

How Strong are Global Linkages?

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The term “globalization” is much used—and abused. The past few decades are often described as a new era of globalization that has brought the world’s product and capital markets closer together. While the fact of larger flows of goods and capital is significant, policymakers are concerned also about how and the extent to which globalization causes their domestic economies to move in step with economies in the rest of the world, for when such comovement is large, policy makers’ influence on their own economy is reduced. This conference brings together ongoing research that bears on the strength, nature, and sources of comovement in financial markets and output produced across countries.

Comovements: Stylized Facts

We start with some stylized facts.

- Financial comovement tends to be substantially greater than “real” comovement. Figures 1(a) and 1(b) show respectively for the G-7 and emerging market economies that stock market correlations with the United States are higher—typically significantly so—than GDP correlations across the same markets.
- Financial comovement has increased in the 1990s. Stock market correlations have increased especially in the G-7 economies, reaching very high levels in the late 1990s. And, though these financial market correlations are lower for emerging markets, they have also increased steadily.

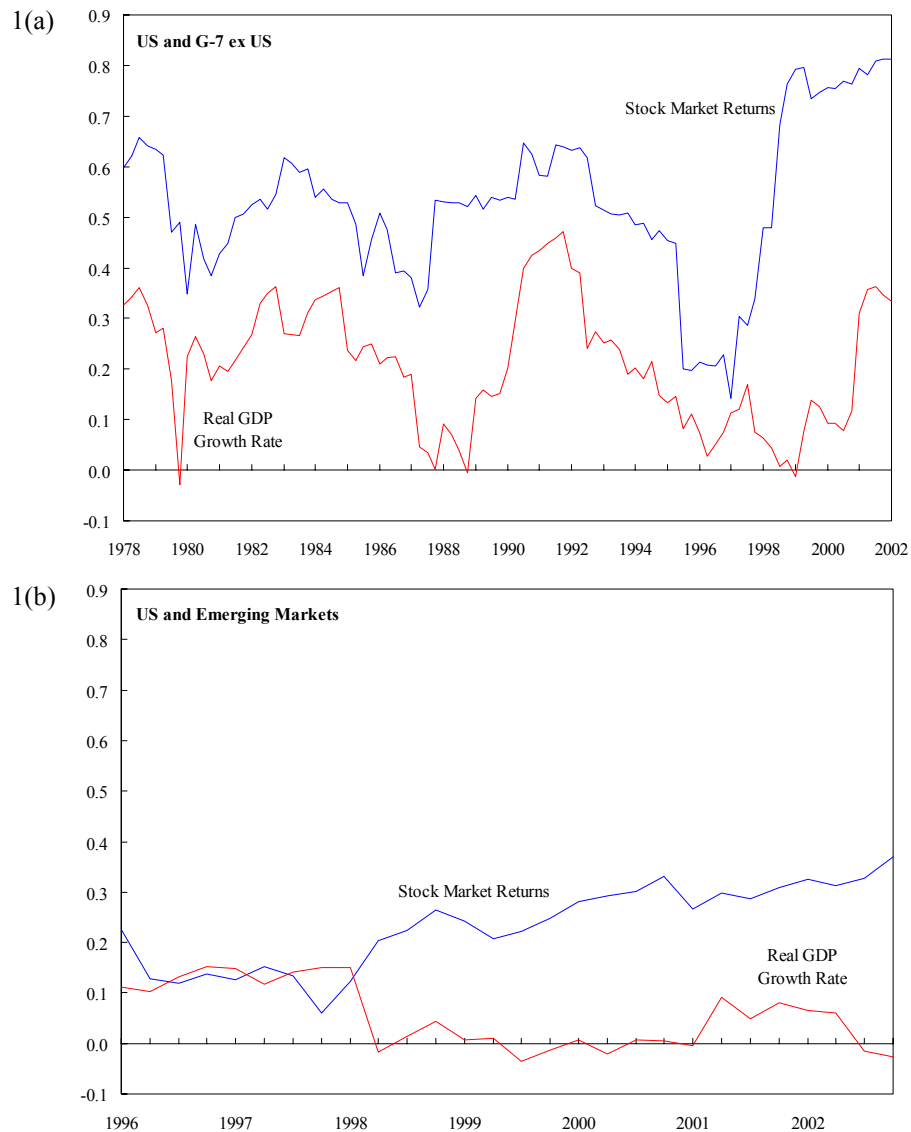


Figure 1. Average Correlations between US and G-7/Emerging Markets, 5-year window

- In contrast, “real” correlations show no clear evidence of increase over time, though for the G-7 economies, there is some suggestion of increase in correlations in the late 1990s along with the increased financial correlations during that period.

The rise in financial market correlations in the 1990s is associated with greater financial “openness.” Figure 2(a) reports one measure of openness, which reflects greater holding of international assets and liabilities relative to country GDPs. Figure 2(b) shows

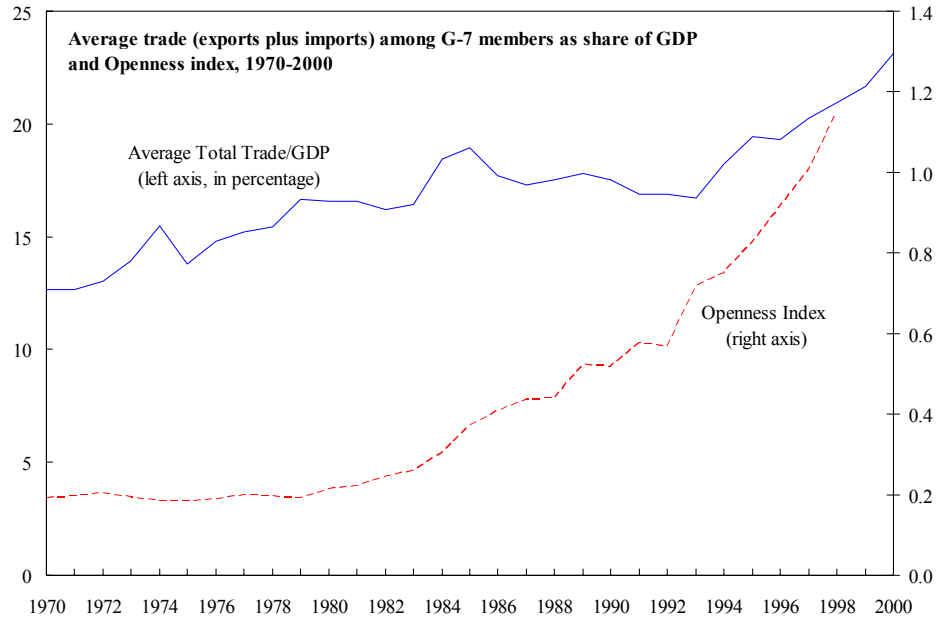


Figure 2(a). Average Total Trade as share of GDP and Financial Openness Index for G-7 countries.

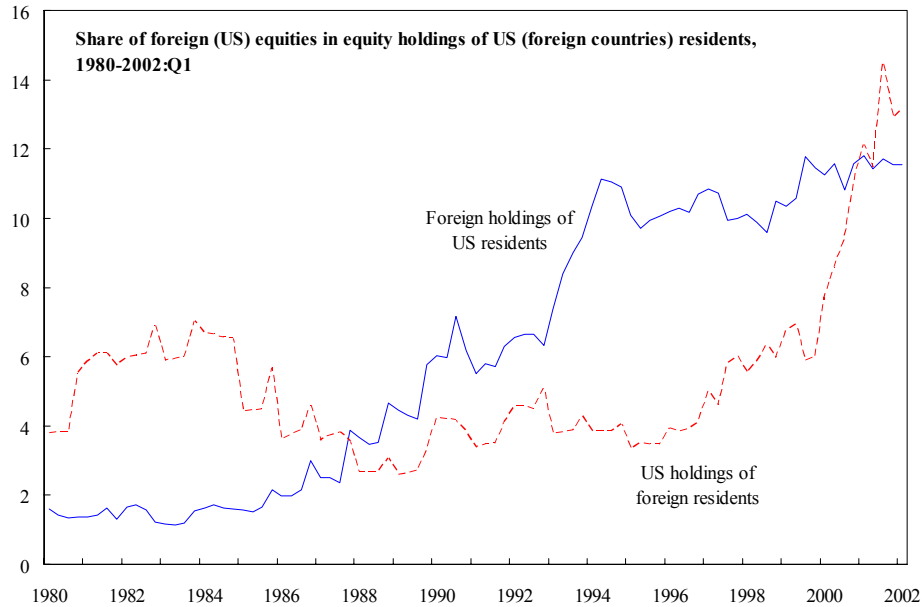


Figure 2(b). Share of Foreign (US) Equities in Equity Holdings of US (Foreign countries) residents.

that cross-border holding of equities also increased over the 1990s, implying a reduction in the so-called “home bias” in equity portfolios. Underlying such financial openness was a steady opening of countries’ international capital accounts. Thus, greater policy openness fostered more capital flows and is associated with a tendency towards higher correlations between markets across the world.

To summarize, while the evidence on financial comovement is relatively clear and consistent, that on real comovement is blurred and controversial. Although Figure 2(a) shows that trade in goods between countries increased relative to country GDPs over the 1990s, the pace of increase was considerably slower than the corresponding increase in cross-border financial activity. Reconstructing Figures 1(a) and 1(b) in different ways, various authors have concluded that real comovements rose, were steady, or actually declined. Also controversial—both theoretically and empirically—is whether an increase in financial comovement should be associated with an increase in real comovement. Consider first the theory.

Real and Financial Links

According to one view, financial and real comovements should move in opposite directions. Thus as financial market integration increases, countries are better able to specialize in production activities. Greater specialization, in turn, is likely to imply that country GDPs will reflect “shocks” associated with their specialized activities and hence GDP comovements will decline. The same conclusion can also be reached through a different line of reasoning. If idiosyncratic shocks, or shocks unique to a country, increase in importance for some reasons, such as evolution in key institutions or policies,

then GDP correlations will decline. But this decline in correlation will offer an opportunity for diversification across countries, increasing capital flows and tying financial markets closer to each other.

So are there circumstances in which we would expect that real and financial comovement may go up together? The answer is “yes,” when there are common “shocks” that have a global reach. In other words, significant economic events that have a global reach will result in shared experiences across nations, making their GDPs and financial markets move together. Global shocks may be positive, spurring growth, as when productivity increases due to the diffusion of an important new technology or they may be negative, following, for example, from a sharp rise in oil prices. Global shocks may also result from so-called bubbles when expectations of investors are out of line with fundamental economic realities. The critical thing is that these shocks are hard to predict going forward. The resulting increases in comovement are therefore likely to be temporary, as for example during the oil shock periods.

What Explains Recent Trends?

An important question then is whether the recent rise in financial comovement is merely a financial market phenomenon—or does it have some real underpinnings? This is not an easy question to answer empirically since financial markets are much more volatile than real activity and, hence, relating movements in the two arenas is not always straightforward. However, recent research, including that presented at this conference helps us make some advances in answering this important question.

In their paper, Brooks and del Negro find that firms whose stock returns move closely with average international returns are also, on average, firms that are more engaged in international trading activities. The implication of their result is that as individual firms take on more of a multinational character, they lose their country identities and their stock price movements reflect international factors. However, though this result is intuitive, it explains only a small portion of the international comovement.

Forbes and Chen also find a relationship between real and financial factors. They isolate bilateral asset price movements, i.e., the extent to which asset prices in two countries move together, and relate these comovements to bilateral linkages through trade and finance. They find the bilateral asset price movements are hard to explain in terms of cross-country linkages up until the second half of the 1990s. For the period 1996-2000, they find that trade linkages explain bilateral asset price movements, more so than other financial and foreign direct investment links.

Thus, there is some evidence that real and financial comovements are related—but the evidence also is that the relationship holds more strongly in some periods than in others. Goetzmann, Li, and Rouwenhorst ask if they can identify characteristics of periods when these links are strongest. Reviewing the experience over the past 150 years, they find that comovements were strongest in three periods: in the later part of the 19th century (a period of “globalization” that is often compared to the globalization in the last decades of the 20th century), during the Great Depression in the 1930s, and in the recent phase of globalization. Their results, therefore, suggest that international comovements are significant when global “shocks” are important, i.e., when common factors have a strong influence across the economies of the world.

Sources of Global Shocks

Global “shocks” may be the result of coordinated policies across countries. In their paper, Kose, Otrok, and Whiteman estimate the importance of global shocks across the past century and seek also to identify the sources of these shocks. They suggest that while in the 1970s such shocks were related to oil price movements, in the recent period monetary and fiscal policies have tended to move together. Imbs argues that production structures have become more similar across nations and this implies that output in countries will move more in step in response to changes in world economic conditions.

In addition to similarities in policy reaction functions and in production structures, comovement may also increase because of convergence in certain institutional features. Of particular relevance is the evolution of international norms in financial regulations, such as capital adequacy requirements and accounting standards. Morck, Yang, and Yeung find, for example, that a move to greater capital account openness leads to pressures for greater transparency and reduces the influence of country factors on stock price movements.

In this context, Karolyi examines an important financial innovation: the American Depository Receipts (ADRs). An ADR is a negotiable claim against shares in the home market that can trade over-the-counter or on major U.S. exchanges. As such, it is a mechanism that allows an emerging market company to tap U.S. equity markets. Since this requires meeting U.S. standards, ADRs serve to globalize accounting standards. This tends to promote integration: Karolyi finds greater ADR issuance is associated with more

capital flows and greater stock market comovement. However, Karolyi also notes certain adverse effects: a decline in the size and liquidity of the domestic market.

Yet another globally integrating force may be a globally spreading wave of new technology, as was the case with the spread of information technology in the 1990s. Productivity gains across nations are, in such a situation, likely to result in greater comovement of both output and financial markets. However, the comovement on account of productivity gains is not easy to distinguish from comovement that arises from a financial bubble, where market expectations and fundamentals fall out of step. There is at least some reason to believe that rise in comovement in the 1990s and the link between real comovement and financial comovement during this period reflected a combination of genuine productivity gains and a financial bubble.

When Financial Markets Take on a Life of Their Own

The possibility of bubbles in financial markets has been an important consideration on policymakers' agendas. Financial markets may take on a life of their own through bubbles that last a number of years or movements may be short-lived but may have significant consequences nevertheless. Contagious financial crises that are associated with an especially high degree of comovement have had very expensive outcomes in terms of output lost. A key question of interest has been how—and how far—do these crises spread. This is the question that Kaminsky and Reinhart address. By studying extreme movements in financial markets, they conclude that such movements typically remain contained within a region. However, when the extreme

movements in emerging markets trigger similar movements in important financial centers, then financial contagion spreads globally.

Griffin, Nardari, and Stulz also examine the role of global factors on performance of domestic capital markets. They conclude that observed pattern of financial flows is not consistent with perfect financial markets and investors who know the true distribution of stock returns. Equity inflows into an emerging market economy can be large when there are unexpectedly high global returns on stocks—and equally, equity outflows can be large when there are no changes in the fundamentals of the emerging market.

Similarly, Edison and Warnock, examining U.S. equity flows at a highly disaggregated security level, find that these flows are easily retracted. U.S. investors tend to favor firms that cross-list in both their domestic and in the U.S. markets but are fickle even about their investment even in such large and financially sound firms.

Conclusions

Though the evidence for “globalization” in the form of more trade and capital flows across borders is clear, the evidence on comovements is more mixed. Financial comovements clearly increased during the 1990s as capital flows increased. But there is some question whether the high level of comovements was due to real underlying changes or the manifestation of a “bubble.” If the latter, we can expect the correlations to decline. However, even if average correlations decline, we can expect to see episodes of strong correlations that transmit financial pressures across nations. Guarding against such pressures at critical moments will continue to be a concern to policymakers. In more normal times, the evidence seems to suggest that real comovements are neither

especially strong nor on an obviously upward trend. This allows a certain degree of autonomy to policymakers in a “globalized” world. The process of globalization will undoubtedly press on as institutional convergence continues—and the influence of such institutional developments on global comovements will remain a live topic of research.