

## Alan Greenspan: International imbalances

Remarks by Mr Alan Greenspan, Chairman of the Board of Governors of the US Federal Reserve System, before the Advancing Enterprise Conference, London, 2 December 2005.

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In November 2003, I noted that we saw little evidence of stress in funding the U.S. current account deficit even though the real exchange rate for the dollar, on net, had declined more than 10 percent since early 2002. Inflation and inflation premiums embedded in long-term interest rates--the typical symptoms of a weak currency--appeared subdued, and the vast international savings transfer to finance U.S. investment had occurred without measurable disruption to international financial markets. Two years later, little has changed except that our current account deficit has grown still larger. Most policy makers marvel at the seeming ease with which the United States continues to finance its current account deficit.

Of course, deficits that cumulate to ever-increasing net external debt, with its attendant rise in servicing costs, cannot persist indefinitely. At some point, foreign investors will balk at a growing concentration of claims against U.S. residents, even if rates of return on investment in the United States remain competitively high, and will begin to alter their portfolios. In addition, efforts by U.S. residents to address their domestic imbalances will presumably contribute to a move away from current account imbalance.

In all instances, a current account balance essentially results from a wide-ranging interactive process that involves the production and allocation of goods, services, and incomes among the residents of a country and those of the rest of the world. The outcome of the process is reflected in the full array of domestic and international product and asset prices, including interest rates.

The array of bilateral exchange rates between the dollar and foreign currencies appears to be particularly important to the current account balance, although, of course, exchange rates, like all other prices, are determined interactively and simultaneously. As I note later, to the extent that an economy harbors elements of inflexibility, so that prices and quantities are slow to respond to new developments, the process of current account adjustment, besides affecting prices of goods and financial assets, is also more likely to adversely affect the levels of output and employment as well.

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The rise of the U.S. current account deficit over the past decade appears to have coincided with a pronounced new phase of globalization that is characterized by a major acceleration in U.S. productivity growth and the decline in what economists call home bias. In brief, home bias is the parochial tendency of persons, though faced with comparable or superior foreign opportunities, to invest domestic savings in the home country. The decline in home bias is reflected in savers increasingly reaching across national borders to invest in foreign assets. The rise in U.S. productivity growth attracted much of those savings toward investments in the United States. The greater rates of productivity growth in the United States, compared with still-subdued rates abroad, have apparently engendered corresponding differences in risk-adjusted expected rates of return and hence in the demand for U.S.-based assets.

Home bias implies that lower risk compensation is required for geographically proximate investment opportunities; when investors are familiar with the environment, they perceive less risk than they do for objectively comparable investment opportunities in far distant, less familiar environments.

Home bias was very much in evidence for a half century following World War II. Domestic saving was directed predominantly toward domestic investment. Because the difference between a nation's domestic saving and domestic investment is the near-algebraic equivalent of that nation's current account balance, external imbalances were small.<sup>1</sup>

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<sup>1</sup> National income accounting establishes that the gap between domestic saving and domestic investment is equivalent to net foreign saving; net foreign saving is a close approximation of the current account balance.

However, starting in the 1990s, home bias began to decline discernibly, the consequence of a dismantling of restrictions on capital flows and the advance of information and communication technologies that has effectively shrunk the time and distance that separate markets around the world. The vast improvements in these technologies have broadened investors' vision to the point that foreign investment appears less risky than it did in earlier times.

Accordingly, the weighted correlation between national saving rates and domestic investment rates for countries representing four-fifths of world gross domestic product (GDP) declined from a coefficient of around 0.97 in 1992, where it had hovered since 1970, to an estimated low of 0.68 last year.<sup>2</sup>

To be sure, international trade has been expanding as a share of world GDP since the end of World War II. Yet, through the mid-1990s, the expansion was largely a grossing up of individual countries' exports and imports. Only in the past decade has expanding trade been associated with the emergence of ever-larger U.S. trade and current account deficits, matched by a corresponding widening of the aggregate external surpluses of many of our trading partners, most recently including China and the OPEC countries.

Indeed, the increasing dispersion of current account balances is closely tied to the shrinking degree of correlation of country shares of saving and investment.<sup>3</sup> Obviously, if domestic saving exactly equaled domestic investment for every country, all current accounts would be in balance, and the dispersion of such balances would be zero. Thus, current account imbalances require the correlation between domestic saving and investment--which reflects the ex post degree of home bias--to be less than 1.0.

Home bias, of course, is only one of several factors that determine how much a nation actually saves and what part of that saving, or of foreign saving, is attracted to fund domestic investment. Aside from the ex ante average inclination of global investors toward home bias, the difference between domestic saving and domestic investment--that is, the current account balance--is determined by the anticipated rate of return on foreign investments relative to domestic investments as well as the underlying propensity to save of one nation relative to that of other nations.

Indeed, all these factors working simultaneously determine the extent to which domestic savers reach beyond their borders to, on net, invest in foreign assets and thereby facilitate current account surpluses and the financing of other countries' current account deficits.

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This afternoon, I should like to raise the hypothesis that the reason the historically large U.S. current account deficit has not been placing persistent pressure on the exchange rate of the U.S. dollar, at least to date, is that the deficit is a reflection of a far broader and long-standing financial development in the United States and elsewhere.

An ever-growing proportion of U.S. households, nonfinancial businesses, and governments, both national and local, fund their capital investments from external sources, rather than, for example, household self-finance or corporations' internal funds. Early on, almost all of that financing originated with U.S. financial institutions, and the debt of U.S. residents to foreigners was small.

The uptrend in unconsolidated deficits of individual U.S. economic entities relative to GDP has been evident for decades, possibly even emerging during the nineteenth century. For most of that period, those deficits were almost fully matched by surpluses of other U.S. economic entities. What is special about the past decade is that the decline in home bias, along with the rise in U.S. productivity growth and the rise in the dollar, has engendered a large increase by U.S. residents in purchases of goods and services from foreign producers. The increased purchases have been willingly financed by foreign investors with implications that are not as yet clear.

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<sup>2</sup> Doubtless, part of the increasing ex post gap between nations' domestic saving and their domestic investment reflects the exogenous rise of competitive risk-adjusted rates of return in the United States, which would have attracted cross-border investments even without a change in ex ante home bias. Nevertheless, even excluding the United States, the correlation coefficient declined from 0.96 in 1992 to 0.58 last year. Of course, excluding the United States from the calculation does not also exclude the growing ex post non-U.S. surpluses, which were drawn to high U.S. rates of return.

<sup>3</sup> Because domestic saving less domestic investment is equal, with small adjustments, to the current account balance, the dispersion of domestic saving less domestic investment among nations is a very close approximation to the dispersion of current account balances.

Typically, current account balances, saving, and investment are measured for a specific geographic area bounded by sovereign borders. Were we to measure current account balances of much smaller geographic divisions, such as American states or Canadian provinces, or of much larger groupings of nations, such as South America or Asia, the trends in these measures and their seeming implications could be quite different than those extracted from the conventional national measures of the current account balance.

The choice of appropriate geographical units for measurement depends on what we are trying to ascertain. I presume that in most instances, we seek to judge the degree of economic stress that could augur significantly adverse economic outcomes. To make the best judgment in this case would require current account measures obtained at the level of detail at which economic decisions are made: individual households, businesses, and governments. That level is where stress is experienced and hence where actions that may destabilize economies could originate. Debts usually represent individual obligations that are not guaranteed by other parties. Consolidated national balance sheets, by aggregating together net debtors and net creditors, accordingly can mask individual stress as well as individual strength.

Indeed, measures of stress of the most narrowly defined economic units would be unambiguously the most informative if we lived in a world where sovereign or other borders did not affect transactions in goods, services, and assets. Of course, national borders do matter and continue to have some economic significance, an issue to which I shall return.

The process of growing trade and financing imbalances has been developing within the borders of the United States for some time. The dispersion of unconsolidated current account balances of individual economic entities relative to nominal GDP may be expected to exhibit similar trends to the dispersion of saving-investment imbalances among the seven consolidated nonfinancial sectors measured in U.S. macroeconomic statistics: households, corporations, nonfarm noncorporate business, farms, state and local governments, the federal government, and the rest of the world.<sup>4</sup> This measure exhibits a rise over the past half-century in the absolute sum of surpluses and deficits that is 1-1/4 percentage points per year faster than the rise of nominal GDP.<sup>5</sup>

The increase in the dispersion of the balances of unconsolidated economic entities was presumably even greater.<sup>6</sup> Indeed, in a more detailed calculation employing more than five thousand nonfinancial U.S. corporations, the absolute value of surpluses and deficits as a ratio to a proxy for corporate value added exhibits an average annual increase of 3-1/2 percent per year.<sup>7</sup>

The apparent increase in the dispersion of the imbalances of the economic entities within our national borders appears to have flattened out over the past decade, according to calculations using the balances of the six domestic sectors. The continued expansion of the dispersion of the balances, relative to GDP, of individual households, nonfinancial businesses, and governments during the past decade is arguably related to the shift in trade and financing from within the borders of the United States to cross-border trade and finance.

In simple terms, some U.S. domestic businesses previously purchasing components from domestic suppliers switched to foreign suppliers. These companies generally view domestic and foreign suppliers as competitive in the same way that they view domestic suppliers as competing with each other. Moving from a domestic to a foreign source altered international balance bookkeeping but arguably not economic stress.<sup>8</sup> Such transactions may, of course, take into account exchange rates in the adjustment process, similar to the manner in which prices of purchased components presumably are taken into account when one domestic supplier is substituted for another.

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<sup>4</sup> I include the "rest of the world" sector because it measures surpluses or deficits of U.S. residents even though they reflect the accumulation of net claims on, or of obligations to, foreigners. The other six sectors reflect net claims on or obligations to domestic residents only.

<sup>5</sup> Disregarding statistical discrepancies, the net of deficits and surpluses of these seven sectors is, of course, zero.

<sup>6</sup> Consolidation of any group of economic entities reduces dispersion. Full consolidation of the entities eliminates it.

<sup>7</sup> The surpluses (and deficits) are measured as income before extraordinary items, plus depreciation, minus capital expenditures. The proxy for corporate value-added is gross margin, or sales less cost of goods sold.

<sup>8</sup> Of course, domestic firms and workers that lose sales will be adversely affected, at least until they can be reallocated to more competitive uses.

Implicit in a widening dispersion of current account surpluses and deficits of individual economic entities is the expectation of increasing cumulative deficits for some and, hence, a possible rise in debt as a share of their income.<sup>9</sup> Unconsolidated debt of private nonfinancial U.S. entities as a ratio to GDP has, indeed, risen at nearly 3 percent per year, on average, over the past half-century.<sup>10</sup> From 1900 to 1939, nonfinancial private debt rose almost 1 percent faster per year on average than GDP. The debt-to-GDP ratio fell in the wake of the inflation of World War II and its aftermath, which inflated away the real burden of debt. The updrift in the ratio, however, shortly resumed.

As I noted earlier, the trend toward intra-country dispersion is likely occurring not only in the United States but in other countries as well. The existence of this trend is suggested by the rise in unconsolidated nonfinancial debt of the major industrial economies, excluding the United States, over the past three decades, which has exceeded the growth of GDP by 1.6 percentage points annually.

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The apparent increase in the dispersion of the surpluses and deficits of U.S. economic entities over the past half-century and more is likely an extension of the growing specialization of the economy and the financial system within the United States. I suspect data would confirm similar trends among many of the other developed economies as well.

Increasing specialization goes back to the beginnings of the Industrial Revolution. Movement away from economic self-sufficiency of individuals and nations arose from the division of labor, a process that continually subdivides tasks, creating ever-deeper levels of specialization and improved productivity. Such specialization fosters trade.<sup>11</sup>

Trade, especially intertemporal trade--that is, the trade of goods and services today in exchange for goods and services at some future date--tends to give rise to a range of surpluses and deficits across individuals and nonfinancial businesses. And in all likelihood those imbalances have been increasing faster than income. As a result, the dispersion of such imbalances relative to incomes, or national product, can be expected to increase as the scope of trade expands from within regions, then nationwide, and finally across national borders.

That surpluses and deficits of residents of the United States have indeed been rising relative to incomes over the past century is indicated by a similar rise in assets of financial intermediaries relative to the total of nonfinancial assets and to nominal GDP. It is these financial institutions that have largely intermediated the surpluses and deficits of U.S. residents, and hence the size of these institutions can act as an alternative proxy for such surpluses and deficits. Indeed, one can argue it has been the need to intermediate the surpluses and deficits that has driven the development of our formidable financial system over the generations.

Since 1946, the assets of U.S. financial intermediaries, even excluding the outsized growth in mortgage pools, have risen 1.8 percent per year relative to nominal GDP. From 1896, the earliest date of comprehensive data on bank assets, to 1941, assets of banks, by far the predominant financial intermediaries in those years, rose 0.6 percent per year relative to GDP.

The increase in the ratio of deficits of individual economic entities to GDP, as I noted earlier, is reflected in an ever-rising ratio of unconsolidated levels of debt to GDP. Facilitating the ability of residents of the United States and, presumably, other economies to accumulate this debt with limited stress has been the rising ratio of the market value of nonfinancial assets to GDP. The rise in those asset values in the United States reflects, in part, an increasing ratio of real capital assets to real GDP, which has helped to support the rise in U.S. productivity.

Hard data documenting these global developments at the appropriate microlevel are regrettably sparse. Yet anecdotal, circumstantial, and some statistical evidence is suggestive that the historically large current account deficit of the United States may be part of a broader set of rising unconsolidated

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<sup>9</sup> Cumulative deficits of individual economic entities will increase net debt, i.e., gross debt less financial assets. But in the large majority of instances gross debt will rise with net debt.

<sup>10</sup> Part of this rise possibly reflects a growing proportion of income generated by GDP accruing to debtors. In recent decades, however, the proportion of economic units with no debt has been relatively small. Nominal GDP, of course, is net value-added and is not affected by consolidations of accounts.

<sup>11</sup> There is no necessary reason, of course, why such trade need be imbalanced.

deficits and accumulated debt that is arguably more secular than cyclical. The secular updrift in deficits and debt doubtless has been gradual. However, the component of those broad measures that captures the share of net foreign financing of the balances of individual unconsolidated U.S. economic entities--our current account deficit--has increased from negligible in the early 1990s to more than 6 percent of our GDP today. The acceleration of U.S. productivity, which dates from the mid-1990s, was an important factor in this process.

Accordingly, it is tempting to conclude that the U.S. current account deficit is essentially a byproduct of long-term secular forces, and thus is largely benign. After all, we do seem to have been able to finance our international current account deficit with relative ease in recent years.

But does the apparent continued rise in the deficits of U.S. individual households and nonfinancial businesses themselves reflect growing economic strain? (We do not think so.) And does it matter how those deficits of individual economic entities are being financed? Specifically, does the recent growing proportion of these deficits being financed, net, by foreigners matter?

If economic decisions were made without regard to currency or cross-border risks, then one could argue that current account imbalances were of no particular economic significance, and the accumulation of debt would have few implications beyond the solvency of the debtors themselves. Whether the debt was owed to domestic or foreign lenders would be of little significance.

But national borders apparently do matter. Debt service payments on foreign loans, for example, ultimately must be funded disproportionately from exports of tradable goods and services, whereas domestic debt has a broader base from which it can be serviced. Moreover, the market adjustment process seems to be less effective across borders than domestically. Prices of identical goods at nearby locations, but across borders, for example, have been shown to differ significantly even when denominated in the same currency.<sup>12</sup> Thus cross-border current account imbalances have implications for the market adjustment process and the degree of economic stress that are likely greater than those for domestic imbalances. Cross-border legal and currency risks are important additions to normal domestic risks.

But how significant are those differences? Globalization is changing many of our economic guideposts. It is probably reasonable to assume that the worldwide dispersion of the balances of unconsolidated economic entities as a share of global GDP noted earlier, will continue to rise as increasing specialization and the division of labor spread globally.

Whether the dispersion of world current account balances continues to increase as well is more an open question. Such an increase would imply a problematic further decline in ex ante home bias. Even in that event eventually the U.S. current account deficit would likely move back toward balance.

Regrettably, we do not as yet have a firm grasp of the implications of cross-border financial imbalances. If we did, our forecasting record on the international adjustment process would have been better in recent years. I presume that with time we will learn.

In the interim, whatever the significance and possible negative implications of the current account deficit, maintaining economic flexibility, as I have stressed before, may be the most effective initiative to counter such risks.

Whether by intention or by happenstance, many, if not most, governments in recent decades have been relying more and more on the forces of the marketplace and reducing their intervention in market outcomes. We appear to be revisiting Adam Smith's notion that the more flexible an economy the greater its ability to self-correct after inevitable, often unanticipated disturbances. That greater tendency toward self-correction has made the cyclical stability of an economy less dependent on the actions of macroeconomic policy makers, whose responses often have come too late or have been misguided.

Being able to rely on markets to do the heavy lifting of adjustment is an exceptionally valuable policy asset. The impressive performance of the U.S. economy over the past couple of decades, despite

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<sup>12</sup> The persistent divergence subsequent to the creation of the euro of many prices of identical goods among member countries of the euro area is analyzed in John H. Rogers (2002), "[Monetary Union, Price Level Convergence, and Inflation: How Close is Europe to the United States?](#)" Board of Governors of the Federal Reserve System, International Finance Discussion Paper 740. For the case of U.S. and Canadian prices, see Charles Engel and John H. Rogers (1996), "How Wide Is the Border?" *American Economic Review*, vol. 80, pp. 1112-25.

shocks that in the past would have surely produced marked economic disruption, offers clear evidence of the benefits of increased market flexibility. In the United Kingdom, as well, a quarter-century of progress toward dismantling controls and increasing reliance on market forces evidently has resulted in a stronger and more flexible economy.

Although the business cycle has not disappeared, flexibility has made the United States and the United Kingdom, and much of the remainder of the global economy more resilient to shocks and more stable during the past couple of decades. Nonetheless, the piling up of dollar claims against U.S. residents is already leading to concerns about concentration risk. Although foreign investors have not as yet significantly slowed their financing of U.S. capital investments, since early 2002, we have observed a decline in the value of the dollar and a reduction in the share of dollars in global cross-border portfolios.<sup>13</sup>

If the currently disturbing drift toward protectionism is contained and markets remain sufficiently flexible, changing terms of trade, interest rates, asset prices, and exchange rates will cause U.S. saving to rise, reducing the need for foreign finance and reversing the trend of the past decade toward increasing reliance on it. If, however, the pernicious drift toward fiscal instability in the United States and elsewhere is not arrested and is compounded by a protectionist reversal of globalization, the adjustment process could be quite painful for the world economy.

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<sup>13</sup> Of the more than \$30 trillion equivalents of cross-border banking and international bond claims reported by the private sector to the Bank for International Settlements for the end of the first quarter of 2005, 41.8 percent were in dollars and 39.8 percent were in euros. Adjusting for exchange rate changes, the dollar's share was 4 percentage points less than three years earlier, and the euro's share was more than 5 percentage points greater. Monetary authorities have been somewhat more inclined to hold dollar obligations. At the end of the first quarter of 2005, of the \$3.8 trillion equivalents held as foreign exchange reserves, more than three-fifths were held in dollars and approximately one-quarter in euros. Since early 2002, the dollar's share has been little changed after adjusting for movements in exchange rates.