Alan Greenspan: Productivity

Speech by Mr Alan Greenspan, Chairman of the Board of Governors of the US Federal Reserve System, at the US Department of Labor and American Enterprise Institute Conference, Washington, D.C., 23 October 2002.

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The increase in nonfarm business output per hour over the past year will almost surely be reported as one of the largest advances, if not the largest, posted over the past thirty years. We at the Federal Reserve, along with our colleagues in government and the private sector, are struggling to account for so strong a surge. We would not be particularly puzzled if the increases in output per hour were occurring during a period of very rapid economic growth, such as has often attended recoveries from steep recessions. Historically, such recoveries have allowed overhead and maintenance employee hours to be spread over a rapidly increasing level of production. But during the past year we averaged only modest economic growth.

The reported estimates of output per hour do not appear to have resulted principally from faulty data or measurement error. Whether output is measured from the expenditure side or from the independently estimated income side of the national accounts, and whether hours of work are measured from the survey of establishments or the survey of households, the same basic result is clearly evident: an impressive gain in output per hour over the past year. This conclusion is buttressed by recent sizable increases estimated for labor productivity for the manufacturing sector, derived from a data system that, for the most part, is independent of the national accounts.

To be sure, because the productivity feast of recent quarters has been so difficult to explain, many analysts expect a productivity famine in the period ahead. Others, however, are not so pessimistic. Regardless of how events unfold, we will need to confront difficult questions posed by the recent performance of productivity, if we are to properly evaluate economic developments going forward.

Indeed, if the recent surge in measured productivity is not a statistical mirage, or if it is not expunged by data revisions, then we need to ask about its possible causes.

Clearly, over the past year corporate managers, confronted with tepid demand and a virtual disappearance of pricing power, have struggled to maintain profit margins. With price increases largely off the table and demand soft, lowered costs have become the central focus of achieving increased profitability. On a consolidated basis for the corporate sector as a whole, lowered costs are generally associated with increased output per hour.

Much of the recent reported improvements in cost control doubtless have reflected the paring of so called "fat" in corporate operations--fat that accumulated during the long expansion of the 1990s when management attention was focused primarily on the perceived profitability of expansion and less on the increments to profitability that derive from cost savings.[1] Managers, now refocused, are pressing hard to identify and eliminate those redundant or non-essential activities that accumulated in the boom years.

Now, with margins under pressure, businesses effectively have been reorganizing work processes and re-allocating resources so as to use them more productively. Moreover, for capital with active secondary markets, such as computers and networking equipment, productivity may also have been boosted by a reallocation to firms that could use the equipment more efficiently. For example, healthy firms reportedly have been buying equipment from failed dot-coms.

Businesses also may have managed to eke out increases in output per hour by employing their existing workforce more intensively. Unlike cutting fat, which permanently elevates the levels of productivity, these gains in output per hour are often temporary, as more demanding workloads eventually begin to tax workers and impede efficiency.

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1 There are those who point out, quite correctly, that a significant part of the output of the late 1990s was wasted in a misallocation of capital to pie-in-the-sky ventures. But that output was misused does not subtract from the evident capacity to produce that output, and it is this that our measures of structural productivity attempt to capture.

Perhaps the return to a low-inflation environment in recent years in itself explains the intensification of competitive pressures, which has been a spur to the growth of productivity. Indeed, the data do suggest a relationship between inflation and productivity growth over the long run. But that statistical relationship is modest at best and inferring causality is complicated by a circularity that arises because increased growth in output per hour depresses unit labor costs and, hence, prices.

Taken at face value, historical relationships suggest low inflation would explain very little of the most recent surge in output per hour. To be sure, while lack of pricing power and associated competitive pressures may have initiated much of the cost cutting and organizational changes that have occurred, it will ultimately be the quantity of fat in the system and the opportunities for productive reorganization that will determine the potential gains in productivity.

Only in retrospect, if then, will we be able to ascertain how much of the past year's elevated growth in output per hour was transitory--that is, growth that resulted from cutting of fat, reorganizing operations, and more fully exploiting technologies already embedded in the existing capital stock. Such improvements, even though they are long-lasting, are, of course, a level adjustment with no necessary implications for productivity growth going forward. Moreover, there is an upper limit to the amount of output that can be produced from an existing facility, even in the short run, no matter how intensively it is employed and how much fat is taken out of the system. Corporate management can not unendingly reduce cost without at some point curtailing output or embodying new technologies through investment to sustain it.

The recent upsurge in the growth of output per hour has understandably renewed interest in the relationship between investment and so-called adjustment costs. Firms do not necessarily reap the full benefits of their capital investments immediately because of the disruptions to activity that can be initially created when new equipment is installed; these disruptions may include learning to use the new equipment and software or getting the new machines to mesh with existing systems. Thus, although capital investment ultimately boosts output per hour, these adjustment costs temper the initial benefits to increased production obtained from new investment.

It is likely that as capital spending fell over the past couple of years, so did the disruptions that accompanied its installation. Moreover, the dislocations associated with the substantial investment of the late 1990s and 2000 also likely were waning. This lower level of disruption provides a boost to growth in output per hour for a time. How much remains an open question. The quantitative evidence on the magnitude of this effect spans the range from significant to small.[2]

The ability of businesses to boost productivity with what seems to be minimal new capital investment over the past two years suggests that output per hour growth in the later years of the 1990s likely trailed the growth in underlying productivity in those years. If this inference is accurate, part of that earlier growth in underlying productivity is being reflected in today's gains in output per hour.

The difficulty in explaining the recent past is most evident when we decompose gains in output per hour into the contribution from changes in worker quality, the amount of capital used by workers--that is, capital deepening--and the contribution from all other factors, a notion that economists label "multifactor productivity." By definition, multifactor productivity includes technical change, organizational improvements, cyclical factors, and myriad other influences on output per hour, apart from capital investment. With capital spending sluggish over the past year, and no evident acceleration of worker quality, it is likely that growth of multifactor productivity accounts for an appreciable portion of the rise in output per hour.

Based on historical experience, it seems improbable that all of the large rise in multifactor productivity could be attributed to cyclical or transitory factors. Conversely, it seems very unlikely that all of the increase in the growth of productivity could be attributed to structural influences. The truth, presumably, lies between these two extremes, but where has yet to be determined. At minimum, however, it seems reasonable to conclude that the step-up in the pace of structural productivity growth that occurred in the latter part of the 1990s has not, as yet, faltered.

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2 Susanto Basu, John Fernald, and Matthew Shapiro, in their paper "Productivity Growth in the 1990s: Technology, Utilization, or Adjustment?," *Carnegie Rochester Conference Series on Public Policy,* (April 2001) pp. 117-165, find significant effects. Frank Lichtenberg, in his paper "Estimation of the Internal Adjustment Costs Model Using Longitudinal Establishment Data," *Review of Economics and Statistics*, vol. 70 (1988), pp. 421-430, finds much smaller effects.

Indeed, high growth of productivity over the past year merely extends recent experience. Over the past seven years, output per hour has been growing at an annual rate of more than 2-1/2 percent, on average, compared with a rate of roughly 1-1/2 percent during the preceding two decades. Although we cannot know with certainty until the books are closed, the growth of productivity since 1995 appears to be among the largest in decades.

Our nation has had previous concentrated bursts of technological innovation. In those instances, business practices slowly adapted to take advantage of the new technologies. The result was an outsized increase in the level of productivity spread over a decade or two, with unusually rapid growth rates observed during the transition to the higher level.

For example, as the benefits that attended the development of the electric dynamo and the internal combustion engine more than a century ago became manifest in both the capital stock and the organization of production, the growth of labor productivity surged. From an average annual rate of 1-3/4 percent in the late nineteenth and early twentieth century, it jumped to a 3-3/4 percent rate in the decade following World War I. Subsequently, productivity growth returned to a 1-3/4 percent pace. Then, for the quarter century following World War II, productivity growth rose to an average rate of 2-3/4 percent before subsiding to a pace of 1-1/2 percent annually from the mid-1970s to the mid-1990s.[3]

Arguably, the pickup in productivity growth since 1995 largely reflects the ongoing incorporation of innovations in computing and communications technologies into the capital stock and business practices. Indeed, the transition to the higher permanent level of productivity associated with these innovations is likely not yet completed.

Surveys of purchasing managers in recent quarters consistently indicate that an appreciable share reports that their firms still have a considerable way to go in achieving the desired efficiency from the application of technology to supply management. If the backlog of unexploited long-term profitable technologies remains high, it should be assumed that once currently elevated risk premiums and the heightened cost of equity capital (and some debt) recedes, or cash flows expand, new productivity-enhancing capital investment will pick up.

Further evidence that firms still have not fully adapted their operations to the latest state of technology also is provided in a recent study[4] that attempts to measure the "technological gap"--that is, the difference between the productivity of leading-edge capital and the average productivity embodied in the current capital stock. This gap is estimated to be quite wide currently, which suggests that there are still significant opportunities for firms to upgrade the quality of their technology and with it the level of productivity.

The paper presented by Stephen Oliner and Dan Sichel this morning also provides a basis for arguing that a significant portion--and possibly all--of the productivity revival of the mid-1990s is sustainable. Based on an analysis of a multisector growth model, their work suggests that a range for sustainable growth in labor productivity over the next decade is 2 percent to 2-3/4 percent per year. Jorgenson, Ho, and Stiroh use a similar methodology and find a range from a little less than 1-1/2 percent to about 3 percent with a central tendency of around 2-1/4 percent.[5]

These estimates are clearly plausible, but history does raise some warning flags concerning the length of time that productivity growth continues elevated. Gains in productivity remained quite rapid for years after the innovations that followed the surge of inventions a century ago. But in other episodes, the period of elevated growth of productivity was shorter. Regrettably, examples are too few to generalize.

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3 In contrast to the boom in productivity after World War I, which many economists associate with a few key innovations, analysts usually ascribe the post-World War II boom to innovations in many sectors reflecting the diffusion through the private economy of (a) new technologies that appeared in the 1930s but were not fully implemented during the Depression, and (b) a gradual application to civilian activities of military-related innovations. Sectors with major innovations included electronics, chemicals, pharmaceuticals, and transportation (jet travel).

4 Jason G. Cummins and Giovanni L. Violante, "Investment-Specific Technical Change in the United States (1947-2000): Measurement and Macroeconomic Consequences," *Review of Economic Dynamics,* vol. 5 (April 2002), pp. 243-284.

5 Dale W. Jorgenson, Mun S. Ho, and Kevin J. Stiroh, "Projecting Productivity Growth: Lessons from the U.S. Growth Resurgence," Federal Reserve Bank of Atlanta *Economic Review,* Third Quarter 2002, p. 1-13.

Hence, policymakers have no substitute for continued close surveillance of the evolution of this current period of significant innovation.

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In summary then: given the difficult adjustments that our economy has been undergoing, long-term productivity optimism may currently seem a bit out of place. It may appear even more so in the months ahead should output per hour soften following this period of outsized gains. Nevertheless, it is both remarkable and encouraging that, despite all that has transpired over the past couple of years, a significant step-up in the growth of productivity appears to have persisted.

William J McDonough: Promoting financial resilience

Remarks by Mr William J McDonough, President and Chief Executive Officer of the Federal Reserve Bank of New York, at the Cato Institute's 20th Annual Monetary Conference on "International Financial Crises: What Role for Government?" cosponsored with The Economist, New York, 17 October 2002.

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- Good morning. It is a pleasure to have the opportunity to join you on the occasion of this timely conference, and to share with you my thoughts on promoting financial resilience.
- Despite the fact that periodic surges in volatility are a fact of life in financial markets, I think there is general acknowledgment that recent years have been extraordinary in this regard. This has been a period of historic change and remarkable volatility in markets, going well beyond the emerging markets, and carrying with it important implications for political, social, and institutional stability in significant segments of the globe.
- The experiences of recent years have reinforced old lessons and brought home new insights about maintaining financial stability and sustained growth. In particular, a broad consensus continues to develop on ways of strengthening the institutional framework at the national and international level to create more robust, and thus more crisis-resistant, economies. There is general agreement that in order for countries to enjoy sustained and stable growth, the following are crucial:
    - ❑ a sound and stable macroeconomic environment, and
    - ❑ well-functioning and robust financial systems in both capital-exporting and capital-importing countries.

Moreover, both of these are most effective when supported by a dynamic and adaptive policy regime.

- The simple reality is that countries with robust financial systems, strong fiscal accounts, low inflation, credible and coherent monetary and exchange rate policies, moderate external and internal indebtedness, reasonable current accounts, and adequate domestic savings rates are less likely to be buffeted by financial and economic turbulence. Moreover, when shocks do occur, such countries tend to be far more resilient.
- There is also considerable agreement on many of the elements needed to achieve these goals. This agreement has been reflected, in part, in the development and promulgation of globally accepted standards and codes for best practices in areas ranging from transparency in fiscal, monetary, and financial policies, to public debt management, and core principles for bank supervision. Guiding themes across these various standards have included the importance of consistent disclosure practices and of building stability up from the firm and sector level. The latter is accomplished by encouraging sound risk management and stronger balance sheets, and creating efficient systems of market, legal, and regulatory discipline.
- But the learning process continues. For example, in this country, recent experiences have brought to light the need to do more to strengthen corporate accounting and disclosure standards, particularly with regard to guarantees and complex financial arrangements, such as those funded offshore or through special-purpose entities.

- Our ongoing efforts to revise the Basel Capital Accord also reflect a learning process. We embarked on this voyage in the late 1990s because we realized that the original 1988 Basel Accord had been overtaken by advances in the financial sector – and in the broader economy. While the 1988 Accord represented an important advance, new technology, the globalization of financial markets, and innovative financial products and services have changed the way that banks monitor and manage credit, market, and operational risks in a manner that the 1988 Accord could not anticipate and does not address.
- To ensure that the New Accord remains flexible, forward-looking, and appropriate for the risks and capital needs of internationally active banks of the twenty-first century, the Basel Committee established several goals for its work, goals that the industry has embraced.
  - First, we intended to develop a framework that encompasses the "three pillars" necessary to support an effective system of regulatory capital: the appropriate measurement and minimum requirements, supervisory review, and market discipline.
  - Second, we wanted to align the minimum requirements more closely with the actual underlying economic risks to which banks are exposed, which should help allocate capital resources effectively.
  - A third goal was to encourage banks to refine their measurement and management of risk over time. By creating incentives in the New Accord for banks to re-evaluate and enhance their tools constantly, we expect that banks themselves will adopt a forward-looking perspective on risk.
  - I'm pleased to say that, through the Committee's efforts and the cooperation and support of other supervisors and the industry, it appears that the proposed framework will attain each goal. We can now count them among the milestones we've achieved.
- However, though we have covered quite a bit of territory over the past three years, the last miles of any marathon are the toughest to finish. I'd like to turn now to the status of the New Accord and of the issues we are still resolving.
- Since the Second Consultative Document's release 21 months ago, the members of the Basel Committee have worked collaboratively and publicly with supervisors, banks, and others to revise the proposals so that they best serve the needs of modern banking. We've published and discussed thousands of pages of proposals and studies with the industry and the public. I'd like to share with you the latest news on how we are resolving the key challenges and concerns that have surfaced in this process.
- One general issue raised is that the New Accord's increased sensitivity to risk will reinforce procyclical behavior by banks, leading to increased cost of credit during cyclical downturns. While we are working to address this concern, I would note that banks already are expected to operate above minimum capital requirements, manage to their economic capital needs, and evaluate how their risk profiles may change over time. Along those lines, the Committee recently agreed that banks adopting the "internal ratings based" approach to credit risk will be required to conduct appropriate credit risk stress testing, which should help to contain procyclical behavior.
- Another concern raised about Basel II is its complexity. If the New Accord is to be more risk-sensitive, however, it must involve an irreducible degree of complexity, which parallels the changes in bank practices and market instruments. Indeed, some of this complexity stems from the various options the New Accord provides to address the wide range of risk profiles, strategies, and systems that banks maintain.
- The treatment of operational risk has been a more specific area of concern. While operational risk cannot be quantified with the same degree of precision as credit or market risk, the Committee believes that introducing a separate charge for operational risk will bolster efforts to find better ways to address it. In this vein, we have seen encouraging progress in operational risk measurement, although we recognize that the industry has not settled on particular methodologies or principles. Accordingly, the New Accord will permit an unprecedented amount of flexibility to accommodate a spectrum of approaches to

operational risk. Toward that end, under the "advanced measurement approach," the most sophisticated institutions will be free to experiment with a great variety of methodologies.

- The Basel Committee expects that we will achieve our goal of not raising in aggregate the capitalization required of the banking industry, though clearly and appropriately those banks that engage in higher risk businesses may see their requirements rise, and vice versa.
  - To help ensure this, the Committee launched its third Quantitative Impact Study on October 1, 2002, involving, to date, 265 banks from nearly 50 countries. The banks will assess how the proposals will affect them and submit their findings by December 20, 2002. These results will allow us to ascertain the need for adjustments prior to the release of an updated proposal for public comment in the second quarter of 2003, followed by finalization of the New Accord in the fourth quarter of 2003, and implementation at year-end 2006.
- While much work clearly remains to be done over the next three years - including evaluating banks' readiness, training supervisory staff, and working towards consistent implementation across supervisors - in my view, both the journey and the ultimate destination of a New Accord will contribute substantially to a more resilient international financial system.
- Unfortunately, while there is a deepening consensus on key elements about how to promote resilience ex ante, there is no comparable degree of consensus on how best to handle international financial crises once they do erupt, or the proper roles of public institutions and the private sector in containing and resolving such crises. Notwithstanding considerable efforts at the public and private level to search for a better way, no magic bullet or formula has been found, although at times some have been asserted.
- Nor is one likely to be available. Experience and a reading of the historical record suggest that the seductive allure of grand solutions must be resisted. Cases differ greatly with respect to what is possible and desirable in terms of their implications for the interests of the public and private sectors. Moreover, history tells us that new developments in markets and practices quickly will render obsolete those measures that might seem well attuned to today's circumstances.
- Allow me to explain how I think progress can be made by first focusing a bit on the problem that confronts us. I would like to highlight some of the important changes that have taken place over the past two decades in the patterns and instrumentation of capital flows to the emerging world, and in the nature of crises that can arise associated with these flows.
  - First, it is important to keep in mind that the constellation of investors and the range of instrumentation have broadened considerably over the past two decades. Equity investors (both direct and portfolio) are now the principal source of net inflows for emerging market countries, and most medium-term debt is held in tradable form by a broad array of diversified, well-capitalized, fixed-income investors.
  - Second, there have been equally important changes in the destination of flows. Reflecting the predominance of private-to-private flows since 1990, today sovereign foreign debt often represents only a relatively small part of maturing debt in crisis cases. Most maturing debt is owed by private borrowers and/or is locally issued.
  - Third, the context has been fundamentally altered by broad institutional change. Accounting, regulatory, technological, communications, and structural market changes have fostered an environment characterized by mark-to-market accounting and much more liquid and actively managed balance sheets. Investors are focused on financial performance, and on their fiduciary responsibilities to their largely private clients and shareholders, rather than on long-term strategic relationships with sovereigns. Today this is as true for banks, which remain important providers of credit, as it is for other providers of capital.
  - Last, the new environment entails new and complex linkages - - between domestic and international markets, and within and across countries - - reflecting the internationalization of local banking, equity, debt, and currency markets, and the greater complexity of funding structures.

- This new environment has important implications for policymakers and market participants alike. Let me comment on just a few:
- On the negative side, crises are more complex and unfold much more quickly and with surprising dimensions. Variable and often highly interdependent cross-market developments are often critical in the evolution of a given case and its implications for others. Indeed, many of the more recent crises were triggered by problems in domestic banking, currency, and debt markets that then spread to the capital account. Also, in today's environment, the fear of an event often is the event itself, because of the inherent tendency of markets to anticipate developments and overreact.
- But on the positive side, financial recoveries can proceed more rapidly in today's environment, particularly with the right policy responses from borrowers. In part, this reflects the fact that today's market participants generally have the capacity - - and many have little choice, under mark-to-market accounting - - to digest losses and move on. The broader sourcing of capital today also gives more scope to the possibility that, while some investors may withdraw, others may take their place. The caveat here is that the well not be poisoned through unnecessarily broad or heavy-handed approaches, a point I will return to later.

- What is the right way to deal with this changed and changing environment? In my view, the solution is neither a single piece of financial engineering nor a compact between the official lenders and private creditors. Rather, it is a process incorporating a number of elements. Essentially, I would suggest that our current case-by-case approach to crisis management needs to evolve in ways that are **market-based and adaptive, yet strategic, creative, and principled.**
- Being successful in today's environment requires adapting to the particularities of the case at hand, as well as the global financial and economic context, and requires seeking, as far as possible, to work with the grain of a given situation. The approach needs to be **market-based**, in part because that is what the game is all about. Today, the relevant considerations for crisis management relate more to markets and the problem of restoring market confidence, than to individual borrowers and creditors.
  - To the extent that systemic concerns pertain, they more often relate to the risks of market disruption and over-adjustment than to potential domino effects caused by the failure or impairment of key institutions. Also, in today's environment, a market-based approach is much more feasible, because financial recoveries can proceed more rapidly than in the past.
  - To be more specific, in my view, although much has been made of the difficulties in achieving debtor workouts, the truly thorny issues associated with emerging market financial crises usually relate to the following:
    - containing the fallout to domestic financial systems and to local consumer and investor confidence,
    - minimizing contagion and spillovers to other cases and markets,
    - maintaining or restoring market access, particularly for private sector borrowers, and,
    - most importantly, encouraging policy reform so that a given crisis falls as closely as possible to the liquidity, rather than the solvency, end of the spectrum.
  - Working with the grain means recognizing the realities and limitations inherent in the current market structure and its functioning, and tailoring approaches to the specifics of individual cases. This involves acknowledging that attempts to impose solutions from outside are unrealistic and potentially counterproductive. Instead it involves identifying ways to induce and encourage desired behaviors. I would also suggest that it means avoiding departures from normal market functioning whenever possible. Interventions should seek not to override or suspend market functioning, but rather to guide market processes.

- This is not to say that payment suspensions always can and should be avoided, or that ever-larger bailouts are desirable or feasible. I would note that we at the New York Fed in numerous instances, spanning several decades, have worked to help borrowers and creditors find mutually beneficial solutions that involved some degree of concerted or coordinated financing.
- But in such instances, when payment interruptions or resort to concerted financing truly are unavoidable, experience has shown that minimalist approaches - - where only certain payments are suspended or delayed, and only when absolutely necessary - - generally offer the best prospects for minimizing spillover effects and for restoring market access rapidly.

- The linchpin of a market-based, minimalist approach has to be a strong policy response on the part of the country in crisis. Markets may not always be reasonable, but they usually have reasons for reacting adversely. Those reasons most often relate to policy or institutional shortcomings. Across all of the episodes of market distress in the emerging world over the past two decades, an essential element of heading off or minimizing damage from a crisis has been policymakers showing that they "get the message" about the need for reform, and are prepared to take appropriate measures.
  - In this regard, the comparative advantage of the international public sector is in guiding economic and financial policy, and fostering the conditions that will facilitate the restoration or maintenance of voluntary credit and investment flows. IMF support should provide an unambiguous signal of the international community's confidence in the capacity of crisis-affected countries to take the measures necessary to restore economic health.
  - This role is particularly important in unfolding crisis situations, because borrowing country authorities too often are slow to recognize the full dimensions of the policy challenges confronting them, and the private sector is ill-equipped to deal with this.

- A case-by-case approach by definition is supremely tactical, but it also needs to be **strategic** in orientation if it is to be successful in the longer run. I would like to highlight several ways in which the case-by-case approach needs to be strategic.
  - First off, strategy needs to be informed by a long-run view about the case at hand. The emphasis should not be merely on "working out" the problems at hand, but on "working through" them. The latter orientation focuses attention beyond the current circumstances to the restoration of growth, access to capital, and normal market functioning, recognizing that *workouts are but one of several means to that end, not an end in themselves.*
    - We should not forget that a crisis is not over when capital outflows have been halted and prices stop falling. Emerging market economies depend on sustained and predictable access to international capital market and bank credit, and economic recovery and restoration of growth depend on confidence being reestablished, so that the necessary financing, beyond emergency lending, can be obtained.
  - Secondly, we in the public sector would be well served to maximize the complementarity between efforts to prevent crises and efforts to contain and resolve crises when they do arise.
    - The consensus on sound preventative policies includes precepts that public sectors should limit the scale of their involvement in the domestic economy, and that borrowers, public and private, should be encouraged to follow best practices in the management of their liquidity, foreign exchange, and credit risk. Indeed, as I discussed earlier, this is the essence of what we are trying to do under the revised Capital Accord. Moreover, countries are being encouraged to strengthen their legal and regulatory regimes for insolvency

resolution to deal more effectively with cases when private sector borrowers and lenders get it wrong.

- Progress in these areas, even if only incremental, will have important implications for what is possible and necessary in the future. For example, having stronger bank and corporate balance sheets, with lower leverage, expands the scope for using interest rates and asset price adjustments as stabilizing devices. Better liquidity management at both the micro and macro levels - - longer maturities, and greater reserve coverage and back-up financing - - will create margins to ride out financial shocks. And more effective insolvency regimes would make decentralized workouts more feasible, particularly in cases where systemic stress is better contained.

- The approach to crisis management and resolution also needs to be **creative**. In part, this can be accomplished by relying as much as possible on the efforts of debtors and private creditors to work things out on their own. The perception in some circles that private creditors are not interested in resolving payment problems expeditiously is mistaken, and stands at odds with recent experience. If nothing else, investors are interested in restoring liquidity to debt instruments in order to move on to new opportunities. There is also scope for exploring creative market-based ways to lever in private participation and stretch the impact of public sector funds.

  - The various experiences since the late 80s with buybacks, partial guarantees, and debt exchanges provide some hints for how targeted deployment of public moneys can spur tendencies in a direction consistent with public policy goals. Such creativity is essential if we are to get beyond stark and unpalatable choices entailing either massive bailouts or sweeping defaults.

- Finally, a successful market-based, case-by-case approach also needs to be **principled**. I would suggest that the *essence of an effective case-by-case approach is the development of viable plans that link broad, generally acceptable principles to the particulars of a given situation*.

  - To achieve this, a clearer and more transparent articulation of the public sector's objectives is necessary. Greater emphasis and clarity are needed as to the purposes and limits of public intervention, and the extent to which those interests warrant different degrees, modes, and timing of public and private sector involvement, depending on the particular country and circumstances. In this way all parties will be better placed to understand current developments and how the international community might react to future strains.

- There are, of course, other points of view. In particular, it has been suggested that an early recourse to broad suspensions of debt service, perhaps amplified or reinforced by capital controls, would increase the manageability of crises and enhance predictability.

- My reading of the record convinces me that trying to preemptively override market processes would do the opposite. Let me share a few thoughts with you on this point.

  - The desire for certainty and control which seems to underlie such proposals is understandable, as it appears to offer the promise of using less public money, and seemingly entails less risk that creditors will be bailed out for poor credit decisions. But the control and manageability that might result may be more seeming than real.

  - For one, a perceived disposition to preemptively lock the door seems likely to send investors heading for the exits all that much sooner. As a result, many avoidable crises soon may become inevitable. And the problem of contagion, whereby difficulties in one case spread to many, would seem likely to worsen.

  - Moreover, a perceived weakening of the international community's commitment to voluntary, market-oriented approaches and its support for honoring contractual commitments would likely create deep distrust, making it harder to encourage cooperation between debtors and creditors in ultimately resolving the crisis.

  - An overly quick recourse to payment suspensions also risks discouraging precisely the types of flows that we should wish to encourage, that is, longer maturities with better risk-sharing characteristics, such as long-term bonds and equities. In a crisis, the hottest money leaves first - - by definition. It seems counterproductive to seek to penalize those who stay.

- Finally, I would suggest that preemptive attempts to "freeze markets" also undermine market discipline of, and ownership by, the local authorities.
  - Increases and decreases in financial flows - - and the fluctuations in pricing that naturally accompany positive or negative trends in policies and economic and financial performance - - are a reflection of, and act as a natural brake on, the development of imbalances.
  - But an assertion of control by the international community risks diverting attention from the policies of the local authorities. As a result, denial and delay, aggravating factors in almost every crisis, may well continue and be exacerbated. And then, as a practical matter, once market processes have been stopped, how and when do you get things started again, particularly if needed corrective policies still have not been convincingly and transparently implemented?
- To sum up, I believe the one-size-fits-all disposition inherent in a preemptive approach risks making situations much worse than they need to be. The only thing that strikes me as predictable under such an approach would be that market access would be harmed across the board. Just as bailouts risk encouraging too much risk taking, efforts to orchestrate preemptive bail-ins may encourage too little.

- Underlying the suggestions that I have made is a firm belief that the success of our approaches to crisis management needs to be viewed and assessed with a wide focus. Certainly, there is the question of efficacy in containing the crisis at hand, and the balance between this and the costs, actual and potential, to the public sector. But we also must keep in mind the implications for the functioning of the global financial system in the near and medium term. This requires consideration of prospects for restoring normal market functioning and access, and the creation of appropriate incentives.
- When difficulties arise, the challenge remains, as always, to encourage and work with countries that are ready and able to implement strong corrective actions and to find financial solutions best suited to both the specific case and the broader functioning of the global financial system. A flexible, case-by-case, managed-market approach, represents the best bet - - and the only realistic option - - for achieving those goals as we face a challenging future.

Thank you.

David Dodge: Economic and financial trends in Canada

Opening statement by Mr David Dodge, Governor of the Bank of Canada, at a press conference following the release of the *Monetary Policy Report,* 23 October 2002.

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Today, we released our October *Monetary Policy Report*, in which we discuss economic and financial trends in the context of Canada's inflation-control strategy.

The Canadian economy has been expanding strongly so far this year and is now operating fairly close to its full production capacity. Consumer price inflation has risen above the 2 per cent target and is expected to rise further before year-end because of high oil prices and a number of other relative price movements. What is important for monetary policy is that these one-off influences on specific prices not feed more generally into price and wage inflation.

The Canadian economy has grown more rapidly than those of all other G-7 countries over the past year. Annualized growth exceeded 5 per cent in the first half of 2002—well above the growth of the economy's potential. We estimate that Canada's economy grew at an annualized rate of about 4 per cent in the third quarter. Thus, we have seen a significant reduction in the amount of excess supply in the economy so far this year.

As we look ahead, global economic, financial, and geopolitical uncertainties are likely to moderate the rate of Canada's economic growth over the next three quarters. Growth should come in at the bottom of, or slightly below, the 3 to 4 per cent range that we anticipated in our last *Update*.

Bear in mind that the output gap is very small. Assuming the uncertainties now clouding the outlook dissipate in the second half of next year, we expect growth to accelerate to above potential at that time, absorbing the remaining small amount of excess supply.

The Bank's core measure of inflation is running above our earlier projections. This largely reflects sharp increases in home and auto insurance premiums and, in Ontario, electricity prices. Core inflation is also being pushed up by strong demand for housing.

All told, core inflation is expected to peak at about 3 per cent by the end of this year. But, as the one-time influences that I just mentioned fade, core inflation is expected to decline in the second half of 2003, provided those one-time factors do not feed into price and wage inflation more generally.

We must remember that the Canadian economy is now operating not far from its capacity. In order to sustain non-inflationary growth, we will need to continue to remove monetary stimulus before the excess supply in the economy is completely absorbed. The pace and extent of this action will depend on the balance of domestic and external developments and on their implications for pressures on capacity and inflation in Canada.

Now Malcolm and I will be happy to take your questions.

Roger W Ferguson, Jr: Productivity growth - a realistic assessment

Speech by Mr Roger W Ferguson, Jr, Vice-Chairman of the Board of Governors of the Federal Reserve System, at the Stockton Lectures 2002, London Business School, London, U.K., 24 October 2002.

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I want to thank Laura Tyson and the other members of the London Business School for inviting me to participate in your Stockton lecture series. As Laura requested several months ago, my topic this evening will be the "new economy" and more specifically the growth of labor productivity. This issue is one of the most studied in macroeconomics, yet it is an area in which obviously far too many puzzles remain. Of course, the usual disclaimer applies to my remarks: I will express my own views, and you should not interpret them as the position of the Federal Open Market Committee or of the Board of Governors.

How--you might reasonably ask--could so many questions remain after so much research on this key topic? The answer--I submit--is not that the productivity of my fellow economists is low or that the economics profession has failed in a key mission. Rather, it is that the underlying sources of productivity growth are very complex. On the surface, the determinants of productivity growth might seem straightforward: factors such as technological progress, capital deepening, and the changing institutional structure of labor and product markets. However, these fundamental determinants shift in importance over time and often do not lend themselves to measurement in the real world. As you know, to measure the hours worked of a lawyer, a doctor, a business school dean, or even a governor of a central bank is easy. But evaluating the quantity of our collective output is much more difficult. Thus, before embarking on any serious discussion of productivity growth, one must recognize the very difficult measurement challenges that we face. Different methods of data construction will yield different answers to important questions. But if we are consistent in our methods, I believe both our aggregate statistics and also microeconomic studies of productivity growth at the firm and industry level can yield important insights.

With that caveat about productivity measurement aside, let me state right from the outset of this lecture that I continue to be cautiously optimistic about productivity growth in the United States. Based on my reading of the data and my understanding of numerous business case studies, I believe that trend labor productivity in the United States accelerated in the mid-1990s. That acceleration reflected several factors not tied to the strong business expansion: notably, an apparent pickup in the pace of technological progress--especially in the so-called high-tech sector--as well as a surge in capital spending by businesses. But other factors were also at work, including well-aligned monetary and fiscal policies that created an economic environment conducive to noninflationary economic growth. In addition, our economy continued to benefit from past actions by the government to deregulate industries. The removal of unnecessary government regulation began more than twenty years ago, during the administration of President Ford, and gathered momentum during the Carter years. It has altered the business landscape. Deregulation allowed, indeed forced, businesses to focus more clearly on a marketplace that had become more competitive, with fewer constraints and increased flexibility.

The Statistical Evidence

I think it would be useful at this point to review what the data actually tell us about the pattern of productivity growth in the United States. From the beginning of 1960 until the fall of 1973, labor productivity in the nonfarm business sector grew about 3 percent per year. Productivity growth then fell to an annual pace of 1-1/2 percent, likely in response to the supply shocks that hit the world economy during that period, higher inflation, a rise in uncertainty about the prospects for future economic growth, and public policy decisions that diverted resources from activities that would have generated more measured output. I should stress that, although I have listed several likely contributors, the ultimate cause or causes of this post-1973 productivity slowdown have eluded researchers. Productivity continued to grow at an annual pace of about 1-1/2 percent from 1973 to 1995. We can divide this period into several subperiods, yet the results are essentially the same: continued gains in labor productivity but well below the pre-1973 pace.

From 1995 to 2001, labor productivity grew at an annual pace of 2-1/4 percent. Research by my colleagues at the Federal Reserve--Steve Oliner and Dan Sichel--sheds some light on the sources of this faster productivity growth. Using a growth accounting methodology, they find that about half the acceleration in productivity can be attributed to capital deepening. As you know, providing workers with more equipment improves their efficiency. At the aggregate level, the high levels of business investment raised the amount of capital per worker and thereby boosted productivity. Also, most of the faster capital deepening reflected spending by businesses on high-tech equipment, mainly computer hardware and software. The other half of the pickup in productivity growth reflected technological innovations in the actual production of computer hardware and semiconductors as well as better management--perhaps assisted by these high-tech investments--of the nation's capital and labor. Oliner and Sichel estimate that, if one consolidates all the influences of high-tech investments, they fully account for the acceleration in productivity over the 1995-2001 period.

The Oliner-Sichel estimates are broadly consistent with the results of most other researchers in this field. I should also note that their conclusions have not changed in any fundamental way since they were first published in 2000. I mention this fact to address the concerns of some observers that recent revisions to the national income and product accounts have changed the evidence on post-1995 productivity growth. The last two annual revisions have indeed lowered output growth, but these adjustments followed several years of upward revisions. To focus on the most recent revisions is natural, but we should not lose sight of the complete record of historical revisions. Research by Board economists--Karen Dynan and Doug Elmendorf--clearly shows that we initially overestimate growth during recessions and periods of economic weakness. But we also initially underestimate growth in recovery periods. Thus, based on the revisions to growth over the past three years, I do not believe that one should presume that future data revisions will whittle away the post-1995 acceleration in productivity.

Microeconomic studies provide corroborating information to the macroeconomic evidence of a post-1995 acceleration in productivity growth. Industry studies indicate a pattern of greater efficiency gains after 1995, and one clearly gets that impression from talking to business leaders. These executives consistently say that, when they have little leverage to raise their prices, the key to boosting profits is productivity growth. Many corporate CEOs cite the more efficient use of information technology as one vehicle for cost saving, and I doubt that anyone would question the assertion that all of us are working "smarter and faster" than we were in 1995. Researchers can and will debate the exact magnitude of that increment to our efficiency, but it was doubtless a key economic development of the past decade and one that will continue to pay dividends in future years.

Having said that I think the post-1995 productivity acceleration was real, let me also assert that we should constantly challenge our assumptions. With the passage of time and the acquisition of more information, we are better able to distinguish between events that have true long-run significance and those whose effects prove fleeting. In that spirit, I am the first to admit that we do not fully understand the boom and subsequent bust that has occurred worldwide in the high-tech sector--especially in the telecommunications area. There apparently was overinvestment in the late 1990s, but we do not yet know the exact magnitude. Furthermore, we don't understand how this overinvestment should be factored into our analysis of productivity growth over this period. It seems straightforward not to count nonproductive capital as part of the productive capital stock. But should we also exclude the value of such equipment from our measures of output as well? These tricky questions are important for us to resolve.

Similarly, I don't think we yet fully understand the role of Year 2000 preparations in either the late 1990s investment boom or the acceleration in productivity. Billions of dollars were invested to fix the Y2K bug, and we don't know how much of that spending was for the replacement of obsolete systems (and hence should be considered as depreciation in measuring the stock of available capital) or for the expansion and upgrading of systems (which, parenthetically, is the assumption we use in all our growth accounting exercises). But although these Y2K remediation efforts were costly and at times painful, virtually all the business leaders I know would assert that the efforts produced significant efficiency gains in the use and management of their information systems. Thus, the net effect of Y2K on our economy is still very much an unanswered question, and I'd like to see the research community systematically assess it.

Current and Prospective Productivity Growth

The cyclical slowing in 2001 and gradual expansion in 2002 have raised a critical issue. That question is: Will productivity growth in the years ahead more closely resemble the substantial gains over the 1960-73 period or the weaker performance of the 1973-95 slowdown? I tend to believe that future growth will most likely follow the 1960-73 pattern, and the most recent record of productivity growth reinforces that view. Productivity is a cyclical variable that typically falls in recessions. However, during the most recent downturn, productivity never declined and instead continued to grow at a fairly strong pace. Moreover, after the tragic events of September 11, many economists feared that the U.S. economy would weaken substantially and that productivity growth would suffer a severe setback as well. In the event, output per hour in the nonfarm business sector has grown in excess of 5 percent over the last four quarters.

How should we interpret this truly extraordinary performance? Cyclical forces probably played some role. After September 11, many businesses sharply reduced their payrolls in anticipation of a slump in demand. But demand continued to grow briskly, and these companies learned to squeeze more output out of a smaller workforce. These efficiency gains likely were facilitated by the capital investments of recent years. Adjusting to new technologies takes time, and it is plausible that such an adjustment process has continued to boost productivity growth in recent years. Although cyclical forces and lags in the assimilation of new technologies have been important, their influence is likely to be transitory. More fundamentally, I believe that the trend in productivity growth has ratcheted up, and this development has been the driving force behind the recent extraordinary productivity growth.

What might be wrong with this assessment? Some analysts have cited the low level of business confidence today and the possibility that it could inhibit economic growth. But sentiment rises and falls, and this period of pessimism, too, will pass. Others contend that productivity growth itself can be a problem because efficiency gains are achieved by a reduction in payrolls, which tends to deflate aggregate demand. I do not want to dismiss the notion that "downsizing" or "rightsizing" can be painful in the short run. It can be. But, this pain is transitory, and ultimately, the faster productivity growth raises real wages, stimulates growth in real incomes, and contributes to an increase in our standard of living.

A third risk, however, is that we will not get a meaningful recovery in profitability. Without such renewed corporate profits, firms will be reluctant to invest in research and development or to purchase new efficiency-improving equipment. In many cases, new technologies are introduced into our economy through capital investment, and the important productivity gains of recent years will not be repeated unless businesses continue to invest in new plant and equipment. Increases in business fixed investment, particularly equipment and software, are unlikely to return to the extraordinary levels experienced in the period immediately prior to the recent slowdown. However, a period of inadequate corporate investment that results in "capital shallowing" rather than capital deepening would almost surely hurt our productivity performance.

I do not attach a high probability to this latter scenario. Although some industries have suffered severe losses and have sharply curtailed their capital expenditures, other sectors have posted growth in earnings and have continued to invest. Thus, in the aggregate, the underlying picture of both corporate profits and capital spending is not as bleak as the experiences of some industries might suggest. Indeed, as measured in the national income and product accounts, economic profits in the second quarter--the latest available data--were 8-3/4 percent above year-earlier levels. And ultimately, if I'm right about the stronger underlying pace of productivity growth, aggregate profits will continue to recover once the sectoral imbalances are eliminated.

That brings me to the current state of the high-tech sector and its future prospects. To understand what is happening in that sector, we may find it helpful to put recent developments into a longer-term historical perspective. In the 1990s, the high-tech boom appears to have been sparked by the confluence of three key trends: the rapid growth in computing power generated by explosive advances in semiconductor technology; the advent of new networking technologies that permitted computers to communicate more easily with each other in private networks and through the public Internet; and the development of software programs that facilitated these interactions and greatly expanded the uses of personal computers. During such a period of rapid change, the rate of return to investing in these new technologies and applications seemed to be very high. The spectacular financial returns from investing in leading-edge technology companies induced new firms to enter these markets, supported by investors eager for windfall financial gains. As these new firms set up or expanded their operations, capital spending surged. For a time, investors seemed to think that high-tech companies were low-risk, high-return investments. But, as we all now know, they were wrong.

Ultimately, more businesses entered the high-tech field than could be supported by the substantial growth in demand in this sector. Businesses overinvested in high-tech equipment, and when profits failed to materialize, many of these firms went bankrupt. In the end, the economy was left with an overhang of high-tech capital, which is exerting a drag on economic activity to this day.

Does this experience call into question the economic potential of these new information technologies? I don't think so. In the exigencies of the moment, one can easily lose sight of how much progress has been made over the past decade as a result of these new technologies. It is true that rates of return to high-tech investments were not as high as the most optimistic once thought. However, these technologies have truly changed the way businesses operate, and I believe that they will continue to do so in the future. The progress that is occurring today may not seem as *revolutionary* as it did five or six years ago. Nonetheless, the ongoing *evolution* of these technologies is continuing to generate productivity gains. We all have a natural tendency to look for the next "killer application" that will once again revolutionize the high-tech marketplace. This is the high-tech equivalent of "waiting for Godot," and we should not ignore the many, smaller changes to business practices that are continuing to yield real efficiency gains.

When will the high-tech sector recover? I can't give you an exact time or date, but I will assert that its economic prospects still seem positive over the long run. The capital overhang--especially in the telecommunications industry--obviously must be eliminated before any meaningful expansion can occur, and some additional consolidation may be necessary if businesses are to be profitable in the long run. But I, like many other observers, think such change is occurring and is likely to bear fruit in the years to come.

Conclusion

To sum up, none of us, obviously, can see the future, and instead we shall have to monitor incoming data closely for evidence of any shifts in recent productivity trends. Nonetheless, I remain cautiously optimistic that the U.S. economy can continue to enjoy strong productivity-led growth that will raise living standards in the years to come. I believe this based on analyses at the firm, the industry, and the macroeconomic levels. The unbelievable stories of high-tech revolution were proven to be just that, unbelievable. But the more moderate and credible explanations remain.

Lee Hsien Loong: Singapore's economic restructuring against the background of Asia's changing economic landscape

Keynote address by DPM Lee Hsien Loong, Deputy Prime Minister of Singapore and Chairman of the Monetary Authority of Singapore at the Morgan Stanley Asia-Pacific summit 2002, Singapore, 22 October 2002.

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Distinguished Guests

Ladies and Gentlemen

Introduction

For two decades during the East Asian miracle, Southeast Asia grew rapidly. Large volumes of foreign investments helped to transform the economies, creating jobs and expanding exports. This ended abruptly in 1997, when the Asian Crisis swept through the region. The crisis has passed. But since then, Northeast Asia's economic performance has outshone Southeast Asia's. In Southeast Asia, growth has been weaker and more disparate, both direct and portfolio investments have fallen, and ebullience has been replaced by pessimism. There are three main reasons.

First, China. A large part of Northeast Asia's strong performance reflects the continuing growth and transformation of the Chinese economy, which largely escaped the Asian Crisis. The past few years have witnessed rapid market liberalisation in China, as it prepared itself to join the WTO and bring 1.3 billion people into the global trading system. As the Chinese economy grew and showed tangible progress, MNCs have become euphoric over China's potential, both as a production base and an enormous market. Accordingly, foreign direct investments have poured into China. China still faces daunting problems, for example, in its banking system, state-owned enterprises, and intellectual property rights regime. But the dramatic and ongoing changes give investors hope and confidence that these problems will in time be overcome, making them feel that they cannot afford not to be in China.

A second reason for Southeast Asia's under-performance is **the regional political and security situation**. The Asian Crisis precipitated major social and political changes in many countries, deterring MNCs from committing to new investments in an uncertain climate. These overriding political concerns also distracted the governments from tackling urgent economic problems and implementing painful structural reforms to remedy weaknesses uncovered by the crisis. In contrast, South Korea's aggressive post-crisis restructuring of its corporate sector has spurred a more rapid recovery.

Most crucially, the Asian Crisis brought down the Suharto Government in Indonesia, and launched Indonesia on a new and uncharted path. For thirty years, a stable Indonesia, with a strong government focused on economic development, had provided a critical basis for confidence and peaceful cooperation in the whole of Southeast Asia. Suharto's fall changed this. The subsequent Indonesian government abandoned Suharto's longstanding policy of restraining political Islam, thus opening Pandora's box. Islamic groups, including the militant ones, now wield considerable influence in Indonesia's body politic. Indonesia's political and social landscape has altered drastically and permanently, affecting the whole region.

More recently, Southeast Asia has faced security problems from extremist Islamic terrorist groups linked to Al Qaeda. After September 11, such groups were discovered in Malaysia, the Philippines, Singapore and Indonesia. They are linked to one another in a network which seeks to create an Islamic state in Southeast Asia through violence and terror. The recent bomb attack in Bali was a tragic reminder that Southeast Asia is at the frontline of the worldwide war against terrorism.

A third, more cyclical, factor underlying Southeast Asia's under-performance, has been weakening external demand. Although Southeast Asia's economies have been diversifying their sources of demand, they are still heavily dependent on external demand, unlike China. But Southeast Asia's main export markets – US, Japan, and the EU – are all languishing. The timing and strength of a pick-up in the US economy is uncertain, especially given the possibility of a war in Iraq, and the concomitant impact on oil prices and the international security climate. The Japanese economy is still mired in difficulties, with no imminent prospect of decisive fundamental change. With fiscal and monetary policies constrained by the Maastricht Stability Pact and a stringent inflation target, the EU economy too remains weak.

Southeast Asia's response

These three factors – China's rise, regional political and security problems, and weak external demand – explain Southeast Asia's under-performance, but they do not condemn Southeast Asia to perpetual stagnation. How can Southeast Asia overcome these problems?

China

First, Southeast Asia should not see China only as a challenge, but also as an opportunity. A rising China is a formidable competitor for investments and in global markets, but Southeast Asia is better off with a prosperous and modern China, than with a poor and backward China.

International trade is not a mercantilist zero sum game. As China's exports have grown, so have its imports. Southeast Asian exports to China have been expanding rapidly. Between 1999 and 2001, Singapore's own exports to greater China (i.e. PRC, Hong Kong and Taiwan) grew by an average of 14% p.a., and now exceed our exports to the US. These exports range from integrated circuits, disk drives, scientific measuring instruments, oil and chemical products to food and beverages.

In services too, China's rising affluence offers great opportunities to Southeast Asia. China is one of the fastest-growing sources of tourists to Thailand, Malaysia and Singapore. A growing Chinese middle-class will want high-quality healthcare and education services. And wealthy Chinese – whose numbers are already not insignificant – will need more sophisticated financial services.

In manufacturing, China is rapidly expanding into activities previously carried out in Southeast Asia. But that does not mean that Southeast Asia will revert to agriculture and primary production. Attractive as China is to investors, it will not soak up all manufacturing investments, nor will it out-compete all other countries in every industry and every product. More likely, Southeast Asia and China will complement each other in an international division of labour, for example, with Southeast Asia providing the components and intermediate processing, and factories in China doing the final assembly for the Chinese market. The desire of MNCs to diversify their investments beyond one or two countries will also promote such an outcome.

For our part, Singapore is actively positioning itself to benefit from China's growth. When Chinese Vice President Hu Jintao visited Singapore recently, he proposed four areas for increased bilateral cooperation: high-tech industrial sectors, the economic development of China's western provinces, helping Chinese enterprises to exploit international opportunities, and the training of personnel and exchange of talent. Officials from both countries are pursuing these ideas. To help Chinese companies go international, Singapore has mooted the idea of setting up a base in Singapore to help Chinese companies market their products to the region and beyond. We are actively facilitating Singapore business ventures interested in China, providing market information, office space and consultancy services, and maintaining business networks. We have also launched an Asian Business Fellowship Programme, to develop a talent pool with operational experience, and network and market knowledge in China.

Politics & Security

Second, Southeast Asian governments must tackle the security problems resolutely and decisively. Terrorism is not unique to Southeast Asia. It is a global problem, originating in the Middle East, and spreading to every continent. Southeast Asia cannot be immunised against the terrorism virus. The large Muslim populations in the region are a natural host which extremist Islamic groups will exploit for concealment and political cover. Fortunately, the vast majority of Southeast Asian Muslims are peaceful and moderate in their beliefs. The problem therefore lies in dealing with the extremist elements in a way which does not alienate the majority of peaceful Muslims. This calls for deft political handling.

Southeast Asian governments are already taking action. In Malaysia, with a Muslim majority, the government has acted with despatch, arresting members of extremist groups and rooting out their organisations. The Malaysian government also controls the outflow of Malaysian students studying in madrasahs in Pakistan, where they may pick up extremist ideas.

In Singapore, with a sizeable Muslim minority, the government has arrested extremists belonging to the Jemaah Islamiyah group, and severely disrupted their operations. We have gone beyond security actions and taken pains to explain the problem to the population, so that Muslim Singaporeans do not feel that they are all under a cloud of suspicion, and the non-Muslims do not treat their Muslim fellow citizens any differently than before. Muslim community leaders have come together to publicly condemn the extremists as doing great harm to the Muslim community. Their clear and unequivocal collective stand has been enormously helpful in maintaining confidence and avoiding a rupture in racial and religious harmony.

In Indonesia, where 90% of the population is Muslim, the government has been extremely circumspect in acknowledging and dealing with the problem. The extremist groups have skilfully used religious and nationalist sentiments to garner political support and protect themselves against arrest. However, the Bali bombing has changed the situation. President Megawati has promulgated tough anti-terrorist decrees, including powers to detain suspected terrorists. The Indonesian government has arrested Abu Bakar Ba'asyir, who is the emir, or leader, of the Jemaah Islamiyah group, who had till now defied the Indonesian authorities to act against him. Government action in the aftermath of the Bali bombings has won the strong backing of key local institutions and the Indonesian population. Parliamentary leaders concurred with the passing of the anti-terrorism decrees, and the leaders of the two largest Muslim groups in Indonesia, the Nahdlatul Ulama and Muhammadiyah, have also voiced their support. The people of Indonesia know that if the militants succeed, not only will international confidence plummet and economic progress grind to a halt, but their country will be torn asunder.

Southeast Asian governments will act because they know that the objectives of the terrorists are totally beyond the pale. These are not innocent political dissidents exercising their democratic rights. They are ruthless fanatics, quite willing to destroy innocent lives in order to create civil strife and animosity between communities and countries, shake confidence in Southeast Asian economies and their legitimate governments, and weaken the basis of the states. They cannot succeed, but they can cause great harm in trying. Provided the governments respond vigorously to the extremist threat, they can contain the problem and gradually restore confidence to the region.

Access to Markets

Third, Southeast Asian economies need to boost external demand by strengthening their access to the major developed markets. In the short term, there is little we can do about the cyclical downturn. But for the longer term, favourable and assured access to key trading partners will allow Southeast Asian countries to maximise benefits from free trade and globalisation, and make themselves more attractive to investors.

One basic approach is to promote multilateral trade, and contribute to a successful outcome of the Doha Development Agenda of the World Trade Organisation (WTO). But we need to complement the multilateral approach with bilateral Free Trade Agreements (FTAs) with our key trading partners. This is why Singapore is actively pursuing an FTA strategy. We have concluded FTAs with New Zealand, Japan, and the European Free Trade Area (EFTA), and hope to conclude agreements with the US and Australia very soon.

Singapore's aim is not just to boost our own trade links with our FTA partners, but also to catalyse broader economic engagement between ASEAN and its trading partners. This is indeed happening. After New Zealand concluded its FTA with Singapore, Australia and New Zealand proposed starting a Closer Economic Partnership Agreement with ASEAN. Last year, ASEAN and China agreed to set up an ASEAN-China FTA within 10 years. Weeks later, Prime Minister Koizumi of Japan proposed a Japan-ASEAN Comprehensive Economic Partnership, to be modelled on the Japan-Singapore bilateral agreement. Similarly, we hope that the US-Singapore FTA will become a model for a US-ASEAN FTA in the longer term. These link-ups show that ASEAN is not turning inwards and away from the global economy, and will give ASEAN a valuable edge as an investment destination.

Singapore's economic restructuring: philosophy & initiatives

Given this bracing environment, Singapore is at a turning point in our economic development. The whole landscape has changed. We need to change our strategies to continue to thrive. This is why we convened the Economic Review Committee (ERC), to carry out a comprehensive review of our economic policies, and to identify ways to develop a vibrant and competitive private sector. We have concluded that the key tenets of our economic strategy are as follows:

First, we must **enhance the competitiveness of our economy**. This means keeping direct taxes as low as possible. There is a worldwide trend towards lowering taxes to attract and anchor companies. We also need to cut personal tax rates to spur entrepreneurship, risk-taking and wealth creation, and to attract and retain talent. Hence we undertook a major restructuring of our tax system, reducing corporate and personal tax rates from around 25% to 20% over three years. We will tax individuals who are not ordinarily resident in Singapore, based on the number of days they actually spend working in Singapore. To make up part of the revenue shortfall, we are raising our consumption tax from 3% to 5%.

Tax incentives have also been enhanced. Qualifying high-growth and high value-added financial activities will enjoy a concessionary tax rate of 5%, while a 10% rate will apply to tax-sensitive but mature activities. We have also enhanced incentives for specific activities, such as fund management, trustee and custodian services, insurance and capital market and treasury activities.

We also undertook a fundamental review of the Central Provident Fund (CPF) Scheme, which is our social security and pension fund scheme. We refocused the CPF on its core objective of providing for the basic needs of the majority of Singaporeans, in terms of retirement needs, healthcare expenses and home ownership. We are tightening the use of CPF for buying properties, so as to leave more for retirement needs. We are reducing the coverage for high-income Singaporeans, who should be able to plan and provide for their own retirement. We are lowering contribution rates for older workers, who are most vulnerable to losing their jobs. These measures will make our labour market more flexible, and contribute to our economy's overall resilience and competitiveness.

Second, we want to encourage entrepreneurship in order to develop more local and foreign start-ups and emerging enterprises to complement our strong base of MNCs and established local companies. In this rapidly changing, unpredictable environment, the best way to spot and exploit new opportunities is not by centralised direction, but through the drive and entrepreneurship of our people. According to the 2001 Global Entrepreneurship Monitor Report, Singapore ranked 27th out of 29 countries in terms of entrepreneurial activity. We need to do better.

We need to imbue our young with entrepreneurial instincts and attitudes, through their school education and life experiences. At the same time, the government should cut red tape, create more economic space for private enterprise, nurture high-potential local enterprises and develop a culture tolerant of risk-taking, experimentation and honest failure.

A self-renewing, self-sustaining entrepreneurial culture will not emerge overnight, but we are making some headway. Ten Singapore companies made it to this year's list of Forbes' Global 200 companies with revenues under US$1 billion. This ranks among the largest number of companies for any country.

A third area of focus is the development of our human capital, both local and foreign. Singaporeans rank highly in technical skills, and our students often top international mathematics and science competitions. But we need to improve our soft skills, such as people skills, management skills, communications skills, as well as cultural and artistic skills. We will also continue to welcome foreign talent to work, live and play here, to add to our talent pool.

Fourth, we need to identify, nurture and promote new areas of growth in both manufacturing and services, the two complementary engines of our economy. The continuing emergence of lower-cost locations spurs us to constantly review and refresh our manufacturing value proposition, be it in refining our division of labour, exploiting economies of scale through shared facilities, or undertaking more innovation and R&D work. For instance, about 70 companies are located on our petrochemical complex in Jurong Island, where they plug into customised infrastructure facilities, specialised services and the supply of feedstock. We cooperate with the Indonesian islands of Batam and Bintan, each specialising in different parts of the manufacturing value-chain that it is strong in.

In the services sector, we expect regional demand for health, education, tourism and financial services to grow rapidly as the middle-income group burgeons. Already, Singapore plays host to 50,000 foreign students in tertiary and commercial institutions, and 150,000 foreign patients per year from across the region. They are attracted to local universities and hospitals, as well as to the international arms of top schools and medical research institutes based in Singapore, like INSEAD, University of Chicago and Johns Hopkins.

Fifth, Singapore is improving our corporate governance practices and standards. A globally oriented economy needs a robust framework for corporate governance. Singapore's standards are high but we must continue to improve them, not only in the form of the rules but also in the spirit of their implementation. Our integrity premium is a precious competitive advantage which we guard zealously, and which will not be easy to replicate.

The Company Legislation and Regulatory Framework Committee, a private sector-led body, has been reviewing our company law and regulatory framework. The Committee has made recommendations to simplify the process of incorporating a company, facilitate capital raising and reduce compliance costs for companies in Singapore. Let me highlight some key recommendations.

To widen the options available for businesses and investments, the Committee recommended introducing Limited Partnerships and Limited Liability Partnerships. To improve access to finance and lower the cost of raising capital, the Committee advocated allowing additional exempted offerings, such as private placement and small offering exemptions. The Committee also suggested removing statutory requirements for audit and appointment of professional company secretaries, so as to trim compliance costs for companies, especially small private companies and start-ups. Safeguards will be simultaneously introduced to uphold corporate governance standards and protect stakeholders' interests.

I am happy to announce that the government has accepted all the recommendations of this Committee. They will ensure that our company law is market-driven, supportive of entrepreneurship and aligned with international best practices. The Ministry of Finance will release further details.

Finally, just as we are encouraging greater corporate disclosure, the government is also working towards raising levels of transparency through consultation and collaboration with the private sector. Consultation lengthens the policy-making process and entails commitment of effort and resources on the part of the industry and the public. But it also helps to pre-empt implementation problems, minimise unintended consequences, and foster better industry understanding and support. The Monetary Authority of Singapore (MAS) has introduced guidelines to make public consultation a standard procedure whenever significant changes in the financial services regulatory framework are planned. Over time, these changes will further improve the operating environment for the financial sector. The MAS will release further details.

Conclusion

Singapore has not shied away from tough measures to remake our economy and maximise our chances in a difficult environment. These measures will enhance our competitiveness, strengthen our companies and consolidate our social cohesion. They will make our economy more flexible, resilient and able to adjust quickly to changing circumstances, and so help it to remain ahead in the race of nations.

Although the media impression is that Southeast Asia has stagnated since the Asian Crisis, the reality is less gloomy. ASEAN economies have made progress in picking up the pieces and pursuing domestic reform and restructuring, albeit some more successfully than others. Between 1999-2001, ASEAN economies as a whole grew by about 4% per annum. Last year, an export-led slowdown on the back of a global electronics slump broke the recovery trend. But ASEAN economies weathered the downturn fairly well, with most still managing positive GDP growth. Most are running current account surpluses, in contrast to the large deficits that prevailed in 1997. From a macroeconomic standpoint, the countries have held up well and even shown a certain resilience. Reflecting this, ASEAN stockmarkets have generally performed better than their counterparts in the rest of the world thus far this year.

Part of Southeast Asia's negative image is attributable to political and security concerns, which are indeed real. A week or so after the Bali attack, these worries naturally loom large. Many observers, seized by the mood of the moment, are now forecasting the worst for the region. But we should adopt a longer-term, more nuanced perspective. Southeast Asia's economic fundamentals remain positive – a sizeable market with a collective population of 500 million people, high savings, abundant natural resources, under-developed consumer appetites and a strong work ethic. The political problems can be overcome, provided governments act swiftly and resolutely to counter terrorism and restore order and confidence. Those countries which do so will regain investor interest, while those investors shrewd enough to discern which countries and projects deserve support will be amply rewarded by the risk premiums. Provided Southeast Asian countries adapt themselves to their new environment, remedy their economic weaknesses, and grasp the new opportunities, this region can once again become a vibrant part of Asia.

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