Alan Greenspan: Global finance - is it slowing?

Remarks by Mr Alan Greenspan, Chairman of the Board of Governors of the US Federal Reserve System, at the Bank of France International Symposium on Monetary Policy, Economic Cycle, and Financial Dynamics, Paris, France, (via satellite), 7 March 2003.

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For at least the past twenty years, the process of financial globalization has been rapidly advancing. The development of new financial products, notably a wide variety of over-the-counter (OTC) derivatives, and the removal of many barriers to international capital mobility have tightened linkages among global financial markets. As a result, capital has flowed more freely across national borders in search of the highest risk-adjusted rates of return.

At some point, globalization undoubtedly will reach maturity. Financial innovation will slow as we approach a world in which financial markets are complete in the sense that all financial risks can be efficiently transferred to those most willing to bear them. Equivalently, as institutional and legal impediments to cross-border flows are eliminated, the bias in the allocation of savings toward local investments will be reduced to its minimum, and the opportunity for arbitrage across national markets will disappear.

In my lecture today, I will consider whether there are signs that globalization is nearing maturity. In particular, has the pace of financial innovation begun to slow? Do the patterns of capital flows suggest that global financial markets are approaching full integration? And, most important, what do the answers to these questions imply regarding the potential for future contributions of globalization to economic growth and financial stability?

Has the Pace of Financial Innovation Begun to Slow?

Although the pace of innovation cannot be measured with precision, important new instruments continue to emerge. Credit derivatives arose only in the early to mid-1990s. Still more recent has been the marriage of derivatives and securitization techniques in the form of synthetic collateralized debt obligations (CDOs). These instruments have broadened the range of investors willing to provide credit protection by pooling and unbundling credit risk through the creation of securities that best fit their preferences for risk and return. The combination of derivatives and securitization techniques is being applied to a growing range of underlying assets.

Additionally, the way that OTC derivatives are traded and settled clearly could be significantly improved. Despite, or perhaps because of, the rapid pace of product development, the derivatives industry still executes trades predominantly by telephone and confirms them by fax. Systems for the electronic execution and confirmation of trades require a degree of standardization and a large measure of cooperation that are not required for developing new instruments. Still, the derivatives industry has a long history of cooperating to standardize documentation, and it is disappointing that so little progress has been made in adopting efficient and reliable means of executing and confirming trades.

We must also consider how broadly the recent innovations have been adopted. Of course, the growth of OTC derivatives over the past twenty years has been spectacular and shows no obvious signs of abating. The latest estimate by the Bank for International Settlements of the worldwide notional amount of OTC derivatives outstanding reached $128 trillion in June 2002, a figure more than 25 percent larger than that recorded a year earlier. Such derivatives have become indispensable risk-management tools for many of the largest corporations. Yet a recent study drawing on U.S. Securities and Exchange Commission filings indicated that, as of year-end 1997, only a little more than half of the 1,000 largest U.S. non-financial corporations used OTC or exchange-traded derivatives.[1] More detailed, comprehensive and timely data are available for American banking organizations. Those data show that although the fifty largest U.S. banking organizations all used derivatives as of September

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[1] See W. Guay and S.P. Kothari, "How Much Do Firms Hedge with Derivatives?" *Journal of Financial Economics*, forthcoming.

2002, only 5 percent of all U.S. banking firms used any type of derivative. In the case of OTC credit derivatives, which have proved to be particularly effective in risk management, a mere 0.2 percent of U.S. banking organizations have begun to use such tools. Even among the fifty largest, less than half use these instruments. Thus, judging from the data on the use of derivatives, the potential for financial innovation to have a broader impact and thereby to continue contributing to globalization appears considerable.

Evidence of Financial Globalization in Capital Flows

Implicit in the criterion for complete globalization that opportunities for cross-border arbitrage disappear is that global savings should flow irrespective of location to investment in projects with the highest risk-adjusted rate of return.[2]

A half-century ago, Harry Markowitz showed mathematically that an investor can reduce the variance, and hence the riskiness, of his portfolio for a given expected return by diversifying into assets with imperfectly correlated returns.[3] Subsequent research showed that foreign assets are excellent candidates for diversification.[4]

Direct barriers to capital flows, such as restrictions on foreign purchases of domestic assets and limitations on the ability of domestic residents to invest abroad, have promoted home bias, although, as I will discuss shortly, many such direct obstacles in recent decades have been mitigated. Indirect barriers, such as high costs of foreign transactions, inadequate information on foreign investments and cultural and linguistic differences between foreign and domestic investors, are also seen as sustaining home bias. And finally, there are exchange rate and country risks. Wild swings in exchange rates can entirely erase earnings on foreign assets, even as those same assets yield a healthy return in local currencies. Concern over who will bear the exchange-rate risk or, alternatively, who will bear the costs of hedging that risk are an additional factor retarding international investment. Along with foreign exchange risk, political risk helps to drive a wedge between foreign and domestic perceptions of the expected risk-adjusted return to an asset. The consequence of such dual expectations is a lower market clearing price for those assets and a lower level of foreign investment than would exist in the absence of such distortions.

Aside from any direct or indirect barriers, people seem to prefer to invest in familiar local businesses even though currency and country risks do not exist. The United States has no barriers to interstate investment, and the states share a common currency, culture, language, and legal system, yet studies have shown that individual investors and even professional money managers have a slight preference for investments in their own communities and states. Trust, so crucial an aspect of investing, is most likely to be fostered by the familiarity of local communities.

Researchers have consistently found that, in general, investors direct too much of their savings domestically. Owing to risk aversion, they tend, to their own detriment, to over-discount foreign returns. Such suboptimal allocation of capital lowers living standards everywhere.

In their seminal paper twenty years ago, Feldstein and Horioka pointed out that, on net, nations' savings are generally invested domestically.[5] Their research implies that global savings are inefficiently distributed to investment, meaning that savers are bearing too much risk for the returns they achieve and that countries with high-potential investment projects are getting less financing than

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[2] Risk-neutral investors, if they exist, will price an asset solely on the basis of its expected return. But at best, very few humans are risk neutral. In general, investors require an asset's price to be discounted below the risk-neutral price as compensation for bearing risk. The amount of compensation required will vary both with the actual riskiness, or variance, of the asset's returns and with the investor's degree of risk aversion. If familiarity reduces an investor's uncertainty over expected returns to an asset, one would expect that that investor would discount unfamiliar assets more heavily than familiar assets. In such a case, differences between foreign and domestic investors' familiarity with an investment would lead to under-investment by foreigners relative to domestic investors, leaving an irreducible minimum bias toward investing locally. It is thus total risk, not neutral risk, that is arbitraged.

[3] H. Markowitz,"Portfolio Selection," *Journal of Finance*, vol. 7, no. 1 (1952), pp. 77-91.

[4] See H.G. Grubel, "Internationally Diversified Portfolios," *American Economic Review*, vol. 58 (1968), pp. 1299-314; or B.H. Solnik, "Why Not Diversify Internationally Rather than Domestically?" *Financial Analyst Journal*, vol. 30 (1974), pp. 91-135.

[5] M. Feldstein and C. Horioka, "Domestic Savings and International Capital Flows," *Economic Journal*, vol. 90 (1980), pp. 314-29.

they could productively employ. A clear benefit of financial globalization is that, to the extent that it reduces home bias, savings will be better directed to the most promising investments in the world, increasing global economic growth and prosperity. However, so long as risk aversion exists and trust is enhanced by local familiarity, we cannot expect that home bias will fully dissipate.

Nevertheless, is globalization at least reducing home bias toward its minimum level? Survey data collected in the United States suggest a large swing toward foreign investment. U.S. residents began to increase the share of foreign assets in their portfolios from less than 9 percent in the late 1970s to about 15 percent by the mid-1990s. Since then, the trend has leveled off. The increased allocation to foreign assets was broad based, encompassing portfolio flows into debt and equity securities as well as foreign direct investment.

A substantial part of the swing to holdings of foreign assets by U.S. residents coincided with a significant liberalization of capital accounts in both developed and emerging-market economies. In Western Europe, as goods markets became increasingly integrated, capital accounts followed suit. Starting in the 1980s, controls on foreign exchange and on inbound and outbound capital flows were relaxed. In Japan, the most-restrictive capital controls were relaxed in the early 1980s, but major liberalization came in the mid-1990s with the “Big Bang” financial reform measures. Similarly, many emerging-market economies removed or weakened currency and capital account controls in the 1990s. One cross-country study finds that, from 1983 to 1998, capital account openness improved markedly.[6] With increased experience, U.S. investors doubtless improved their familiarity with foreign investment opportunities, and home bias, accordingly, declined.

Data on financial flows into the United States indicate that foreign purchases of U.S. securities and foreign direct investment in the United States began to pick up in the early 1990s, and it has surged in the past four years. A similar pattern is apparent in the accumulated foreign holdings of securities issued by U.S. residents. As late as 1998, foreign residents owned just 6 percent of U.S. equities, but by 2001 that figure had risen to almost 15 percent. Reliable data on capital flows and securities holdings outside the United States are scarce, but what data we can muster tell a similar story.

Although international diversification appears to have increased over the past two decades, it remains puzzling that, as I mentioned previously, shares of foreign assets in U.S. residents’ portfolios began to plateau in the mid-1990s at levels still well below full diversification. This outcome might indicate either that substantial indirect barriers to capital flows still exist or that an irreducible home bias among U.S. investors is inhibiting geographic diversification.

Formidable indirect institutional barriers to lowering home bias beyond those to which I alluded earlier obviously do remain. Legal restrictions on foreign ownership of domestic assets or limits on the flow of domestic funds abroad can be significant. Informal disclosure practices that favor local investors may lead to information asymmetries - that is, an advantage to domestic residents in acquiring information about prospective investments - that discourage foreign investment in a country. These asymmetries may be exacerbated by differences in corporate governance and local norms of fairness that diverge from foreign standards, undercutting trust. This unfamiliarity fosters risk aversion and elevates home bias.

Recent studies suggest that differing disclosure and corporate governance standards preserve home bias. Researchers have shown that, in most countries, holding a controlling interest in a firm yields significant benefits that do not accrue to minority shareholders, and that a substantial portion of home bias in those countries can be attributed to local holdings of closely held firms.[7] Additionally, staff at the Federal Reserve Board and International Monetary Fund have shown that, for firms from emerging-market economies that meet U.S. standards for disclosure and protection of minority shareholder rights, U.S. residents hold the theoretically predicted proportion of company shares in their portfolios.[8] Thus, it appears that an improvement in global reporting and corporate governance standards could significantly reduce global home bias.

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[6] J. Miniane, “A New Set of Measures on Capital Account Restrictions,” mimeo, Johns Hopkins University, November 2000.

[7] See A. Dyck and L. Zingales, “Why are private benefits of control so large in certain countries and what effect does this have on their financial development?” mimeo, University of Chicago, 2001; or T. Nenova, “The value of corporate votes and control benefits: cross-country analysis,” *Journal of Financial Economics*, forthcoming; and M. Dahlquist et alia, “Corporate governance and the home bias,” *Journal of Financial and Quantitative Analysis*, forthcoming.

[8] H. J. Edison and F. E. Warnock, “U.S. investors’ emerging market equity portfolios: a security-level analysis,” prepared for the *IMF Global Linkages Conference*, January 2003.

So do derivatives markets that help to narrow the wedge between the perceived risk-adjusted returns of foreign and domestic residents on any particular investment. Foreign exchange forward contracts and swaps have helped reduce the overall risk of securities denominated in foreign currencies or to transfer the risks to agents with either a greater appetite for risk or a longer investment horizon over which to smooth losses. Even the imposition of capital controls, foreign exchange restrictions, or devaluations of fixed currencies can now be at least partially hedged through nondeliverable forward contracts that settle in dollars for the change in value of an underlying currency over some pre-determined period. Credit default swaps now allow agents to hedge or exchange even sovereign risk. Argentina's recent default provided a powerful test of these new derivatives and proved their worth, perhaps even helping to limit contagion.

The further development of derivatives markets, particularly in smaller economies where idiosyncratic risk may be more difficult to hedge, will likely facilitate greater cross-border flows and a more productive distribution of global savings. The coincident development of local derivatives markets may facilitate the development of local currency bond markets in small or emerging-market economies by giving foreign and domestic investors more tools with which to hedge their exposure to the country risk.

What Are the Real Economic Implications of Financial Globalization?

It should be apparent that the process of financial globalization has come a long way but is as yet incomplete. Further development should lead to the enrichment and growth of developing economies as global savings are efficiently directed to capital accumulation in those countries where the marginal product of capital is highest.

Another possible result of the process of financial globalization is increasingly large international payment imbalances as countries exporting capital run current account surpluses and those receiving capital run current account deficits. However, such developments should not necessarily be taken as a sign of a systemic problem. They can, in fact, be a sign that the global economy is becoming more efficient at directing capital to assets with the highest risk-adjusted rate of return. Along the way, the economies that liberalize first and to the greatest extent, and credibly commit to respect the property rights of foreigners, may receive the greater portion of free-flowing capital and thus potentially both greater net inflows and larger current account deficits.

This process may have contributed to the recent expansion of the U.S. current account deficit. That expansion coincided with a steady appreciation of the U.S. dollar in the late 1990s, suggesting that net demand for U.S. assets was an important factor driving the significant widening of the U.S. current account deficit. As noted earlier, U.S. savers' appetite for increasing the share of their portfolio devoted to foreign assets began to wane, and at roughly the same time capital account liberalization in other countries freed a large pool of savings to be invested internationally. These newly freed savings flowed disproportionately to the United States, where as a consequence one must assume risk-adjusted returns were perceived to be highest.

Apparently, rapid U.S. productivity gains not seen elsewhere raised expectations for the return to capital on U.S. assets. Moreover, the Asian crisis in 1997 combined with the Russian default a year later to reverse global investors' enthusiasm for investments in developing economies. The crises reminded foreign investors of the indirect barriers that continue to exist, especially in the developing world: a lack of adequate corporate disclosure and governance; underdeveloped, and often capricious, legal structures for contract dissolution and bankruptcy; and ex post government intervention in favor of domestic residents over foreign investors. Capital flows to the emerging-market economies, which had been at record levels throughout the early 1990s, dried up as a result. In contrast, the deep and broad financial markets of the United States and a well-developed legal system with a long history of respect for private property drew record financial flows into the United States.

The lesson we should draw, however, is not that continued financial globalization will draw ever greater amounts of capital to the United States or even to the industrial world more generally. There are limits to the accumulation of net claims against an economy that persistent current account deficits imply. The cost of servicing such claims adds to the current account deficit and, under certain circumstances, can be destabilizing.

The gross size of global quarterly or annual surpluses and matching deficits should rise as indirect barriers to cross-border investment are eliminated and home bias is reduced. However, portfolio adjustments will presumably continuously ameliorate such imbalances. As international accounting

and reporting standards become better, information asymmetries that currently exist between foreign and domestic investors will diminish. Adequate disclosure will, one hopes, accompany the development of institutions that will reduce corruption, and improve corporate governance, respect for private property and the rights of minority shareholders. Together with the growth of deeper and broader markets for derivatives, these developments should lower the risk of cross-border investment, making a wider array of the world's assets more attractive to international investors.

Despite much progress, the process of global financial integration is far from complete. Though most direct barriers to international capital flows have been eliminated, numerous indirect barriers remain in place. While a dazzling array of financial innovations has sprouted in recent decades, the inability of market participants to hedge, trade, or share certain risks, especially those related to cross-border investment, implies that financial markets still need further innovation and deepening. Such barriers to capital flows preserve home bias and impede the efficient distribution of global savings to the most productive investments.

We must remember that as financial globalization matures it will have consequences to economies that we cannot ignore. Global capital flows will increase in size and will switch directions more easily. As a result, temporary imbalances will naturally occur from time to time. To counter these, we need to consider various multilateral policy initiatives, from international accounting standards to international capital requirements for banks, from a "New Financial Architecture" to crisis prevention and resolution mechanisms. Also, market participants will need to enhance their ability to manage vast quantities of collateral that are integral to globalized modern finance. Our goals should include not only global financial stability, but also the promotion of free flowing capital directed to its most productive uses throughout the world. That goal will bring about greater financial stability and a more prosperous future for all who choose to participate in the global economy.