through to its logical conclusion across borders through long distances. If task trade could be done within a region, with the fall in transportation and communication costs it can be done across borders and long distances as well. As Venables mentioned, "the product market effects can be long range – firms in New York may benefit from a large market in California, and reductions in international shipping costs will increase market access for firms from a continent away".

To the extent that a good deal of the off-shoring activity is concentrated in Asia, there are good reasons for it. The strategy of concentrated spatial development in urban concentrations was emulated by the flying geese of Asia mentioned by Venables. The focus of growth in the 1970s and 1980s shifted to the tigers like Singapore, Hong Kong, South Korea and Taiwan. Singapore and Hong Kong being city states naturally exhibited strong natural economic concentration. Furthermore, economic activity got concentrated in Seoul/Pusan in South Korea, and in Taipei/Kaohsiung in Taiwan. By the late 1970s/ early 1980s, 70 per cent of urban population in South Korea was concentrated in the Seoul and Pusan regions. This concentrated pattern of development later spread from the tigers to the cubs, the Bangkok region in Thailand, Jabotobek (Jakarta and its environs) in Indonesia, and Kuala Lumpur in Malaysia. It then moved on to the coastal regions of China - specifically to Pearl River Delta Special Economic Zones and Shanghai. Once again even a large country like China decided to concentrate economic activity in specified coastal regions.

What were the common characteristics of all these regions? First, there was heavy investment in transportation links with rest of the world, such as, airports, ports and communication infrastructure. Second, export oriented outward oriented labor using manufacturing gained prominence while consistently ascending the technology ladder over time.

Did all these lead to a death of distance? Consider the following. An urban coastal corridor emerged from Tokyo to Sydney, through Seoul, Taipei, Shanghai, Hong Kong, Kuala Lumpur, Singapore and Jakarta. If we extend Venables' argument on productivity enhancement through increase in size of urban agglomerations, we can begin to appreciate the productivity effects of this mega urban corridor in East Asia. Business and production linkages within this corridor are intense: there is a great deal of off-shoring and task trade within the corridor resulting from the death of distance. It is the emergence of this corridor that has brought off-shoring into its own with the grafting of these dense linkages within Asia to the outside, particularly to the US. These productivity effects have presumably contributed to the overall downward pressure on prices of products produced in this multi-country Asian region: the globalisation effect on relative prices that Rogoff has talked about.

The various examples given by Gene Grossman and Rossi-Hansberg on the one hand and by Friedman (2004) on the other, mostly concentrate on the interlinkage between these countries and with and within multi-national corporations (MNCs) from the US and Japan. The manufacturing flat world essentially spans the Asian coastal corridor linked with the US. The dense inter-linkages have also been possible because of an unusual degree of openness to external ideas that can be observed throughout the region, particularly through receptivity to high level professionals. Even Beijing is now said to be host to about 100,000 foreign citizens. It is the physical location of these international professionals that has also promoted off shoring and trade in tasks.

What is interesting is how India is somewhat different, but how this difference itself promoted the trade in services. First, the ethos in India was of dispersal of development. In fact, urban concentration was frowned upon and discouraged. Second, as described by T.N. Srinivasan, the import substituting inward oriented manufacturing approach persisted till the 1980s. Third, investment in infrastructure, particularly urban infrastructure was of lower intensity - this includes ports, airports, railways, and

highways. Furthermore, no attempt was made to concentrate activity in coastal areas. Imagine what would have happened if India had developed her East coast in accordance with the East Asia miracle – a point similar to that made by T.N. Srinivasan. Interestingly, metros like Calcutta, Madras and Bombay slowed down in the 1980s and 1990s and became Kolkata, Chennai and Mumbai, while inland cities like Delhi, Pune, Bangalore, Chandigarh and Hyderabad have prospered. Though infrastructure investment in transportation hubs and logistics is finally receiving importance now, biases against labour using manufacturing continue and hence India has still not followed the labour using export-oriented manufacturing strategy that was in vogue in East and South East Asia. What are the features of the cities that have prospered? They all exhibit affinity to high technology, have concentration of higher education, culture of meritocracy, a high knowledge base and research & development laboratories. All that was needed was communication infrastructure, which appeared in the 1990s and Y2K was an added bonus. It was this very lack of investment in transportation and communication infrastructure, both within the country and to the outside world, that has ironically led to these inland cities becoming software off-shoring concentrations. All that was needed was investment in communication and electronic infrastructure that could enable information technology transmission at low cost across the world: again the death of distance for services off-shoring.

If one looks at the pattern of outsourcing in India, one finds that outsourcing of service activities got born in Bangalore and then spread elsewhere. T.N. Srinivasan talked about the relatively slow growth of India's merchandise trade: what he didn't mention is that gross Indian service exports are now almost equivalent to its merchandise exports. Gross exports and imports of merchandise trade and services put together are now in excess of 45 per cent of GDP, and growing at about 20 per cent a year. This figure was just under 20 per cent in 1990-91. There is perhaps no other country which has a similar composition of merchandise and service exports and illustrates the large role of service off-shoring in the flattening world as it extends to India. The openness of the Indian economy is quite high now, even on the capital account as indicated by the large increase in gross capital flows, (*i.e.*, both inflows and outflows), which are now in excess of 25 per cent of GDP.

It is in this way that East and South East Asia have led the way in facilitating the flattening of the world in merchandise trade and trade in associated tasks, and India's different pattern of development to the outsourcing of information technology activities that have enabled wider trade in services. The flat world therefore extends from the United States through East and South East Asia to India. The distinction I have made between the merchandise trade and that in services is now getting blurred as East Asian countries also partake in information technology outsourcing and as Indian firms get their act together in manufacturing.

### **Where do we go in the future?**

What of the future role of Asia in the flattening world? What are the implications of on going Asian urbanisation patterns on the future direction of capital flows and world real interest rates? Let me address some of these questions in a futuristic scenario.

Asian urban population is expected to double in the next 30 years; about 1.3 billion people, equivalent to about 60 per cent of total expected urban population growth in the world, and equivalent to the urban population growth in Asia that took place over the last 50 years, are likely to be added to urban areas in Asia during this period. 12 of 21 cities of over 10 million by 2015 will be in Asia. So the doubling of the global labour force talked about by Venables will accelerate adding to the further flattening of the world, especially if we take account of the resurgence of Eastern Europe and Africa as talked about by Svejnar and Collier. If large urban agglomerations promote productivity growth, as posited by Venables, the shift in the mega city fulcrum to Asia is itself suggestive of relatively higher productivity growth in this region. Since Asia is still a technology follower, with much catching up to do, the potential for further significant productivity growth is high, and hence the likelihood of continuing low inflation in the world.

Chairman Bernanke has earlier talked about the savings glut. Since world savings haven't really grown since the late 1990s, while investment has fallen, particularly in Asia after the 1997 financial crisis, he could perhaps have talked instead about the investment drought in Asia. The relatively higher decline in investment in Asia, compared to savings rates, has probably contributed to the emergence of foreign exchange surpluses, and consequent rapid accumulation of foreign exchange reserves, after the 1997 Asian crisis. The mirror image, of course, is the US current account deficit, reflecting its opposite savings/investment imbalance. The question is whether the Asian relative investment drought will continue well into the future?

The expectation of urbanisation in Asia in the next 30 years in India, Pakistan, Bangladesh, Vietnam, Indonesia and China would suggest that there will be unprecedented demand for investment in infrastructure in the coming decades in this region. Chinese infrastructure investment is shifting inward from the coast: this may be less efficient than on the coast and hence the demand for resources could well be correspondingly higher. Although India and other countries in South and South East Asia may concentrate investments more towards the coast, the backlog of infrastructure investment in India is so high that its demand for resources can be expected to be correspondingly higher.

The question that I am concerned with is whether regional savings will be adequate for meeting this demand as they have been in the last decade. Will the globalising world face the opposite of a savings glut or investment drought? With the kind of urbanisation pattern that I have outlined for Asia in the next 30 years, and the associated demand for enhanced resources for infrastructure investment, it is likely that the demand for external savings will re-merge. If we add the possible emergence of similar demand from Africa, the likelihood is that we will revert to the traditional pattern of financial capital moving in the right direction, from the rich to less rich countries in Asia and also in Africa. If Raghuram Rajan repeats his correlation exercises in 2030 he might emerge a happier man. This will, however, coincide with the adverse demographics of Europe and Japan contributing to contraction of world savings.

Various questions arise. Will we then see a hardening of world real interest rates? What will be the new challenges that we, as monetary authorities, will face in the years to come? How soon will this reversal take place in global imbalances? Will they be gradual or sudden? If this scenario is correct, the commodity price boom that Paul Collier talked about will continue for some time; in which case additional demand will arise from Africa as well. We should, therefore, expect an acceleration of cross border global capital flows, with the usual implication for exchange rate and monetary management in the recipient countries.

Another interesting comment on off-shoring that the Venables and Grossman papers have talked about is off-shoring low skill activities. What is intriguing is that great investment is taking place in human resources in Asia as well: Tokyo has 113 universities, Beijing has 59, and Hong Kong and Singapore are becoming educational centres. US and European educational institutions are competing with each other to off-shore their activities in Asia. So where will this off-shoring stop?

### **Contemporary monetary puzzles**

Much of discussion in this symposium has centered around the rearrangement of economic thinking to take account of the efforts of globalisation and the new economic geography. What have the implications been for central bankers? Rogoff has shown how monetary stability has been accompanied by price stability and output stability, but not asset price and exchange rate stability. He goes on to say that exchange rates do not really reflect fundamentals and act more like asset prices. How do we then look at exchange rates as equilibrating price mechanisms? Does this mean that shifts in the Chinese exchange rate determination will have no effect on other variables? Given the complexity of trade patterns and offshoring of tasks, and complex production patterns behind many products, it would perhaps not be surprising that exchange rates are no longer to be seen to reflect fundamentals. If a product consists of a large number of components that have been produced over a dozen different countries, and even assembled across two countries, how will any bilateral exchange rate changes be expected to affect trade patterns? Moreover, with the proportion of value added in upstream (*e.g.*, research and development and design) and downstream (*e.g.*, marketing and trading) activities increasing, the role of exchange rates in effecting trade flows becomes even more complex. In fact we have seen low pass through of exchange rate depreciation to inflation – both in developing and developed countries.

I would like to reflect on a few other contemporary puzzles as well.

### **Low consumer inflation in the presence of abundant liquidity and increasing asset prices**

First, we have been experiencing low global inflation despite abundant liquidity in the last few years, with little sign of change. Is this a result of globalisation or effective worldwide monetary policy?

Kenneth Rogoff in his paper has argued plausibly that high productivity Asia, particularly China, could not have exported deflation. As he says, "But hyper-competitive Chinese exports only affect the relative price. As long as the central bank targets inflation in the overall price level, which it can over

sufficiently long horizons, cheap goods from China simply imply that other goods must become expensive. From this perspective, we might actually say that China is exporting inflation to other sectors of the global economies". Whereas I naturally find Kenneth's theoretical argument persuasive, is it borne out empirically? The global economy is currently awash with liquidity. As we all know, around eight years ago, the US Fed responded to the 'low probability but highly adverse events' (Blinder and Reis, 2005) leading up to the Russian debt default and the LTCM collapse by an emergency cut in interest rates in September, October and November 1998. Even though the reduction was just 25 basis points each month, it shifted the monetary policy stance to accommodation. Later, prompted by a deflation scare, the fed fund rate was cut over a 42-month stretch from December 2000 to June 2003 to a 45 year low of 1 per cent, taking the real federal funds rate into negative territory. Thus, real policy rates were effectively zero or negative until very recently in the US and perhaps remain below the "Wicksellian" long-term neutral rate. Real policy rates in the UK and Euro area are also generally hovering around zero. Coupled with the benign policy rates, money supply growth has increased worldwide during this period. The policy accommodation pursued until recently by the US and the European Central Bank has had a global impact, flooding the rest of the world with an abundance of liquidity. Low interest rates in the US have encouraged capital to flow into emerging market economies. For the countries that prefer some form of managed parity against the US dollar this has resulted in a large build-up of foreign exchange reserves and excessive domestic liquidity, amplifying the Fed's policy stance. Examination of the data clearly reveals a global glut of liquidity, which has facilitated highly leveraged positions, debt financed consumption and booming credit growth, raising financial stability concerns. The great puzzle in current global developments is indeed the co-existence of abundant liquidity and low consumer inflation. Even soaring oil prices and the elevated prices of non-fuel commodities have yet to affect the overall price level significantly. Such low levels of inflation have not been witnessed since the pre-World War period. So I remain puzzled: is Asia not exporting deflation despite overall increases in global monetary aggregates? Or, will we inevitably see global inflation eventually because of this global glut of liquidity? Or, is the spill over essentially in asset prices?

### **Strong global growth despite soaring oil prices**

The second puzzle is the continuing strong global growth despite high oil and commodity prices. Can we attribute this to increasing oil use efficiency along with productivity effect of globalisation alluded to earlier?

After the oil shocks of the 1970s, the first half of the 1990s witnessed deflationary pressures in terms of real oil prices. However, this lull in oil prices turned out to be short-lived. Soaring oil prices have characterised the period since 2000. Oil prices are scaling new heights every day driven mainly by growing or unchanged demand, low inventories, lack of spare capacity, and geo political tensions and uncertainties. While the accommodating global monetary conditions have placed oil futures in the class of sought-after financial assets, the persisting high levels of oil prices increasingly indicate that a large part of the oil price hike has attained a permanent character. Yet, global growth remains remarkably on track. Indeed, the growth momentum has only improved from the second half of the 1990s to the first half of this decade. The growth in world trade volume (goods and services) has also recovered after some slowdown in 2001 and 2002. Obviously, global activity has benefited from the stunning decline in output volatility observed by Rogoff which would have also cushioned the oil shocks.

### **Slowdown in global saving and investment vs strong global growth**

The third puzzle that I would like to mention is high global growth despite slow down in savings and investment.

Global saving and investment rates have declined in recent years. Notwithstanding the declining saving and investment rates, global growth has continued its surge from period to period. While consumption has arguably played a critical role in the industrial countries' growth momentum, exports might have played a similar role in the emerging markets. The sustenance of consumption as opposed to investment-led growth has thus given rise to new controversies on present *versus* future allocation of resources as also on the relevance of overlapping generation outlooks. Raghuram Rajan and his colleagues attempt to reconcile this phenomenon as they try to explain the role of foreign capital in developing countries.

Once again, this unusual phenomenon can presumably be explained by the productivity increasing pattern of the current Asian growth process, coupled with the positive Asian demographic effects promoting both consumption and investment growth. Thus, high growth is continuing from resource availability due to demographically effected Asian savings patterns, along with positive productivity effects. The resource diversion due to rising oil and commodity prices is accordingly being compensated.

I therefore feel that, in whichever way we characterise the current new phenomenon: globalisation, the flat world, or as the new economic geography, economics faces now questions that still need to be answered. We central bankers have benefited from "the great moderation" but we need to understand better to what extent we have been responsible for this fortunate turn of events. I hope that the Kansas Fed will continue to organise such meetings to address these continuing puzzles.

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