

The Yo-Yo Years: More Recessions in the West and Volatility for the Rest

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AN OMINOUS PATTERN

By the late 1990s, with the United States experiencing an unusually long economic expansion, there was a growing sense that there had been a permanent change in business cycle dynamics. This line of thinking became popular enough that, during the latter part of the expansion, the general-interest journal *Foreign Affairs* published an article (Weber, 1997) titled “The End of the Business Cycle?” The premise of the paper was that “in advanced industrial economies the waves of the business cycle may be becoming more like ripples.” A couple of years later, in seeming confirmation of this thesis, the expansion matched in duration the longest in U.S. history.

Some economists wanted to understand whether there had been a fundamental change in the cycle and, if so, why. Among the first to formally investigate this question were Kim and Nelson (1999) and McConnell and Perez-Quiros (2000), whose work led to a widespread recognition of the “Great Moderation” that Ben Bernanke hailed in a subsequent speech (Bernanke, 2004).

Four years later, however, the economy had entered what would come to be known as the “Great Recession.” While a few suspected that the economy was already in trouble, many more were sanguine. In June 2008, six months into the recession, Mr. Bernanke presented a relatively upbeat assessment of the state of the economy. In his words (Bernanke, 2008), “although activity during the current quarter is likely to be weak, the risk that the economy has entered a substantial downturn appears to have diminished over the past month or so.” Accordingly, his speech focused on the risk of inflation, not recession.

Indeed, a couple of months later, and two weeks before the Lehman Brothers debacle on August 28, 2008, the latest reports showed not only that GDP growth had been positive in the first quarter, but also revised the second-quarter up from 1.9% to 3.3%. On the surface it seemed that, if anything, Mr. Bernanke had been conservative in his “nowcasting,” and the Dow rallied 212 points that day. Apparently, the Great Moderation was protecting the U.S. economy from economic contraction.

But that same month at the Economic Cycle Research Institute (ECRI), we were honing in on a very ominous pattern in U.S. economic growth (ECRI, 2008), which *The New York Times* highlighted (Norris, 2008) at the time. Our work had uncovered a long-term pattern of falling growth in GDP and jobs during successive expansions, which then led us to the conclusion that we were entering an era of more frequent recessions than anyone was used to. Further research shows that these cyclical patterns also hold for much of Europe – a finding that has deeply troubling implications for years to come.

A STYLIZED VIEW

To start with, we consider the business cycle in the abstract, as shown in Figure 1. The blue line shows economic growth cycling up and down like a sine curve. Every time it dips below zero the economy experiences negative growth, marked off by the red areas, which are recessions. The dotted line represents the long-term trend growth rate, with economic growth cycling above and below.

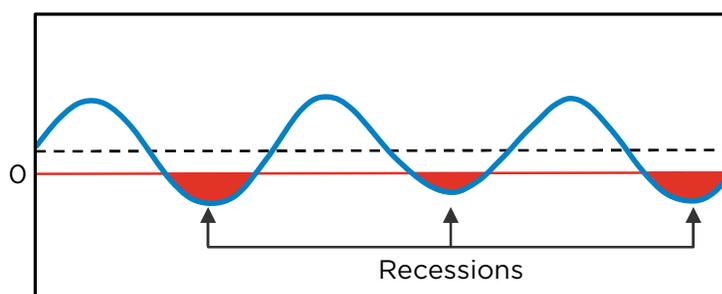


Figure 1: A Stylized View of Recession

Let us suppose that all of these conditions remained the same except that *trend growth was shifted up*. Now economic growth (blue line, Figure 2) dips below zero less often, resulting in less frequent and milder recessions. This is evident today in some of the emerging markets that have strong trend growth.

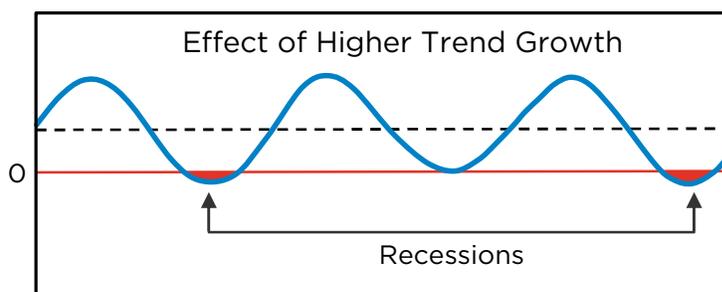


Figure 2: A Stylized View of Recession

Now, suppose that, with Figure 1 as the starting point, this time *trend growth is kept unchanged*, but instead *the cycle volatility is tamped down*, resulting in smoother, tamer business cycles. Again, economic growth (blue line, Figure 3) dips below zero less often, resulting in less frequent and milder recessions.

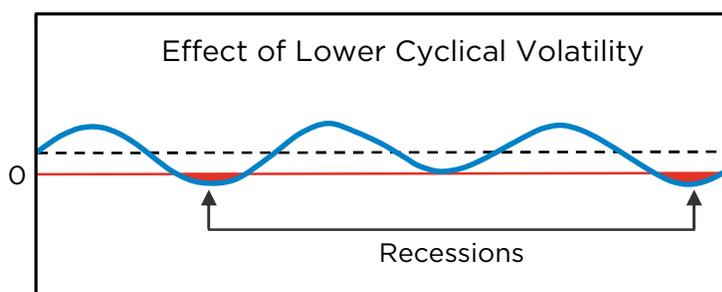


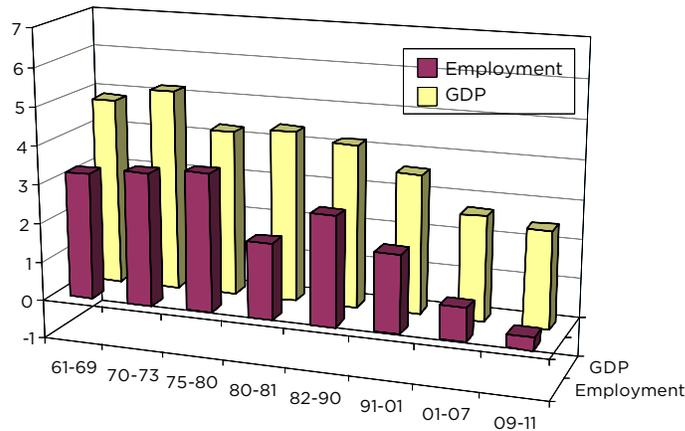
Figure 3: A Stylized View of Recession

Thus, there are two fundamental paths towards less frequent recessions: raise long-term trend growth or tamp down cycle volatility. The latter is what happened in the U.S. from the mid-1980s through 2007 – the so-called Great Moderation of the business cycle, during which the U.S. economy enjoyed long expansions. Now we turn from stylized concepts to the real world.

THE U.S. EXPERIENCE

In the summer of 2008, in the lead-up to the Lehman Brothers failure, ECRI's research showed that U.S. GDP and jobs during each business cycle expansion over the past half-century exhibited a compelling pattern of growth stair-stepping down in successive expansions starting from the 1970s (Figure 4). Absent any compelling rationale for that long-standing pattern to reverse itself, we concluded that a weak expansion would follow the ongoing recession (ECRI, 2008). Of course, a couple of weeks later Lehman Brothers collapsed, precipitating a financial crisis.

It is now common knowledge that, following financial crises, economies generally experience many years of weak growth due to the extended period of deleveraging that follows (Reinhart and Rogoff, 2009). However, such a perspective, while no doubt relevant, is likely to camouflage the well-established pattern of weakening economic growth that practically guaranteed a weak recovery in any event. As it happens, we now have that pattern of weakening economic growth reinforced by deleveraging.



Sources: U.S. Bureau of Economic Analysis, U.S. Bureau of Labor Statistics, and ECRI.

Figure 4: Trend Growth (%) in Output and Employment During U.S. Expansions

But there is much more than weak growth to contend with. As Figure 5 illustrates, economic cycle volatility has now spiked up to multi-decade highs after staying muted from the mid-1980s through 2007, based on the three-year standard deviation of ECRI’s U.S. Coincident Index.

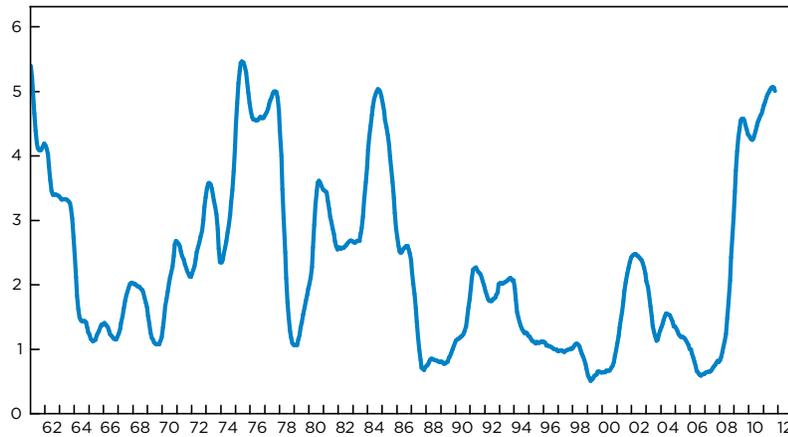


Figure 5: Cyclical Volatility of U.S. Coincident Index Growth

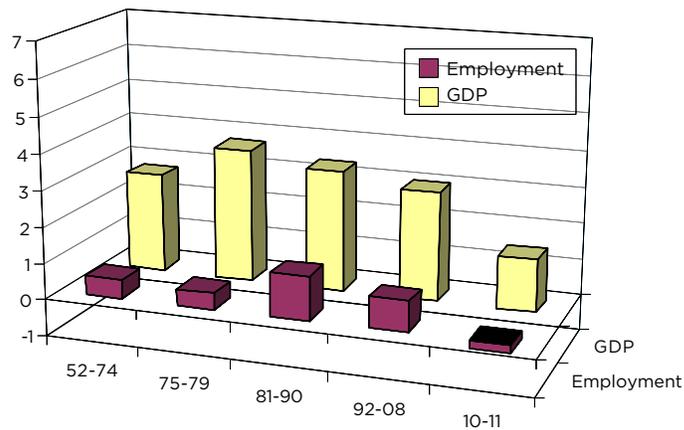
Recalling Figures 1 to 3, the combination of these two patterns – weaker growth during successive expansions and higher cyclical volatility – virtually dictate more frequent recessions. Rather than the higher trend growth that tends to reduce the incidence of recessions, we have the reverse – a pattern of lower and lower trend growth during expansions that has now persisted for decades. And instead of lower cycle volatility, we have a recent upturn to multi-decade highs.

Starting in the early 1980s, the U.S. economy experienced three relatively long back-to-back economic expansions, lasting over eight years, exactly ten years and over six years, respectively, that has resulted in a popular presumption that long expansions are normal. But, as discussed, we now have extraordinarily low trend growth, while the Great Moderation of business cycle volatility is history.

If so, more frequent recessions should not come as a surprise, nor should they be considered unusual. For example, from 1969 to 1982 the U.S. had four recessions in less than 13 years. Going back a bit further, from 1799 to 1929 almost 90% of expansions lasted three years or less. In other words, from a longer-term historical perspective, the likely brevity of economic expansions during the current decade should be viewed as far from anomalous.

THE EUROPEAN PREDICAMENT

The U.S. is hardly alone in this respect. Similar patterns are evident for the U.K. where, over the course of successive economic expansions, trend growth in GDP has abated even more than in the U.S., while trend growth in jobs essentially collapsed to a negative reading during the latest economic expansion (Figure 6). Meanwhile, cycle volatility is hovering around two-decade highs (Figure 7). In that context, it is not surprising that the U.K. seems to have slid into another recession in 2011, only a couple of years after the end of the previous recession.



Sources: Office of National Statistics and ECRI.

Figure 6: Trend Growth (%) in Output and Employment During U.K. Expansions

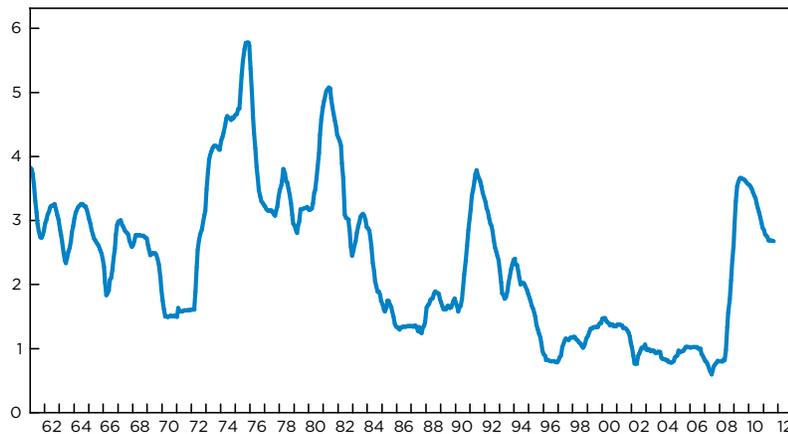
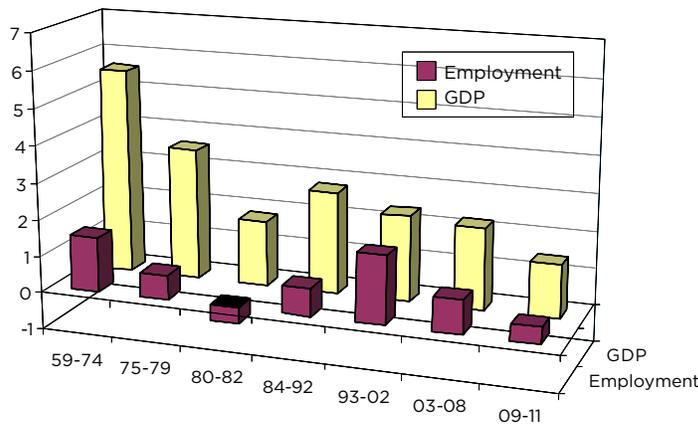


Figure 7: Cyclical Volatility of U.K. Coincident Index Growth

Let us now turn to France and Italy. In fact, France has also been seeing falling trend growth in GDP during recent expansions (Figure 8), while cycle volatility has risen to its highest readings in about three decades (Figure 9). At the time of writing, France seems to be teetering on the brink of recession, three years after the previous recession ended.

In the case of Italy, the steady decline in trend growth in GDP during successive expansions is crystal clear, but trend growth in jobs has dropped so drastically that, as in the U.K., it turned negative during the latest expansion (Figure 10).



Sources: Institut National de la Statistique et des Études Économiques and ECRI.

Figure 8: Trend Growth (%) in Output and Employment During French Expansions

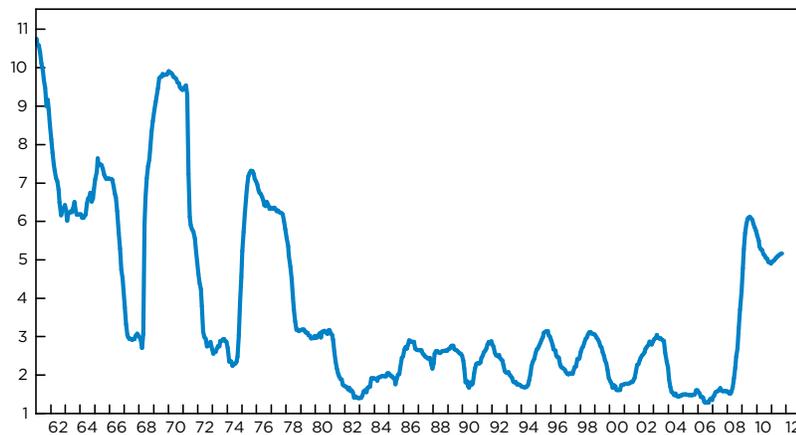


Figure 9: Cyclical Volatility of French Coincident Index Growth

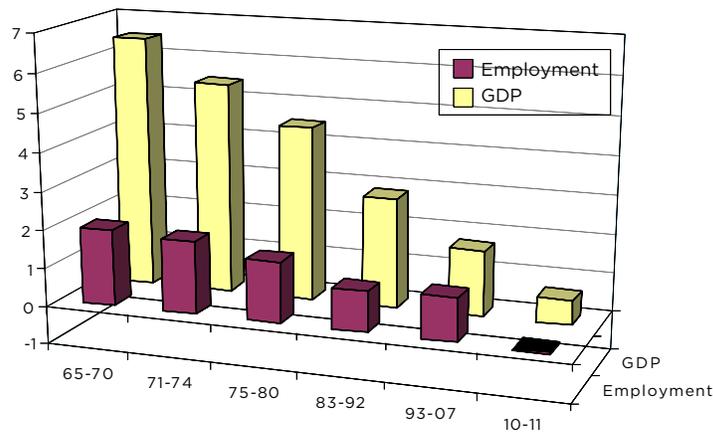
Meanwhile, cycle volatility has surged to its highest readings since the late 1970s (Figure 11). No wonder Italy reentered recession in 2011 after a brief economic expansion. Of course, Spain has the same challenge, but even more so (not shown).

In Germany (not shown), however, we do not see a similar pattern of falling growth during successive expansions, but it does show a similar spike in cyclical volatility. Part of the explanation may lie in the 2003-04 Hartz reforms that brought about structural changes to reverse the earlier pattern of falling trend growth.

In any case, such isolated exceptions notwithstanding, the pattern of falling trend growth alongside increased cyclical volatility leads inexorably to a grim conclusion: this combination virtually dictates more frequent recessions. This highlights a key challenge that most major developed economies are likely to face for the next five to ten years.

With regard to Europe, it is increasingly obvious to policymakers that austerity alone cannot put Greece, or even Spain, in a tenable fiscal position any time soon because their growth prospects are so horrible. But these charts show that even for Italy, France, and the U.K., longer-term growth prospects are dismal.

Essentially, for these European economies, we are likely to see modest growth during expansions, punctuated by frequent recessions with negative growth – all averaging out to very anemic overall trend growth. Yet the standard forecasts – for



Sources: Istituto Nazionale di Statistica and ECRI.

Figure 10: Trend Growth (%) in Output and Employment During Italian Expansions

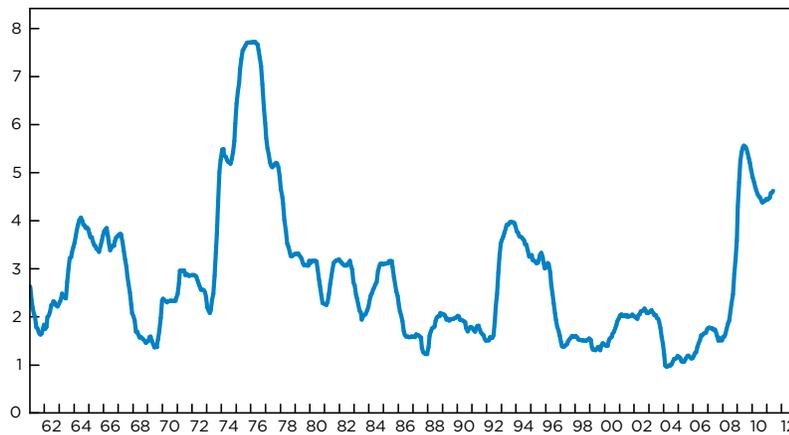


Figure 11: Cyclical Volatility of Italian Coincident Index Growth

example, those from the International Monetary Fund (IMF) – used in fiscal projections indicate average real GDP growth in the range of 1¼% to 2% over the next few years (IMF, 2012).

There is simply no way to square these assumptions with the growth prospects just discussed without radical structural changes that result in a quick reversal in these patterns of multi-decade declines in the pace of growth. This raises serious questions about the idea that Europe can muddle through by keeping markets afloat on a sea of liquidity until growth picks up in a few years.

In reality, the U.S. is not that different, and faces the same chronic growth challenges – essentially slow growth punctuated by more frequent recessions. It is remarkable, in that context, that the Congressional Budget Office currently assumes that real GDP growth will average 4.4% in 2014-16 (Congressional Budget Office, 2012), compared with 1.7% since the beginning of the 21st century.

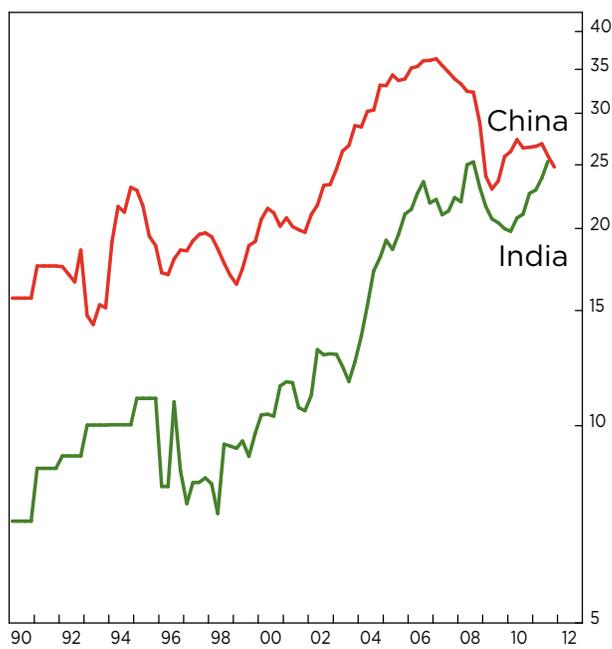
The foregoing analysis is about *developed* economies, but what about cyclical dynamics for the *developing* world? We shall see that they are unlikely to escape unscathed by these developments in the West.

THE LASH OF THE BULLWHIP

The idea of “decoupling” often comes up as a way for one part of the world to dodge weakness elsewhere. But, over the last two decades, a key driver of the greater *coupling* of economic cycles had been the increasing interdependence of world economies, with more openness in the flows of capital and trade – especially merchandise trade.

Indeed, the export dependence of most economies has risen dramatically in this period, according to data from the Organisation for Economic Co-Operation and Development (OECD) and various national statistical agencies, as analyzed by ECRI (2012a). We see that export to GDP ratios have increased sharply since the early 1990s across all countries, which is evidence of the intensification of global integration through trade. The Asia-Pacific region is a case in point.

In China, the share of exports relative to GDP had doubled by about 2007 before seeing a gradual pullback, but exports still account for about a quarter of Chinese GDP, and has more than tripled for India (Figure 12). It has also more than tripled for Korea, and advanced to roughly 75% from 42% for Taiwan (not shown). The proportion roughly doubled even for Japan (Figure 13).



Sources: OECD, China Customs, China National Bureau of Statistics, and ECRI.

Figure 12: Exports as a Percentage of GDP in Asia-Pacific Region

In the Americas, the proportion of Canadian exports increased from 25% in the early 1990s to 45% in 2000, before falling back to around 34% (not shown). At the same time, Mexican exports have tripled their share of GDP (not shown). Even the U.S., which is not known to be an export-oriented economy, participated fully in this move toward higher export-dependence, with the ratio of exports to GDP almost doubling from 7% in 1990 to nearly 14% (Figure 13).

Meanwhile, in the Eurozone, exports as a percentage of GDP has jumped to 44% from 26% in 1995 (Figure 14). In the U.K., the proportion increased from 19% in 1990 to 30% at present (Figure 14).

The implications of this increased interdependence based on trade linkages are magnified by the workings of the Bullwhip Effect. This is a phenomenon that has long been important in the transmission of cycles, but has become even more important in recent years.

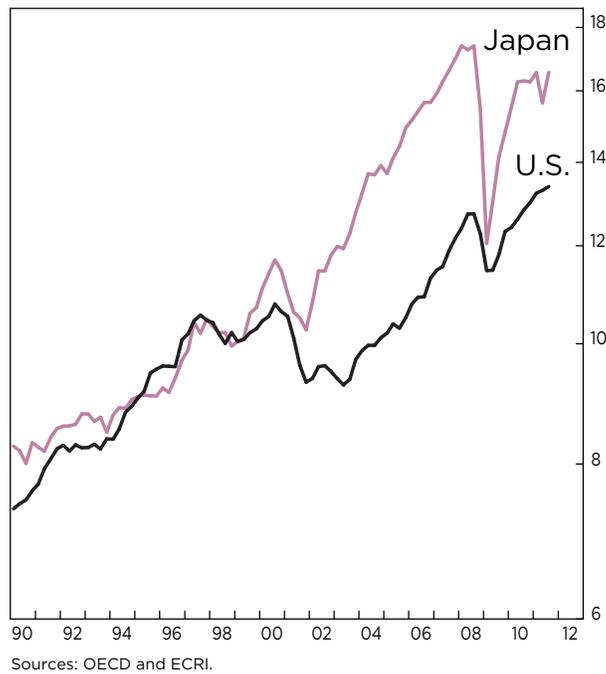


Figure 13: Exports as a Percentage of GDP in U.S. and Japan

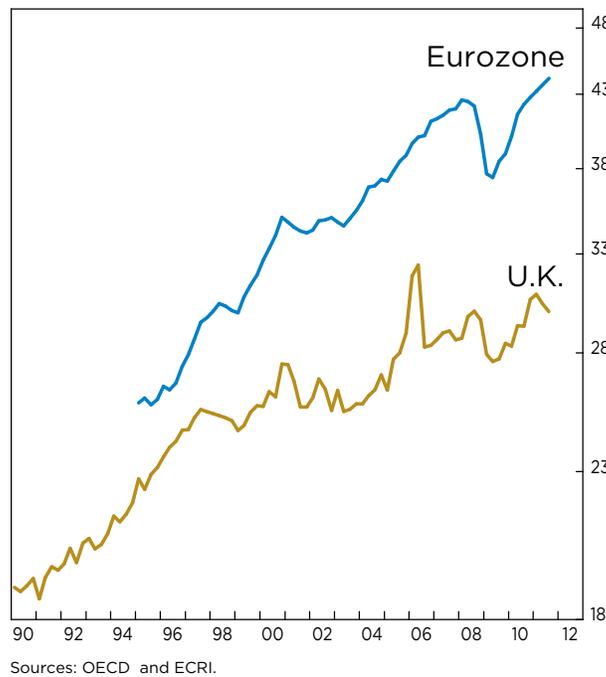


Figure 14: Exports as a Percentage of GDP in Europe

The conventional view is quite correct that developing economies have become a key driver of long-term secular global growth. However, in cyclical terms, developing economies are very much subject to the Bullwhip Effect, where small fluctuations in consumer demand growth get amplified up the supply chain into big swings in demand as one moves away

from the consumer. In effect, smaller shifts in end-consumer demand growth translate into larger fluctuations in intermediate goods demand, and even bigger ones in input material demand, and especially in raw material prices.

A study of the shoe, leather and hides sequence by Ruth Mack (1956) illustrates how shifts in demand ripple through supply chains to produce cyclical swings (Figure 15). During periods of growth, shoe manufacturers anticipate rising demand, but if demand growth slows, i.e., there is a slower increase in shoe demand, shoe manufacturers will be stuck with excess shoe and leather inventory. Thus, new orders for leather have to be reduced significantly.

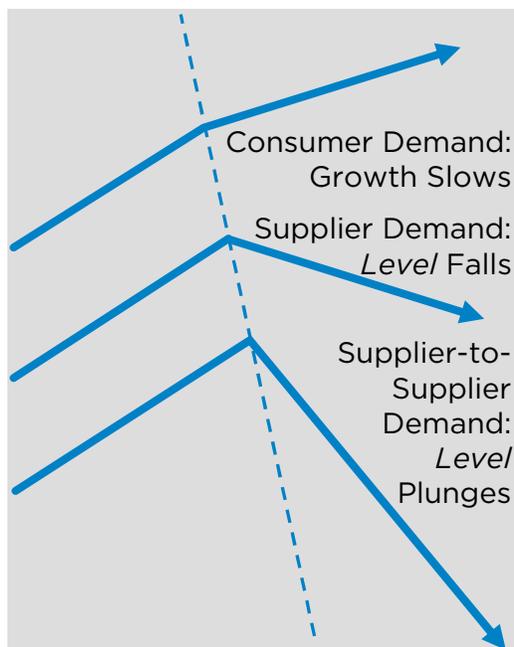


Figure 15: Shoe-Leather-Hide Sequence: The Bullwhip Effect

In turn, the leather manufacturer, stuck with an even larger excess of inventories, slashes orders for hides. Hides producers end up experiencing an even more precipitous drop in demand than the leather manufacturer does.

This amplification of cycles in the supply chain has a direct impact on prices. After all, slaughterhouses will not stop slaughtering cows because the demand for hides has plummeted, as hides are a by-product of meat production. Therefore, hides prices start to plunge. Much like hides, the prices of crude oil, silicon chips, steel or copper plunge when consumer demand growth eases, because their supply cannot be quickly reduced.

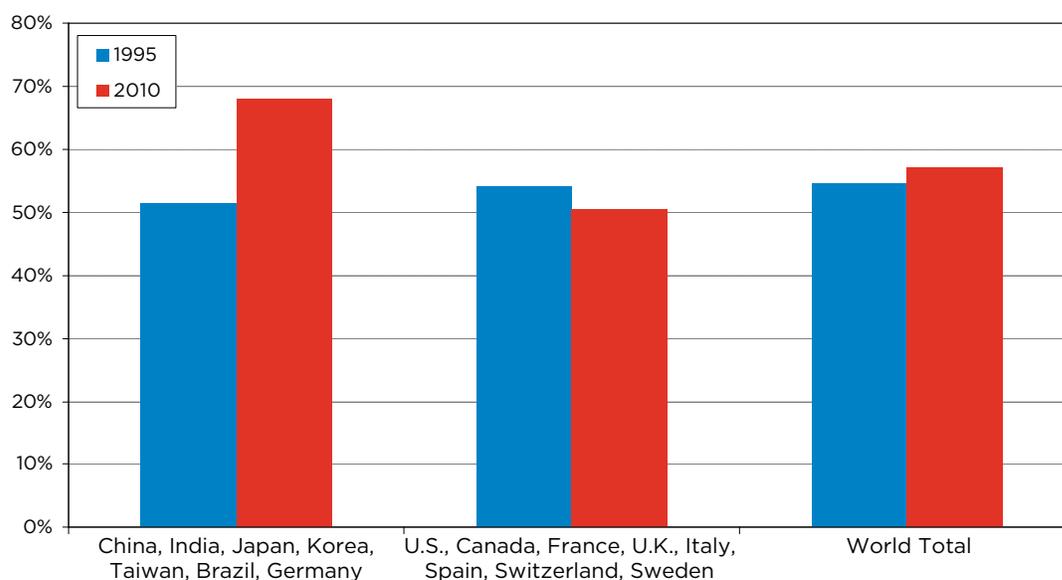
Mack's study showed how small shifts in demand growth at the consumer level are amplified up the supply chain. This magnification of demand fluctuations is called the Bullwhip effect, because a little flick of the wrist produces a big arc at the end of the whip.

Thus, even a modest decline in consumer spending growth in developed economies like the U.S. and Europe can help trigger a significant downdraft in the level of demand from suppliers and, in turn, a serious downturn in the level of demand for "suppliers to suppliers." Meanwhile, the development of global supply chains and the rise of several economies, such as Taiwan, Korea and China, as supplier economies, and others such as Canada, Australia and Brazil as commodity suppliers to those economies, leaves them highly vulnerable to the Bullwhip Effect.

Indeed, a look at industrial growth cycles around the world suggests a good degree of synchronization across all country pairs. Essentially, cycles in industrial growth are highly synchronized, and this synchronization is likely to broaden and deepen as global supply chain networks expand further. But that is not all.

Trade in intermediate goods now accounts for the bulk of total world trade – one recent study estimated it to be as high as 77% of overall trade (Sturgeon and Memedovic, 2010) – making it increasingly difficult for countries to decouple, especially for supplier economies deeply embedded in global supply chain networks, placing them at the mercy of final consumer demand in developed economies.

The past two decades have seen increased interdependence among world economies, especially with the export dependence of most major economies jumping during this period with the development and evolution of international sourcing and the creation and integration of global supply chains (ECRI, 2012a). In Korea and Taiwan, which have emerged as “suppliers to suppliers,” exports are respectively about half and three-quarters of GDP. Thus, it is worth examining how much more important trade has become than it used to be.



Sources: United Nations Commodity Trade Statistics Database and ECRI.

Figure 16: Early-stage Goods Share of Total Imports

Figure 16 presents imports of intermediate and crude goods, also called early-stage goods (ESG), as a percentage of total goods imports in 1995 (blue bars) and 2010 (red bars). The world import share of ESG, already over 50% in 1995, has risen even further, approaching 60% in 2010.

A closer look at the breakdown of individual-country import shares is quite instructive: China, India, Japan, Korea, Taiwan, Brazil and Germany (left bars) have all seen their shares of ESG imports rise from around 50% to almost 70%, with Germany and China registering the largest increases, with Germany’s increase being almost double that of China.

The rising export dependence of these economies, with growing involvement in global supply networks, makes it increasingly difficult for economies to decouple, especially for suppliers of early-stage goods that have embedded themselves *further up* the supply chain and farther away from the final consumer.

This makes them highly vulnerable to the Bullwhip Effect and at the mercy of cyclical fluctuations in end-user demand growth. But these fluctuations stem largely from developed economies, which have entered an era of more frequent recessions that involve larger fluctuations in consumer demand growth.

This adds up to the “yo-yo years” for growth in both the *developed* and *developing* economies.

THE PERFECT STORM

It may be instructive to review the key sequences of events that have culminated in the current predicament of the global economy. They include demographic factors as well as the impact of globalization and technological progress on developed and developing countries. However, the implications of the yo-yo years are ominous indeed, especially for the majority of developed economies.

Why did economic growth begin slowing in recent decades in most of the developed world? We do not have a full understanding of the causes, but there are a number of items that may have played a role. Of course, it was difficult to keep the sustained surge in growth following World War II for more than two to three decades, especially after the spikes in energy prices in the 1970s and early 1980s. While oil prices have fluctuated since that time, they have never returned to their earlier lows. Also, a major factor behind the slowdown in growth – certainly in the U.S. – may be demographic in nature (Stock and Watson, 2012), especially as it relates to job growth.

Indeed, job growth has been quite disappointing in recent economic recoveries. To the extent that this is due to the end of the historic increase in female labor force participation between the 1960s and 1990s and the decline in male labor force participation due to the aging of the baby boom generation, “these demographic factors point towards a further decline in trend growth of employment and hours in the coming decades,” according to Stock and Watson.

The rise in youth unemployment around the world is another aspect of this problem. It is certainly true of the U.S., where another major issue has been the huge increase in long-term unemployment. We have found intriguing evidence that these changes occurred not around the Great Recession, but as far back as a quarter of a century ago, when there was a decisive shift in cyclical behavior (ECRI, 2012b). These changes may tie in with the rise of globalization and the role of technology in eliminating entire classes of jobs starting in the late 1980s and continuing through the present.

As we have discussed, the confluence of the patterns of slowing trend growth and much higher cycle volatility is very likely to result in more frequent recessions. Structural factors aside, it generally takes long expansions to significantly reduce both long-term unemployment and youth unemployment. Therefore, shorter economic expansions imply that both long-term joblessness and youth unemployment will cycle around high levels, with profound cyclical implications.

The budgetary implications are also grim. Not only are the current fiscal projections in both the U.S. and Europe rendered hopelessly unrealistic by the likelihood of much lower average growth rates for the medium to long term than anybody has allowed, but also the need for social support for the long-term unemployed as well as the youth in that time frame may be much greater than most believe, especially if much of the demographic cohort expected to bear the burden of the current generation’s fiscal profligacy is idled by these developments.

Of course, more frequent recessions also mean that, thanks to the Bullwhip Effect, developing countries that have adopted the path of export-led growth are going to be increasingly whipsawed by these more frequent ups and downs in developed market demand. If so, the cyclical swings in developing economies may become much larger than presumed by many who are entranced by their longer-term growth prospects, including investors. Indeed, more frequent recessions spell the death of the old “buy-and-hold” philosophy of equity investing for all but those with strong stomachs.

In sum, it may be a mistake to look at the current economic situation as a departure from a more benign state of normality to which we should return in the next few years, given the “right” policy mix. Rather, we need to understand that we are now in the yo-yo years, and that we therefore need to make very different assumptions about what to expect over years ahead, regardless of what policymakers decide to do.

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