Alan Greenspan: Globalisation and innovation

Remarks by Mr Alan Greenspan, Chairman of the Board of Governors of the US Federal Reserve System, at the Conference on Bank Structure and Competition, sponsored by the Federal Reserve Bank of Chicago, Chicago, Illinois, (via satellite), 6 May 2004.

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The United States economy appears to have been pressing a number of historic limits in recent years without experiencing the types of financial disruption that almost surely would have arisen in decades past. This observation raises some key questions about the longer-term stability of the U.S. and global economies that bear significantly on future economic developments, including the future competitive shape of banking.

Among the limits we have been pressing against are those in our external and budget balances. We in the United States have been incurring ever larger trade deficits, with the broader current account measure having reached 5 percent of our gross domestic product (GDP). Yet the dollar's real exchange value, despite its recent decline, remains close to its average of the past two decades. Meanwhile, we have lurched from a budget surplus in 2000 to a deficit that is projected by the Congressional Budget Office to be 4-1/4 percent of GDP this year. In addition, we have legislated commitments to our senior citizens that, given the inevitable retirement of our huge baby-boom generation, will create significant fiscal challenges in the years ahead. Yet the yield on Treasury notes maturing a decade from now remain at low levels. Nor are we experiencing inordinate household financial pressures as a consequence of record high household debt as a percent of income.

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Has something fundamental happened to the U.S. economy and, by extension, U.S. banking, that enables us to disregard all the time-tested criteria of imbalance and economic danger? Regrettably, the answer is no. The free lunch has still to be invented. We do, however, seem to be undergoing what is likely, in the end, to be a one-time shift in the degree of globalization and innovation that has temporarily altered the specific calibrations of those criteria. Recent evidence is consistent with such a hypothesis of a transitional economic paradigm, a paradigm somewhat different from that which fit much of our earlier post-World War II experience.

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Globalization has altered the economic frameworks of both advanced and developing nations in ways that are difficult to fully comprehend. Nonetheless, the largely unregulated global markets, with some notable exceptions, appear to move effortlessly from one state of equilibrium to another. Adam Smith's "invisible hand" remains at work on a global scale.

Because of a lowering of trade barriers, deregulation, and increased innovation, cross-border trade in recent decades has been expanding at a far faster pace than GDP. As a result, domestic economies are increasingly exposed to the rigors of international competition and comparative advantage. In the process, lower prices for some goods and services produced by our trading partners have competitively suppressed domestic price pressures.

Production of traded goods has expanded rapidly in economies with large, low-wage labor forces. Most prominent are China and India, which over the past decade have partly opened up to market capitalism, and the economies of central and eastern Europe that were freed from central planning by the fall of the Soviet empire. The consequent significant additions to world production and trade have clearly put downward pressure on domestic prices, though somewhat less so over the past year. Moreover, the pronounced fall in inflation, virtually worldwide, over the past two decades has doubtless been a key factor in the notable decline in world economic volatility.

In tandem with increasing globalization, monetary policy, to most observers, has become increasingly effective in achieving the objective of price stability. But because we have not experienced a sufficient number of economic turning points to judge the causal linkages among increased globalization, improved monetary policy, significant disinflation, and greater economic stability, the structure of the transitional paradigm is necessarily sketchy.

Nonetheless, a paradigm encompassing globalization and innovation, far more than in earlier decades, appears to explain the events of the past ten years better than other conceptual constructs.

If this is indeed the case, because there are limits to how far globalization and the speed of innovation can proceed, the current apparent rapid pace of structural shift cannot continue indefinitely. A couple of weeks ago, I indicated in testimony to the Congress that the outlook for the next year or two has materially brightened. But the outlook for the latter part of this decade remains opaque because it is uncertain whether this transitional paradigm, if that is what it is, is already far advanced and about to slow, or whether it remains in an early, still vibrant stage of evolution.

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Globalization - the extension of the division of labor and specialization beyond national borders - is patently a key to understanding much of our recent economic history. With a deepening of specialization and a growing population free to take risks over a widening area, production has become increasingly international.[1]

The pronounced structural shift over the past decade to a far more vigorous competitive world economy than that which existed in earlier postwar decades apparently has been adding significant stimulus to world economic activity. That stimulus, like that which resulted from similar structural changes in the past, is likely a function of the rate of increase of globalization and not its level. If so, such impetus would tend to peter out, as we approach the practical limits of globalization.

Full globalization, in which trade and finance are driven solely by risk-adjusted rates of return and risk is indifferent to distance and national borders, will likely never be achieved. The inherent risk aversion of people, and the home bias implied by that aversion, will limit how far globalization can proceed. But because so much of our recent experience has little precedent, as I noted earlier, we cannot fully determine how long the current globalization dynamic will take to play out.

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The increasing globalization of the post-war world was fostered at its beginnings by the judgment that burgeoning prewar protectionism was among the primary causes of the depth of the Great Depression of the 1930s. As a consequence, trade barriers began to fall after the war. Globalization was enhanced further when the inflation-ridden 1970s provoked a rethinking of the philosophy of economic policy, the roots of which were still planted in the Depression era. In the United States, that rethinking led to a wave of bipartisan deregulation of transportation, energy, and finance. At the same time, there was a growing recognition that inflation impaired economic performance. Indeed, Group of Seven world leaders at their 1977 Economic Summit identified inflation as a cause of unemployment. Moreover, monetary policy tightening, and not increased regulation, came to be seen by the end of that decade as the only viable solution to taming inflation.[2] Of course, the startling recovery of war-ravaged West Germany following Ludwig Erhard's postwar reforms, and Japan's embrace of global trade, were early examples of the policy reevaluation process.

It has taken several decades of experience with markets and competition to foster an unwinding of regulatory rigidities. Today, privatization and deregulation have become almost synonymous with "reform."

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By any number of measures, globalization has expanded markedly in recent decades. Not only has the ratio of international trade in goods and services to world GDP risen inexorably over the past half-century, but a related measure - the extent to which savers reach beyond their national borders to invest in foreign assets - has also risen.

Through much of the post-World War II years, domestic saving for each country was invested predominantly in its domestic capital assets, irrespective of the potential for superior risk-adjusted returns to be available from abroad. Because a country's domestic saving less its domestic investment

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[1] Much of what is assembled in final salable form in the United States, for example, may consist of components from many continents. Companies seek out the lowest costs of inputs to effectively compete for their customers' dollars. This international competition left unfettered, history suggests, would tend to direct output to the most efficient producers of specific products or services and, hence, maximize standards of living of all participants in trade. Given the skills and education of its workforce and a number of institutional factors, such as its legal structure, each economy will achieve its maximum possible average living standard.

[2] This had not always been the case. For example, wage and price controls were imposed in the United States in 1971 as a substitute for a tighter monetary policy and higher interest rates to address rising inflation.

is equal to its current account balance, such balances, positive or negative, with the exception of the mid-1980s, were therefore generally modest. But in the early 1990s, “home bias” began to diminish appreciably,[3] and, hence, the dispersion of current account balances among countries has increased markedly. The widening current account deficit in the United States has come to dominate the tail of that distribution of external balances across countries.

Thus, the decline in home bias, or its equivalent, expanding globalization, has apparently enabled the United States to finance and, hence, incur so large a current account deficit. As a result of these capital flows, the ratio of foreign net claims against U.S. residents to our annual GDP has risen to approximately one-fourth. While some other countries are far more in debt to foreigners, at least relative to their GDPs, they do not face the scale of international financing that we require.

A U.S. current account deficit of 5 percent or more of GDP would probably not have been readily fundable a half-century ago or perhaps even a couple of decades ago.[4] The ability to move that much of world saving to the United States in response to relative rates of return almost surely would have been hindered by the far-lesser degree of both globalization and international financial flexibility that existed at the time. Such large transfers would presumably have induced changes in the prices of assets that would have proved inhibiting.

Nonetheless, we have little evidence that the economic forces that are fostering international specialization, and hence cross-border trade and increasing dispersion of current account balances, are as yet diminishing. At some point, however, international investors, private and official, faced with a concentration of dollar assets in their portfolios, will seek diversification, irrespective of the competitive returns on dollar assets. That shift, over time, would likely induce contractions in both the U.S. current account deficit and the corresponding current account surpluses of other nations.

Can market forces incrementally defuse a buildup in a nation’s current account deficit and net external debt before a crisis more abruptly does so? The answer seems to lie with the degree of market flexibility. In a world economy that is sufficiently flexible, as debt projections rise, product and equity prices, interest rates, and exchange rates presumably would change to reestablish global balance.[5]

We may not be able to usefully determine at what point foreign accumulation of net claims on the United States will slow or even reverse, but it is evident that the greater the degree of international flexibility, the less the risk of a crisis.[6]

Should globalization continue unfettered and thereby create an ever more flexible international financial system, history suggests that current account imbalances will be defused with modest risk of

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[3] The correlation coefficient between paired domestic saving and domestic investment, a conventional measure of the propensity to invest at home for OECD countries constituting four-fifths of world GDP, fell from 0.96 in 1992 to less than 0.8 in 2002. With rare exceptions, a decline in the correlation of countries’ paired domestic investment to domestic saving implies an increased dispersion of current account balances.

[4] It is true that estimates of the ratios of the current account to GDP for many countries in the nineteenth century are estimated to have been as large as, or larger, than we have experienced in recent years. However, the substantial net flows of capital financing for those earlier deficits were likely motivated in large part by specific major development projects (for example, railroads) bearing high expected rates of return. By contrast, diversification appears to be a more salient motivation for today’s large net capital flows. Moreover, gross capital flows are believed to be considerably greater relative to GDP in recent years than in the nineteenth century. (See Alan M. Taylor, “A Century of Current Account Dynamics,” *Journal of International Money and Finance*, 2002, pp. 725-48, and Maurice Obstfeld and Alan M. Taylor, “Globalization and Capital Markets,” NBER Working Paper 8846, March 2002.)

[5] The experience over the past two centuries of trade and finance among the individual states that make up the United States comes close to that paradigm of flexibility, even though exchange rates among the states have been fixed. Although we have scant data on cross-border transactions among the separate states, anecdotal evidence suggests that over the decades significant apparent imbalances have been resolved without precipitating interstate balance-of-payments crises. The dispersion of unemployment rates among the states, one measure of imbalances, spikes during periods of economic stress but rapidly returns to modest levels, a pattern reflecting a high degree of adjustment flexibility. That flexibility is even more apparent in regional money markets, where interest rates that presumably reflect differential imbalances in states’ current accounts and hence cross-border borrowing requirements have, in recent years, exhibited very little interstate dispersion. This observation suggests either negligible cross-state-border imbalances, an unlikely occurrence given the pattern of state unemployment dispersion, or more likely very rapid financial adjustments.

[6] Although increased flexibility apparently promotes resolution of current account imbalances without significant disruption, it may also allow larger deficits to emerge before markets are required to address them. Moreover, the apparent ability of the U.S. economy to withstand the stock market plunge of 2000, the terrorist attacks of 9/11, corporate governance scandals, and wars in Afghanistan and Iraq indicates a greater degree of economic flexibility than was apparent in the 1970s and earlier.

disruption. A Federal Reserve study of large current account adjustments in developed countries,[7] the results of which are presumably applicable to the United States, suggests that market forces are likely to restore a more long-term sustainable current account balance here without measurable disruption. Indeed, this was the case in the second half of the 1980s.

I say this with one major caveat. Protectionism, some signs of which have recently emerged, could significantly erode global flexibility and, hence, undermine the global adjustment process. We are already experiencing pressure to slow down the expansion of trade. The current Doha Round of trade negotiations is in some difficulty owing largely to the fact that the low-hanging fruit of trade negotiation has already been picked in the trade liberalizations that have occurred since the Kennedy Round.

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Augmenting the dramatic effect of increased globalization on economic growth, and perhaps at some times, fostering it, have been the remarkable technological advances of recent decades. In particular, information and communication technologies have propelled the processing and transmission of data and ideas to a level far beyond our capabilities of a decade or two ago.

The advent of real-time information systems has enabled managers to organize a workforce without the redundancy required in earlier decades to ensure against the type of human error that technology has now made far less prevalent. Real-time information, by eliminating much human intervention, has markedly reduced scrappage rates on production lines, lead times on purchases, and errors in all forms of recordkeeping. Much data transfer is now electronic and far more accurate than possible in earlier times.

The long-term path of technology and growth is difficult to discern. Indeed, innovation, by definition, is not forecastable. Nonetheless, the overall pace of productivity growth that has recently been near 5 percent at an annual rate is highly likely to slow because we have rarely exceeded 3 percent for any protracted period. In the United States, we have always employed technologies at, or close to, the cutting edge, and we have created much of our innovative technologies ourselves. The opportunities of many developing economies to borrow innovation is not readily available to us. Thus, even though the longer-term prospects for innovation and respectable productivity growth are encouraging, some near-term slowing in the pace of advance to a rate closer to productivity's long-term average seems likely.

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We have, I believe, a reasonably good understanding of why Americans have been able to reach farther into global markets, incur significant increases in debt, and yet fail to produce the disruptions so often observed as a consequence. However, a widely held alternative view of the past decade cannot readily be dismissed. That view holds that the postwar paradigm is still largely in place, and key financial ratios, rather than suggesting a moving structure, reflect extreme values of a fixed structure that must eventually adjust, perhaps abruptly.

To be sure, even with the increased flexibility implied in a paradigm of expanding globalization and innovation, the combination of exceptionally low saving rates and historically high ratios of household debt to income can be a concern if incomes unexpectedly fall. Indeed, there is little doubt that virtually any debt burden becomes oppressive if incomes fall significantly.

But rising debt-to-income ratios can be somewhat misleading as an indicator of stress. Indeed the ratio of household debt to income has been rising sporadically for more than a half-century, a trend that partly reflects the increased capacity of ever-wealthier households to service debt. Moreover, a significant part of the recent rise in the debt-to-income ratio also reflects the remarkable gain in homeownership. Over the past decade, for example, the share of households that owns homes has risen from 6 percent to 69 percent. During the decade a significant number of renters bought homes, thus increasing the asset side of their balance sheets as well as increasing their debt. It can scarcely be argued that the substitutions of debt service for rent materially impaired the financial state of the new homeowner. Yet the process over the past decade added more than 10 percent to outstanding

[7] Caroline Freund, "Current Account Adjustment in Industrialized Countries," Board of Governors of the Federal Reserve System, International Finance Discussion Paper No. 692, December 2000.

mortgage debt and accounted for more than one-seventh of the increase in total household debt over that period.[8]

Thus, short of a period of overall economic weakness, households, with the exception of some highly leveraged subprime borrowers, do not appear to be faced with significant financial strain. With interest rates low, debt service costs for households are average, or only marginally higher than average. Adding other fixed charges such as rent, utilities, and auto-leasing costs does not materially alter the change in the degree of burden.

Even should interest rates rise materially further, the effect on household expenses will be stretched out because four-fifths of debt is fixed rate of varying maturities, and it will take time for debt to mature and reflect the higher rates. Despite the almost two percentage point rise in mortgage rates on new originations from mid-1999 to mid-2000, the average interest rate on outstanding mortgage debt rose only slightly, as did debt service.

In a related concern, a number of analysts have conjectured that the extended period of low interest rates is spawning a bubble in housing prices in the United States that will, at some point, implode. Their concern is that, if this were to occur, highly leveraged homeowners will be forced to sharply curtail their spending. To be sure, indexes of house prices based on repeat sales of existing homes have outstripped increases in rents, suggesting at least the possibility of price misalignment in some housing markets. A softening in housing markets would likely be one of many adjustments that would occur in the wake of an increase in interest rates.

But a destabilizing contraction in nationwide house prices does not seem the most probable outcome. Indeed, nominal house prices in the aggregate have rarely fallen and certainly not by very much.

Still, house prices, like those of many other assets, are difficult to predict, and movements in those prices can be of macroeconomic significance. Moreover, because these transactions often involve considerable leverage, they need to be monitored by those responsible for fostering financial stability.

There appears, at the moment, to be little concern about corporate financial imbalances. Debt-to-equity ratios are well within historical ranges, and the recent prolonged period of low long-term interest rates has enabled corporations to fund short-term liabilities and stretch out bond maturities. Even the relatively narrow spreads on below-investment-grade corporate debt appear to reflect low expected losses rather than an especially small aversion to risk.

The resolution of our current account deficit and household debt burdens does not strike me as overly worrisome, but that is certainly not the case for our yawning fiscal deficit. Our fiscal prospects are, in my judgment, a significant obstacle to long-term stability because the budget deficit is not readily subject to correction by market forces that stabilize other imbalances.

One issue that concerns most analysts, especially in the context of a widening structural federal deficit, is inadequate national saving. Fortunately, our meager domestic savings, and those attracted from abroad, are being very effectively invested in domestic capital assets. The efficiency of our capital stock thus has been an important offset to what, by any standard, has been an exceptionally low domestic saving rate in the United States. Although saving is a necessary condition for financing the capital investment required to engender productivity, it is not a sufficient condition. The very high saving rates of the Soviet Union, of China, and of India in earlier decades, often did not foster significant productivity growth in those countries. Saving squandered in financing inefficient technologies does not advance living standards. It is thus difficult to judge how significant a problem our relatively low gross domestic saving rate is to the future growth of an efficient capital stock. The high productivity growth rate of the past decade does not suggest a problem. But our success in attracting savings from abroad may be masking the full effect of deficient domestic saving.

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Our day-by-day experiences with the effectiveness of flexible markets as they adjust to, and correct, imbalances can readily lead us to the conclusion that once markets are purged of rigidities, macroeconomic disturbances will become a historical relic. However, the penchant of humans for quirky, often irrational, behavior gets in the way of this conclusion. A discontinuity in valuation

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[8] For statistical methodology see Karen Dynan, Kathleen Johnson, and Karen Pence, “Recent Changes to a Measure of U.S. Household Debt Service,” *Federal Reserve Bulletin*, vol. 89 (October 2003), pp. 417-26.

judgments, often the cause or consequence of a building and bursting of a bubble, can occasionally destabilize even the most liquid and flexible of markets. I do not have much to add on this issue except to reiterate our need to better understand it.

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The last three decades have witnessed a significant coalescing of economic policy philosophies. Central planning has been judged as ineffective and is now generally avoided. Market flexibility has become the focus, albeit often hesitant focus, of reform in most countries. All policymakers are struggling to understand global and technological changes that appear to have profoundly altered world economic developments. For most economic participants, these changes appear to have had positive effects on their economic well-being. But a significant minority, trapped on the adverse side of creative destruction, are suffering. This is an issue that needs to be addressed if globalization is to sustain the necessary public support.

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The competitive state of banking, the subject of this conference, will be significantly affected by the path of global financial and technological innovations. In my judgment, this will be among the most significant developments affecting banking in the next decades.