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POST-CRISIS LESSONS FOR OPEN ECONOMIES

In a systemic perspective, what are the primary transmitters of global competitiveness with the proper coordination mechanism? What are the systemic impacts of the U.S. economy on world markets? Will the United States stay the main engine of world economic growth for quite some time to come, or at least in the current decade? Will and should the United States, as the single largest open economy of the world, be in some way responsible for the provision of global economic stability as a valuable public good? Was the recent crisis predictable? These are the main questions addressed, all of which are answered in a new global context, and the responses are based on some known principles of international economics and economic history.

KEYWORDS: GLOBAL CRISIS, OPEN ECONOMY, BUSINESS CYCLE, FINANCIAL MARKETS

JEL E32, F34, G01, H12

1. INTRODUCTION

The credit crisis was certainly not one of those “forecastable” events. If we ask why economists failed to predict the credit crisis, we should also ask why political scientists failed to predict the recent Arab Spring, or a terrorist event like 9/11, or why seismologists cannot predict earthquakes.

Raghuram Rajan

The American economy, the European Union and with it Capitalism in general, have had serious troubles lately. Not, with luck, as serious, as in 1929, when a stock market crash on Wall Street set off the global Great Depression, but serious, nonetheless. In a longer perspective, 2001–2011 might come to be seen as the 10 years – when after two decades of mostly unbroken progress – capitalism gave way to something more ambiguous and uncertain. U.S. corporate governance, capitalism American style has got a lot of criticism. But, after all, we believe, it is human behavior that can be blamed for the troubles and not capitalism in general. In this sense, the above cited words of Fed chairman, Alan Greenspan most properly

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encapsulate the story of the recent evaporating of enormous amounts of wealth. The decade of 2001–2011 were the first, perhaps since the start of America's great equity bull market in 1982, when the U.S. and the world became significantly less wealthy.¹

The capitalist system, the American economy and the international financial markets in general, however, have proved surprisingly robust in the face of recent crises, they have shown their muscles and also their willingness to adapt to change. But, if they are to keep their strength, there should be some systemic changes and indeed global efforts made.² After the severe blows dealt to the trust and values of American capitalism, one wonders whether the U.S. economy will preserve its dominant world economic position, and whether it will stay an attractive place to invest. In many countries, experience calls the American model into question in any case.

This paper will argue that the American economy could and will absorb the recent shocks, and that in the longer run (within a matter of years), it will somehow convert the revealed weaknesses to its advantage. America has a long record of learning from its excesses to improve the working of its particular brand of capitalism, dating back to the imposition of antitrust controls on the robber barons in the late 1800s and the enhancement of investor protection after the 1929 crash. The American economy has experienced market imperfections of all kinds but it almost always has found, true, not perfect, but fairly reliable regulatory answers and has managed to adapt to change, (lately e. g. the Dodd–Frank Act on financial stability). The U.S. has many times pioneered in the elaboration of both theoretical and policy oriented solutions for conflicts between markets and government to increase economic welfare (Bernanke 2008: 425). There is no single reason why it should not turn the latest financial calamities to its advantage. At the same time, to regain confidence in capitalism as a global system, global efforts are indispensable. To identify some of the global economic conflicts that have a lot to do with U.S. markets in particular, we shall seek answers to the following questions.

1 Total global marketable wealth, that is all assets traded in the financial markets, such as shares and bonds, fell by almost 40% over the last ten years, according to a study by the Boston Consulting Group. The number of households with at least \$250,000 of marketable wealth dropped from 39 million to 37 million (see [www://quote.Bloomberg.com/newsarchive](http://www.quote.Bloomberg.com/newsarchive)). For a more detailed analysis of the changing wealth positions of different countries and world economic regions as reported by World Wealth Report, 1.6 trillion (1,600 billion) worth of financial assets evaporated only in the US markets alone. In 2009, 7 trillion had been wiped off. (US Weekly Analyst, March 24, 2011.)

2 The most awful shock of 2001 was the terrorist attack on September 11. The financial system stood up to it remarkably well. A lot of credit was due to the central banks and to the IMF itself, the pledge made by Hörst Köhler, IMF chairman of the Board, right after the disaster *“There is commitment to ensuring that this tragedy will not be compounded by disruption to the global economy, ...our central banks will provide liquidity to ensure that financial markets operate in an orderly fashion”* has entirely been lived up to. Moreover, both the American economy and, more broadly, the world economy have rebounded much more strongly than anybody dared hope. Yet the attacks proved that even where capitalism is well established, it is increasingly vulnerable to those who hate it. No amount of success in the current war on terrorism will eliminate this hideous new risk, which is impossible to quantify. Seven years later, John Lipsky remarked in his speech at John Hopkins University, *Towards a Post Crisis Economy*, re-emphasized the same principle saying *“these reforms can only be successful if they rest on the principles of free markets”*. www.imf.org/external/speeches/2008/111708.htm.

In a systemic perspective, what are the primary transmitters of global competitiveness with the proper coordination mechanism? What are the systemic impacts of the U.S. economy on world markets? Will the United States stay the main engine of world economic growth for quite some time to come, or at least in the current decade? Will and should the United States, as the single largest open economy of the world, be in some way responsible for the provision of global economic stability as a valuable public good? We offer affirmative answers to these questions.

1.1. MACROECONOMIC PRINCIPLES AS POINTS OF DEPARTURE

- (A) The underlying framework of analysis in the paper relies on some standard propositions of open macroeconomics (Krugmann–Obstfeld 2003: 344–377). However, in our discussion we shall use these propositions as basic principles that may be subject to varying interpretations as function of a changing environment, domestic and global. We consider both individuals (consumers and investors), firms and government as economic agents who are ready to learn from past and recent experience, ones who are willing to change their behavior as circumstances change. In this perspective, we believe in the “evolution” of both economic principles, describing relevant economic behavior, and in the adoptive learning capacity of economic agents. Thus, we do not subscribe to the idea that fixed, atemporal laws are capable of precisely capturing and forecasting future (or expected) patterns of economic behavior.
- (B) We hasten to add, nonetheless, that the indispensable virtues of model-based, rigorous analysis in advancing economic theory are to be fully recognized by the author. In addition, we acknowledge that the significance of the requirement for the appropriate quantification of the outcome of economic events, and more importantly, the need to develop the capacity to forecast events, with a reasonable margin of error, cannot be overestimated. But it may not be overlooked that, to a large degree, the outcome of many fundamental economic decisions, whether individual-, firm- or government-related are based on people’s beliefs and expectations about the future. This is especially the case on the global asset markets and on foreign exchange markets that move tremendous amounts of money with a lot of lagged real effects. On these markets, people are playing against people (and central banks) that value assets on the basis of their feelings about the future. In our age, flooded with information, these feelings, at best, are largely unstable.³ Thus, trying to understand human behavior – which, is always subject to change as circumstances change, and incorporate that into economic analysis, is perhaps a genuine and valuable effort.

³ This, of course, is not a new dilemma on asset (especially on stock) markets, but the IT revolution has brought about new dimensions and twists to reckon with. This is being emphasized in new textbooks, e.g. Bernanke (2008).

- (C) It is an important point of departure that the U.S. economy, against the rest of the world, is still very large and the dollar continues to be the most important currency in international financial markets. Therefore U.S. policies are markedly more important – save the common policies of the euro-zone, EU-17, and EU-27 – than any other country for the evolution of the world economy. Because the U.S. economy has become more open, the foreign repercussions of U.S. policies are significant today not only for their impact on other economies but also for their influence at home. Because the other leading OECD economies have become substantially larger, and the EU-27 especially has graduated to be on a par in every sense of economic potential (output and resources in general), their policies effect the U.S. economy and the whole world economy more strongly than any time earlier.
- (D) Under these circumstances, the U.S. policy makers must pay more attention to the international situation for national as well for global reasons. Furthermore, the governments of the other major industrialized nations must be viewed as a small group of economic actors whose decisions are truly interdependent and important jointly for the world economy. Thus, sub-optimal policy choices are likely to emerge in this sort of situation, and all countries can be hurt. In other words, the situation calls for policy coordination and for international supervision.⁴ In this sense, global mistakes can be worse than national mistakes.
- (E) Governments engage in frequent consultations, exchanging information about national policies and comparing economic forecasts, and these routine activities can and do lead to better policies by reducing uncertainty domestically and globally. In this sense, improving the global economic outlook can be considered as a public good that offers global benefits. This reasoning would follow the analogy of the public good concept of the international financial stability, a concept fully recognized by now. In light of the recent global concerns, both in terms of global growth patterns and in regard to increasing uncertainty on international financial markets, this line of reasoning should get more attention. Keeping these global concerns in mind, we shall review some of the impacts that the U.S. economy has generated by its domestic economic events and has channeled them through its global links to world markets. The paper will be structured as follows.

First, as part of the introduction, we shall review the markedly changed world economic environment and its outcomes on the U.S. roles in the international division of labor. In section 1, we shall examine the changing international debt position of the U.S. economy as global link-1. Then, in section 2, we shall discuss some reborn concerns of the business cycles and the responses to it. In section 3 we shall survey some recent developments of financial market regulation which were generated in the U.S. economy but have rapidly spread to global financial markets, too. Section 4 provides a summary and a final conclusion.

⁴ In principle, one should add, coordination can also have perverse effects, when it is conducted under great uncertainty about future outlook, (Rajan, 2010) emphasized that first in the context of the recent crisis.

1.2. A MARKEDLY DIFFERENT INTERNATIONAL ECONOMIC ENVIRONMENT

Classical and neo-classical trade theories have established benchmark values in economic thinking and they must have their respective chapters in all economics textbooks.⁵ However, they are increasingly irrelevant to the analysis of businesses in the countries currently at the core of the world economy: the United States, Japan, the nations of Western Europe, and, to an increasing extent, the most successful East Asian countries. Within this advanced and highly integrated “core” world economy, context differences among corporations are becoming more important than aggregate differences among countries.⁶ Furthermore, the increasing capacity of even small companies to operate in a global perspective makes the old analytical frameworks even more obsolete.

Not only are the “core nations” more homogeneous than before in terms of living standards, lifestyles, and economic organization, but their factors of production tend to move more rapidly in search of higher returns. Natural resources have lost much of their previous role in national specialization Rodrik (2007), Bhagwati (2004: 128–130), as advanced, knowledge-intensive societies move rapidly into the age of artificial materials and genetic engineering (Novák 1999). Capital moves around the world in massive amounts at the speed of light, increasingly, corporations raise capital simultaneously in several major markets. Labor skills in these advanced countries no longer can be considered fundamentally different; modern and ongoing training has become a key dimension of many joint ventures between international corporations. Technology and “know-how” are also rapidly becoming a global pool. Trends in protection of intellectual property and export controls clearly have less impact than the massive development of the means to communicate, duplicate, store, and reproduce information.⁷

Against this background, the ability of corporations of all sizes to use these globally available factors of production is a far bigger factor in international competitiveness than broad macroeconomic differences among countries. In effect, the traditional world economy in which products are exported has been replaced by one in which value is added in several different countries and the notion of national competitiveness has gone through a dramatic change Rodrik (2007), Bhagwati (2004), Krugman (1994), Török (1999), Simai–Gál (2002), Csaba (2005).

At the moment, the United States has some peculiar but significant competitive advantages. For one thing, individualism and entrepreneurship-characteristics that are deeply ingrained in the American spirit- are increasingly a source of competi-

5 The pioneering works of Prof. Mátyás have provided a solid guarantee to this early in the Hungarian literature (Mátyás, 1973, 1992, 1996) and on issues of international and world economics the seminal works of Tamás Szentés, (Szentés 1988, 2005) should be mentioned.

6 For countries of the semi-periphery with respect to current global trends, there are a lot of new developments to account for, and renewed distinctions to be made, for a recent work surveying these developments, see Rodrik (2007).

7 These new tendencies that give new opportunities to trade have been recognized and surveyed for large, as well as for small countries, early on, Bognár (1976), Kádár (1979), Csaba (1984), and Simai (1994), Csaba (1994, 2005, 2009), Szentés (1996, 2005), Török (1999), Kozma (2002), in the Hungarian literature, too.

tive advantage, as the creation of value becomes more knowledge-intensive. When inventiveness and entrepreneurship are combined with abundant risk capital, superior R&D efforts and budgets, and with an inflow of foreign brainpower, it is not surprising that since the mid-1980s, U.S. companies – from Boston to Austin, Silicon Alley to Silicon Valley – dominate world markets in software, biotechnology, internet-related business, microprocessors, aerospace, and entertainment.⁸ Also, U.S. firms are moving rapidly forward to construct an information superhighway and related multimedia technology, where as their European and Japanese rivals face continued regulatory and bureaucratic roadblocks. The American economy provides ample opportunities to profitable investments. Little wonder that throughout the last two decades the U.S. economy has been receiving continuous and large doses of foreign (investment) capital. Foreigners like to invest in the U.S. But there are some other, maybe, less obvious reasons that explain why the American investors' money. Of course, the excellent opportunities, the big attraction of returns far exceeding normal profits have, at times, may lead to excesses, to misuse of funds, as well to outright frauds. We have been hearing lately more of the latter in connection with the revealed questionable ethics of some large firms of the élite corporate America. Yet, we shall argue that the strength and the attractiveness of U.S. markets will, very likely, remain (even with the largely uncertain global outcomes of the ongoing war against Afghanistan).

The two prime transmitters of competitive forces in the global economy are the multinational corporations and the international capital markets. What differentiates the multinational enterprise from other firms engaged in international business is the globally coordinated allocation of resources by a single centralized management. Multinational corporations make decisions about market-entry strategy; ownership of foreign operations; and production, marketing, and financial activities with an eye to what is best for the corporation as a whole. The true multinational corporation emphasizes group performance rather than the simple aggregated performance of its individual parts. In this sense, the multinational companies can set standards globally for the efficiency targets of the leading firms in the industry. The growing irrelevance of borders for corporations will, at the same time, force policymakers to rethink old approaches to regulation. For example, corporate mergers that once would have been barred as anti-competitive might make sense if the true measure of a company's market share is global rather than national. In general, the multinational firm is efficient and mostly successful in allocating resources with well defined global goals. One cannot argue that national economies and their governments can claim to have such goals. On the contrary, their coordination and resource allocation efforts are serving purely domestic needs.

In the Hungarian literature it has been also known and extensively analyzed for quite some time (Kádár [1979], Inotai [1989], Lórinzné Istvánffy-Lantos [1993], Palánkai [1996]), that global economic forces and international economic integra-

⁸ For empirical evidence explaining the early breakthrough of U.S. High-tech industries in an imperfect competition framework by some new factors of competitiveness, see Magas (1992) and Magas (2002b).

tion also reduce the freedom of governments and central banks to determine their own economic policy. At the same time, globalization and integration do enlarge the room for companies to foreign investments and multinational operations in general. Yet, the desire for making national economic policy choices does remain. If a government tries to raise tax rates on business, for example, it is increasingly easy for business to shift production abroad. Similarly, nations that fail to invest in their physical and intellectual infrastructure (roads, bridges, R&D, education) will likely lose entrepreneurs and jobs to nations that do invest. Capital – both financial and intellectual – will go where it is wanted and stay where it is well treated. In short, economic integration and the free flow of capital are forcing governments, as well as companies, to compete. Through sending the right price signals international financial markets are becoming good, yet not perfect, mediators to investors worldwide to vote with their moneys – and let them invest in economies and companies that perform best globally.

As markets become more efficient, they are quicker to reward sound economic policy and swifter to punish the profligate. Their judgments are harsh and cannot easily be appealed. True, as markets become more global and there is enhanced mobility of the factors of production, knowledge and information, unseen types of market imperfections emerge, and with that new dilemmas are created for regulators, both domestic and international. The global financial markets for instance have been especially innovative in creating new complexities and risks that were tough matches to both under-informed investors and regulators, domestic and international alike. The American securities markets, along with the tightly knit international capital markets have produced a good deal of crises in the last two decades. In 2008–2009 they led to globally dire consequences – to a global recession. That it has happened, both the “self-regulatory” mechanisms of markets and the yet mostly uncoordinated actions of financial-market regulators can be credited. For good market performance –among other things– we need efficient markets, good rules, and, of course, determined; yet not over-ambitious regulators that have a powerful bite, nonetheless. Between crisis and resolution, however, is always uncharted territory, with the ever-present potential of panic feeding on itself and spreading from one nation to another, leading to global instability and recession. What we can say about markets, however, is that they are, to a large extent, self-correcting; unlike many governments, when investors spot problems, their instinct is to withdraw funds, not add more. At the same time, if a nation’s economic fundamentals are basically sound, investors will eventually recognize that and their capital will return. As a general rule, however governments and regulators learn, too. True, they learn slowly, but they do learn. At least, that is the impression one gets from the American experience of interactions between markets and government of the last two decades. Overall, the strength of the American economy in building wealth, individual and corporate, the resilience of its financial system and the attractiveness of its domestic markets, at least in the eye of foreign investors can be accredited, in no small measure to the not flawless but flexible and mostly proper economic policy actions taken. One must add, that the satisfactory interactions between markets and government in the last twenty years or so, can be, perhaps to a large extent, credited to the quality of the American grad-

uate economics education.⁹ This strength was reflected in measurable terms: the strong, one could say markedly superior performance of the U.S. markets stands out for the 1970–2011 period, when measured by GDP and employment growth terms and compared to the European region, now known as the EU-27 (EU 15 earlier), as was reported by the World Economic Report (WER 2011).

The future global growth patterns, however will be determined more by the strength of the demand factors of the emerging markets, and that shift will be reflected in the expected patterns of the advanced economies, too (see Figure 1 below).



Source: IMF (2010)

Figure 1. Global GDP growth, percentage, quarter over quarter, annualized

2. DEBT HISTORY AND THE CHANGING INTERNATIONAL POSITION OF THE USA¹⁰

The U.S. economy is still by far the largest capital importer of the world economy. This was true even in the bad year of 2001, which was overshadowed by the September 11 terrorist attack, when foreign direct investment (FDI), fell by 51% to around USD 735 billion (the biggest decline for over 30 years).¹¹ It remained the largest importer of foreign funds, after 2008–2010 crisis and despite the sudden waning of the cross-border merger frenzy, America still remained the largest recipient of FDI with inflows of USD 124 billion. The reasons why the United States prides itself as the number one importer of foreign capital are not self evident. In this section, we shall elaborate at some length on the meaning of international wealth.

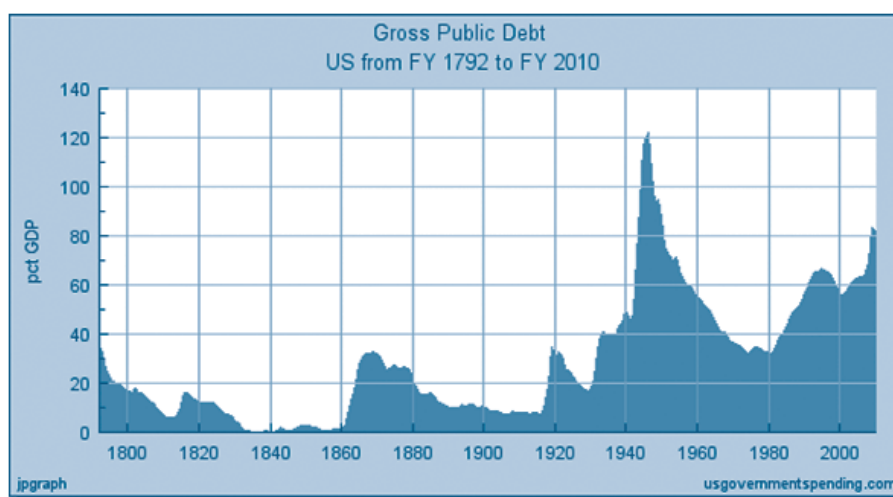
⁹ This assumption is rarely made in economic analysis, yet we think it is important.

¹⁰ In this section, I extend and refine the analysis that I have given in Magas (2002b, pp.159–178).

¹¹ According to the World Investment Report, quoted by The Economist, “The World this week”, 14–20 September 2002. WER (2011) confirms the existence of this pattern. World Bank (2011).

The United States ran trade deficits from early Colonial times to just before World War I, as Europeans sent investment capital to develop the continent. During its 300 years as a debtor nation – a net importer of capital – the United States progressed from the status of a minor colony to the world’s strongest power. In 1987, the United States became a net international debtor, reverting to the position it was in at the start of the 20th century. By the end of 2010, U.S. net international wealth was –\$2.8 trillion. Does this huge amount of negative international wealth mean that overall the U.S. is using its world economic relations to attract funds to build its domestic wealth? To some extent, yes. But a large part of it goes to current consumption and some of it disappears due to exchange rate fluctuations. A large part is explained by U.S. government borrowing.

The US government was heavily borrowing from the rest of the world over the last two centuries as it is depicted by figure 2.



Source: usgovernmentspending.com

Figure 2. Gross Public Debt of the U.S. in percentage of GDP (1792–2010)

How can a long term indebtedness be maintained for a large open economy? We begin the argument by a basic theoretical proposition:

An economy cannot have excess demands in all its markets. If there are excess in demands in some markets, there must be excess supplies to other markets. In an economy with markets for goods, market for securities and market for money this general equilibrium proposition asserts that

$$\text{Excess demand for goods} + \text{excess demand for securities} + \text{excess demand for money} = 0$$

This identity can be rewritten as:

$$\text{Excess demand for goods} + \text{excess demand for securities} = \text{excess supply of money}$$

In an open economy, this can be identified as the monetary approach to the balance of payments, which can be traced back to David Hume, who argued that that surpluses and deficits are self-correcting, because of their effects of the money supply. The modern version is an application of the Walras's law, which says that excess demands and supply must sum to zero. Applied to an open economy, it says that a country with a balance of payment deficit can be regarded as having excess demands in goods and bond markets taken together, and must have excess supply in its money market. It "exports" its excess supply of money to satisfy its excess demand for goods and bonds.¹² The monetary models of the balance of payments have been used to explain the behavior of flexible exchange rates. The monetary logic is still very appealing but empirical tests though have not been able to support it adequately to this day (Fisher 2001),¹³ (Bernanke, 2008).

Our main question in this regard is whether Japan and Europe, the main sources of foreign funds flowing to the U.S. will and/or should stay as high-savers and net international investors into the U.S., or rather, this cast among the leading industrial powers is expected to change in the foreseeable future. It will be argued that the for a more even future growth prospect for the world economy, the present international division of lenders and borrowers is largely unbalanced and thus is likely to change. To provide some support to this statement we shall rely on a standard open economy framework.

The standard open-macroeconomic framework, (Krugman–Obstfeld, 2000, 2003, pp. 344–377), applies a set of accounting identities that link domestic spending, savings, and consumption and investment behavior to the capital account and current account balances. By these national accounting identities, one can identify the nature of the links between the U.S. and world economies. This will follow next.

Let U.S. start with the observation that U.S. national income (or national product) Y is either spent on consumption C , or is saved, S .

$$Y_I = C + S \quad (1)$$

Similarly, national expenditure (the total amount that the U.S. economy spends on goods and services, can be divided into spending on consumption and on investment. This relationship provides the second identity:

12 For a detailed discussion of the merits and of the limits of the monetary approach, see Kenen (1988, pp. 353–371) and Száz (1991, pp. 48–84), Szentes (1999, pp. 281–426), Magas (2002b, pp.139–148).

13 Monetary models of the balance of payments use very strict assumptions which are hard to meet in the real world. These are: (1) There are no rigidities in the factor markets. (2) There is perfect capital mobility, so domestic interest rates are tied strongly to foreign rates. (3) Domestic and foreign prices are held together by purchasing power parity, PPP, so the domestic price level is fixed when the exchange rate is pegged. The PPP plays a central role, and there are strong reasons for doubting its validity. The PPP doctrine cannot be derived from the law of one price, which holds only across markets for a single good. It can be derived from the supposition that money is neutral, but this means that it applies to the long run and only with regard to monetary shocks. PPP should not be used to predict actual exchange rate behaviour, even as crude rule of thumb.

$$Y_s = C + I \quad (2)$$

Subtracting (2) from (1), that is National income–National spending, yields a new identity:

$$Y_I - Y_s = S - I \quad (3)$$

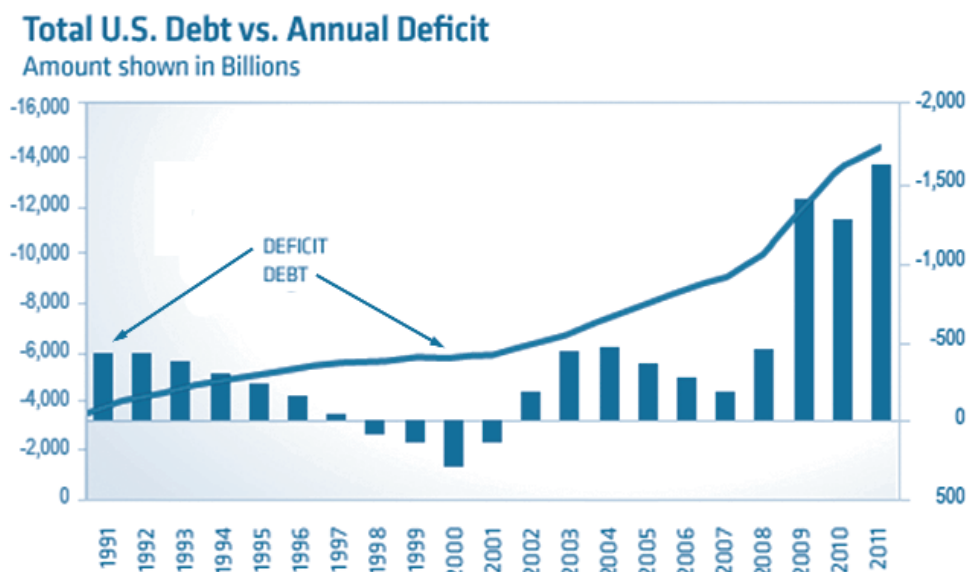
If the U.S. economy spends more than it produces, it will invest domestically more than it saves and have a net capital inflow. The U.S. has long been known a low saver and a high capital-importing country. This is the case until today (Fig 3).

Beginning again with national product, let us subtract from it spending on domestic goods and services. The remaining goods and services must equal exports. Similarly, if we subtract spending on domestic goods and services from total expenditures, the remaining spending must be on imports. Combining these two identities leads to another national income identity:

National income–National spending = Exports–Imports

$$Y_I - Y_s = X - M \quad (4)$$

Figure 3 illustrates the lasting borrowing needs of the United States for the 1991–2011 period.



Source: U.S. Department of Commerce, CNBC

Figure 3 U.S Debt and annual Deficit (Billion USD) 1991–2011

Equation (4) says that a current account surplus arises when national output exceeds domestic expenditures; similarly, a current account deficit due to domestic expenditures exceeding domestic output. Moreover, when Equation (4) is combined with Equation (3), we have a new identity:

Savings–Investment = Exports–Imports

$$S - I = X - M \quad (5)$$

According to Equation (5), if a nation's savings exceed its domestic investment, that nation will run a current account surplus.¹⁴ A nation such as the United States, which saves less than it invests, must run a current account deficit. Noting that savings minus domestic investment equals net foreign investment, we have the following identity:

Net foreign investment (NFI) = Exports - Imports

$$NFI = X - M \quad (6)$$

Equation (6) says that the balance on the current account must equal the net capital outflow.

These accounting identities also suggest that a current account surplus is not necessarily a sign of economic vigor, nor is a current account deficit necessarily a sign of weakness or a lack of competitiveness. But there are some important points to be considered in this context. Indeed, economically healthy nations that provide good investment opportunities tend to run trade deficits because this is the only way to run a capital account surplus. The U.S. ran surpluses while the infamous Smoot-Hawley tariff helped sink the world into depression. In addition, nations that grow rapidly will import more goods and services; at the same time those weak economies will slow down or reduce their imports because imports are positively related to income (in the short run import propensities do not change). As a result, the faster a nation grows relative to the other economies, the larger its current account deficit (or smaller its surplus). Conversely, slower-growing nations will have smaller current account deficits (or larger surpluses). Hence, current account deficits may reflect strong economic growth or a low level of savings, and current account surpluses can signify a high level of savings or a slow rate of growth. Because current account deficits are financed by capital inflows, the cumulative effect of these deficits is to increase net foreign claims against the deficit nation and reduce that nation's net international wealth. Similarly, nations that consistently run current account surpluses increase their net international wealth, where net international wealth is just the difference between a nation's investment abroad and a foreign investment domestically. Sooner or later, deficit countries like the United States become net international debtors, and surplus countries like Japan or Germany and the entire euro area become net creditors.

National spending can be divided into household spending plus private investment plus government spending. Household spending, in turn, equals national income less the sum of private savings and taxes. Combining these terms yields the following identity.

$$\begin{aligned} Y_s &= C + I + G = \\ Y_s &= Y_t - S - T + I + G \end{aligned} \quad (7)$$

¹⁴ This equation explains the Japanese current account surplus: the Japanese have an extremely high savings rate, both in absolute terms and relative to their investment rate.

Rearranging Equation (7) yields a new expression for excess national spending, after rearranging

$$Y_s - Y_i = I - S + G - T \quad (8)$$

Where the government budget deficit equals government spending minus taxes. Equation (8) says that excess national spending is composed of two parts; the excess of private domestic investment over private savings and the total government (federal, state, and local deficit). Because national spending minus national product equals the net capital inflow, Equation (8) also says that the nation's excess spending equals its net borrowing from abroad.

Rearranging and combining Equations (4) and (8) provides the last important national accounting identity:

Current account balance CA = Private savings surplus + Government budget deficit

$$CA = (S - I) + (T - G) \quad (9)$$

Equation (9) reveals that the nation's current account balance is identically equal to its private savings minus investment balance and the government budget deficit. According to this expression, a nation running a current account deficit is not saving enough to finance its private investment and government budget deficit. Conversely, a nation running a current account surplus is saving more than is needed to finance its private investment and government deficit. The important implication is that steps taken to correct the current account deficit can be effective only if they also change private savings, private investment, and/or the government deficit. Policies or events that fail to affect both sides of the relationship shown in equation (9) will not alter the current account deficit.

In the current world economic environment, in which growth in the developed countries has been sluggish and in some countries seriously depressed, there is a valid concern, though, on the merits of incessant and massive capital importing and current account deficits. The large world economic imbalance of current accounts should be a matter of concern even for a country as large and attractive a place to invest as the United States, whose national legal tender happens to be the leading reserve currency for the world economy. With the wild fluctuations of currency values and the largely unpredictable nature of foreign exchange rates and with the emergence of more and more derivative products spreading risks among many international participants, (banks, investment banks, brokerage houses insurance companies, pension funds, etc.) there is a point where "internationally composed" risks cannot be properly "decomposed", measured and managed either by holders of these products, or by the financial regulators.¹⁵ Thus the idea of building (and buying assets) wealth internationally becomes somewhat blurred.

True, the trust of foreign investors in the U.S. economy has been largely unbroken even after repeated years of dismal stock market performance and the calami-

¹⁵ For a formal interpretation of this question see Magas (2001).

ties of September 11. and the 2009 recession. But there is lot of discussion about international payments imbalances and unsustainable patterns of world economic growth, due to the actual current account deficit profile of the developed countries. Kenneth Rogoff, former chief economist of the IMF, voiced this concern.¹⁶ He argued that the constellation of global current account imbalances – with the U.S. in deficit and Europe and Japan in surplus, – was clearly unsustainable in the long run. The inevitable adjustment in the current account imbalances and exchange rates will be much more severe when it ultimately comes. We hasten to emphasize the significance of this decade long – argument to our analysis.

Considering that a net current account deficit represents inter-temporal trade, with the deficit nation importing more goods and services for current use and promising to repay net exports of goods and services in the future, one question must be answered. For how long can this traditional cast of the U.S. economy being a debtor, Japan and Europe being the creditor last? It can be reasoned that for a more even and sustainable growth-pattern the world economy could surely benefit from a higher U.S. savings rate and from a higher Japanese and euro area consumption. The best thing for the global economy would be for Europe and Japan to achieve a sustained increase in growth allowing private savings in the U.S. to rise to more normal levels without a cutback in global demand. Coordinated action in this regard would surely help global growth. National goals should be also adjusted to some commonly agreed on global growth needs.

Nonetheless, for the IMF, and for Rogoff, when compared to Europe and Japan, the U.S market mechanisms can be looked at as still markedly positive examples. They believe that as long as continental Europe fails to accelerate labor market reform and Japan hesitates in decisively ending deflation and addressing the need for restructuring in its banking sector, the world is going to continue to look to the U.S. as the main engine of growth.

In an extensive study (World Economic Outlook 2010), the IMF has documented the increase in business cycle correlation across the largest countries of OECD is roughly 55 per cent. This is significantly less than the correlation of business cycles across the states within the U.S. So there is a lot of room for the closing up of growth cycles and for macro policy coordination, with further integration of OECD markets.

Viewing Europe from the outside, *“reforms to facilitate EMU members ability to adjust to shocks and cope with secular change has been rather slow. Employment rates remain far below those in the US. This is by far the strongest reason why per capita income is much higher in the U.S. than in Europe. High tax burdens, generous unemployment benefits, high minimum wages and huge costs of layoffs are among the reasons why employment is relatively low in Europe.”* (WSJ 2009, October 18–20, R8.)

This line of the Rogoff logic that contrasts European and American labor market efficiency is spelled out with respect to the different growth prospects of the

¹⁶ See the seminal article in the Wall Street Journal: “Professor Joseph Stiglitz and Kenneth Rogoff offer starkly different views on hopes and risks for the world economy.” *WSJ* October 18–20, 2002 R8. The dilemma is almost unchanged, and has firmly reappeared in the 2008–2011 crisis years.

two regions and has been firmly argued earlier by Solow (2000), too. The current European system of adjustment mechanisms is just too rigid and insufficiently adept at dealing with the environment of constant change we see in the current world economic environment. Without a clear plan for medium term budget consolidation in some of the largest countries of EMU, growth prospects remain modest. Growth will only come if Europe successfully confronts its broader structural problems. These are very strong confirmations from two top-notch economists to help us believe that the bulk of future global growth is not going to come but mainly from the future wealth – and especially the large banks – in the high-saver countries of the world economy.

But beside the large international payments imbalances between high- and low-saver countries, there are some other new global concerns departing from the U.S. economy, namely the rebirth of the business cycle concerns. We shall discuss that next.

2.1. CAN WE READ BUSINESS CYCLES?

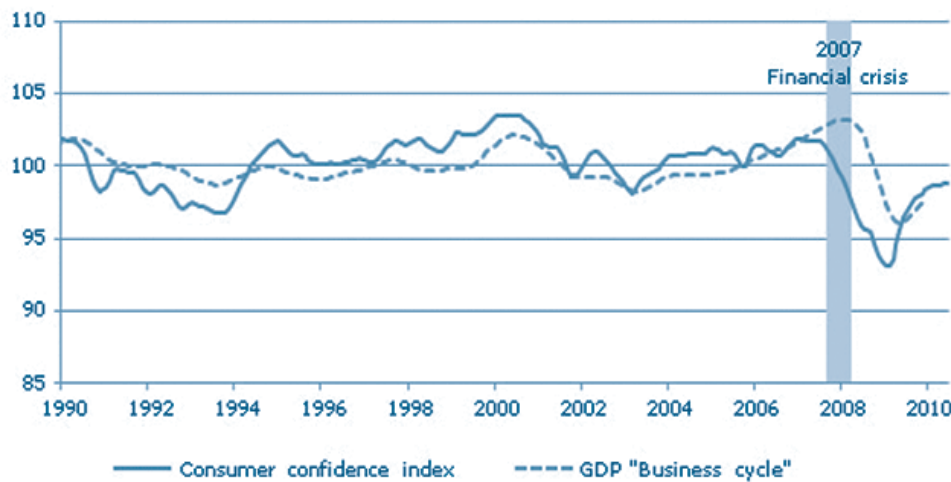
If in the coming years we shall always be looking for consumption to pick up in the U.S. and for financing from elsewhere, we may have a global business cycle problem at our hands. Cyclical patterns and their smoothing by government action are a reborn concern in the American economy itself.¹⁷ It appears, though, as if the views about governments' ability to tame the business cycle have themselves moved in cycles. In the 1950s and 1960s, it was widely believed that Keynesian demand-management policies could stabilise economies: a properly measured increase or decrease in government spending was all that was needed to reach the desired level of output. But the stagflation of the 1970s produced a new economic consensus that governments were powerless to do anything except restrain inflation. By the 1990s the business cycle returned.¹⁸ The American mainstream economic opinion has reflected this and had traditionally had the anti-cyclical stance of government spending. So, there is some evidence of learning from past experience.

The current dilemma is that three strongest economic regions of the global economy are growing at distinctly different rates and all are looking for increasing foreign demand. America's mild recession in the years 2001 followed its longest unbroken expansion in history. The euro area, until 2008 was in its ninth year of growth, it has escaped outright recession, but has seen a sharp slowdown. In contrast, Japan's economy has suffered three recessions since its own bubble burst at the beginning of the 1990s. In Europe, inflation is not the problem but unemploy-

¹⁷ Cyclical behavior of the American economy was a more pronounced concern in the 1970s and in the 1980s (Erdős (1976), Magas (1987), Magas (2009)).

¹⁸ The U.S. economy had three recessions between 1974 and 1982. However, since then, it has enjoyed two long booms, in the 1980s and again in the 1990s, interrupted only briefly by a mild downturn, leading many to believe that recessions were a thing of the past. For more on this issue see *The Economist*, January 4 2003. and Magas (2009)

ment is. France has made it clear that it wants the Growth and Stability Pact redefined, so it can have a more expansionary fiscal policy. Professor Stiglitz, for instance, thinks that Europe has adopted a policy, which is pro-cyclical, which flies in the face of what it should be doing. It should be anti-cyclical (do not cut your government spending in a recession).¹⁹ Japan is indeed a great concern, too, with respect to global growth prospects. Japan needs a determined effort to clean up its banking sector, encourage needed corporate restructuring, and rein in ballooning fiscal deficits over the medium term. It should act decisively to end deflation. So far, Japan has tried a gradualist, “muddling through” approach. Far more ambitious and sweeping reforms are needed. To some extent Japan is wrestling with the crisis of the Japanese corporate model of a kind. The traditional sources of growth, as accounted for by Móczár (1987a, 1987b), have not been fully exhausted, they are just being suppressed by a deep and unusually stubborn deflationary cycle.

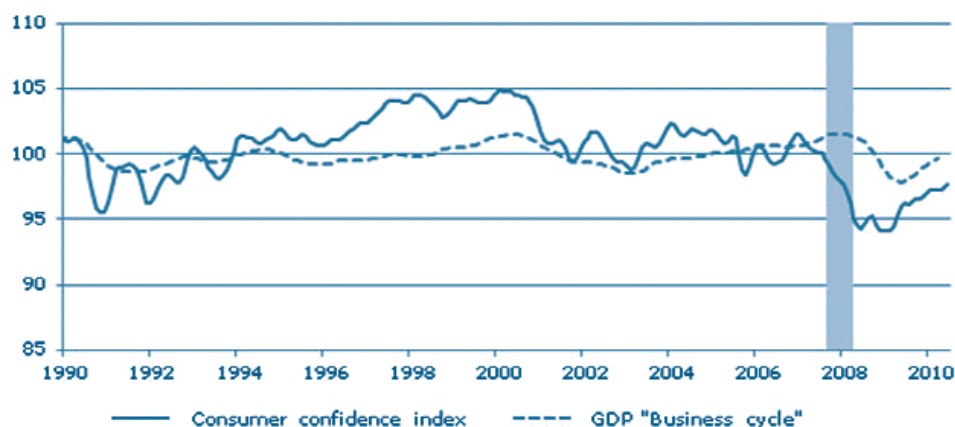


Source: OECD (2010)

Figure 4. Business cycle in the OECD countries 1990–2010

In relation to the steep economic downturn in the U.S. and in world markets in general, one question is often asked: Do Central bankers monitor inflation and cycle-related wealth effects together? Based on Figures 4 and 5, it is hard to believe. One cannot see consumer confidence and real GDP go hand in hand.

¹⁹ He argued that “Europe thought it could weather the storm on its own, but they have had their hands tied by the 1997 Stability and Growth Pact that codified the euro areas’ fiscal rules. Unlike in the U.S. they have a monetary authority that is not supposed to look at employment and growth. The Stability and Growth Pact is somewhat similar to the balanced budget amendment, which the U.S. rejected on the grounds that it would be disastrous to have your hands tied in a way that makes you unable to respond to a downturn.” (*WSJ*, October 18-20, R8). But the stability and growth pact in Europe is to be taken seriously. The European Commission issued warnings to those big EU member states, Germany, France and Italy for their excessive budget deficits. The harshest criticism was aimed at Germany, which is likely to breach the pact’s ceiling for deficits of 3% of GDP both in 2002 and 2003. This implies that strong, nationally determined choices do remain. For a detailed analysis of this conflict, see the article “Breaking the Pact” (*The Economist*, January 4 2003). The current, 2011 November situation is alarmingly similar where what was at stake was the break up of the Euro zone (see more on this *WSJ* November 13 2011).



Source: OECD (2010)

Figure 5. Business cycle in the US Economy 1990–2010

In the U.S., the Fed does take asset prices into account in its policymaking, but only in so far as changes in them are transmitted to demand in the economy and thus potentially affect the rate of inflation. The likely transmission mechanism is the “wealth effect”. As share prices rise, people feel better off and spend more; as they fall, people feel poorer and spend less, reducing inflationary pressure. In practice, the FED has seemed to act on the wealth effect only after share prices have fallen. For instance, when prices tumbled after the collapse of LTCM, (The Long Term Capital Management Hedge Fund), the Fed cut interest rates sharply, and shares started to recover at once. Given that a central bank could never be 100% sure at the time that there is a bubble, would it be justified in trying to burst it if it were 80% sure, or 40%? This is a difficult question, and not just because raising interest rates would be unpopular; if it were raising rates to control inflation, it would willingly bear that burden for the sake of the economy. Keeping inflation under control does not challenge people’s judgments; by maintaining the real value of the currency, it actually helps them to be confident that a price means what it appears to. By contrast, asset prices reflect the free judgments about value made by millions of people who have backed those judgments with their own money. Over the past decade investors, firms and consumers worldwide put far too much faith in the power of information technology, globalisation, financial liberalisation and monetary policy to reduce volatility and risk. It did not pay off. ICT, information communication technology, the very sector that was supposed to smooth out the business cycle through better inventory control, has ended up intensifying the current downturn.

In principle, globalisation can help to stabilise economies if they are at different stages of the cycle, as was suggested by Obstfeld (1998), Pugel–Lindert (2002, pp. 552–554), but the very forces of global integration are likely to synchronise economic cycles more closely, so that downturns in different countries are more likely to reinforce one another. Financial liberalisation is supposed to help households to borrow in bad times and so smooth out consumption, but again it has trade-offs: it also makes it easier for firms and households to take on too much debt

during booms, which may exacerbate subsequent downturns. This is what happened in the first half of the 1990s in Japan²⁰.

In the United States, Alan Greenspan was widely considered a highly successful chairman of the Federal Reserve, but the belief that he had special powers to eliminate the cycle is probably naive. In July 2001, Mr. Greenspan himself said in testimony to Congress:

“Can fiscal and monetary policy acting at their optimum eliminate the business cycle? The answer, in my judgement, is no, because there is no tool to change human nature. Too often people are prone to recurring bouts of optimism and pessimism that manifest themselves from time to time in the build-up or cessation of speculative excesses.”

Indeed, speculative excesses in asset prices and credit flows might occur more frequently in the future, thanks to the combined effects of financial liberalisation and a monetary-policy framework that concentrates on inflation but places no direct constraint on credit growth and wealth effects.

“It’s only when the tide goes out that you can see who’s swimming naked.”²¹ A witty and realistic description of what was happening in the American economy lately. The stock market boom in the late 1990s masked excessive borrowing by firms and households, “irrational exuberance”, – the expression of Alan Greenspan – and infectious greed is being shockingly exposed. Share prices have suffered their steepest slide since the 1930s. Yet, this was not a normal business cycle, but the end of the biggest stock market boom in America’s history. Never before have shares become so overvalued. Between 1997–2001 share prices of the S&P 500 index reflected 30–50% more reported profits than the national accounts profits registered at year end by official GDP statistics.²² Never before have so many people owned shares. And never before has every part of the economy invested (indeed, over-invested) in a new technology.

In short, it appears that the business cycle is still alive, but it does appear to have become more subdued. During the past 20 years, the American economy has been in recession less than 10% of the time. In the 90 years before the Second World War, it was in recession 40% of the time. In most other economies, too, expansions have got longer and recessions shorter and shallower. The exception is Japan, which in the past decade has suffered the deepest slump in any rich economy since the 1930s.

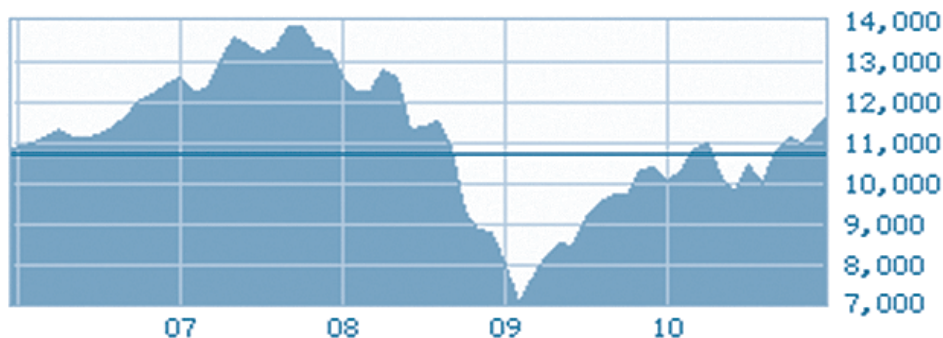
The revolt against Keynesian policies since the 1970s was based on the belief that government intervention is inefficient and it may destabilise the economy. However, America’s recent experience has shown that the private sector is quite capable of destabilising things without government help. The most recent bubble was not confined to the stock market: instead, the whole economy became distorted. Firms over-borrowed and over-invested on unrealistic expectations about

20 For a detailed description of the Japanese growth problem related to over-borrowing in the first half of the 1990s, see Magas (2002 pp. 403–410).

21 This sarcastic remark can be often heard in the American financial community. The phrase is said to have been used first by Warren Buffett, one of Wall Street’s best-known investors.

22 Source: Dresdner-Wasserstein; Thomson Datastream 2002 (Nov. 11).

future profits and the belief that the business cycle was dead. Consumers ran up huge debts and saved too little, believing that an ever rising stock market would boost their wealth. The boom became self-reinforcing as rising profit expectations pushed up share prices, which increased investment and consumer spending. Higher investment and the then still strong dollar helped to hold down inflation and hence interest rates, fuelling faster growth and higher share prices. That virtuous circle has turned vicious and did tremendous damage: since March 2007 until December of 2009, the Dow Jones Industrials Stock Index has fallen by more than 49%, some \$7 trillion has been wiped off the value of American shares, equivalent to two-thirds of annual GDP!²³ In addition, global growth is still very cyclical.



Source: Bloomberg.com

Figure 6. Performance of DOW Jones Stock index 2007–2011

If labor productivity remains strong, it should help firms to restore profits as well as ensure robust long-term growth. The slide in the stock market, then, may only reflect a crisis of confidence in corporate governance and accounting fraud, not deep-seated economic problems. It is true that until 2010 America has benefited from faster productivity growth since the mid-1990s (although the rise is less than once thought).²⁴ But, as with all previous technological revolutions, from railways to electricity to cars, excess capacity and increased competition, in the long run, are ensuring that most of the benefits of higher productivity go to consumers and workers, in the shape of lower prices and higher real wages, rather than into profits. This is the highly desired outcome of any well-performing capitalism. Equity returns are therefore likely to be a lot lower over the next decade than the preceding one. As a result, households will need to save much more towards their pensions, which – other factors being unchanged – will drag down growth somewhat. But even then, it is very likely, for the U.S. economy to recover and gather sustainable momentum with the recent fiscal and monetary stimulus, there is no other safe way out for long term growth but increasing domestic savings and rely less on foreign funds.

²³ As reported by Goldman Sachs, U.S. Weekly Analyst, March 24, 2011, quoted by Thomson Datastream.

²⁴ The first two waves of the computer age starting in the early 1980s for some very special reasons – and to a large extent paradoxically – did not bring the long expected productivity gains for the American economy. For a detailed discussion of the probable causes of lagging productivity growth in the first half of the 1990s, see Magas (2002 pp. 392–403).

To sum it all up, we conclude that after decades of declining economic volatility in developed economies, the business cycle may become more volatile again over the coming years mainly as a function of the changing fortunes of asset markets and with it the volatile wealth position of American savers and consumers. In addition, the IT revolution and globalization apparently have not deleted the business cycle.

2.2. KEY CURRENCY RATES DEFY THEORIES

It is still a major global concern about floating exchange rates of key currencies that they can be highly variable. Some variability presumably is not controversial, including exchange rate movements that offset inflation rate differentials and exchange rate movements that promote an orderly adjustment to shocks, Erdős (1998, pp. 299–305), Darvas–Szapáry (1999), Pugel–Lindert (2002, pp. 402–404) (Bernanke 2008, pp. 446–448). However, the substantial variability of exchange rates within fairly short time periods like months or a few years is more controversial. What are the possible effects of exchange rate variability that might concern us? If the variability simply creates unexpected gains and losses for short-term financial investors who deliberately take positions exposed to exchange rate risk, we probably would not be much concerned. However, we would be concerned if heightened exchange rate risk discourages such international activities as trade in goods and services or foreign direct investment. Exchange rate variability then would have real effects, by altering activities in the part of the economy that produces goods and services.

Overshooting raises another concern about real effects of the variability of floating exchange rates. When exchange rates overshoot, they send signals about changes in international price competitiveness. Big swings in price competitiveness create incentives for large shifts in real resources. For example, if overshooting leads to a large appreciation of the country's currency, this creates the incentive for labor to move out of export-orientated and import-competing industries, as the country loses a large amount of price-competitiveness. New capital investment in these industries is strongly discouraged, and some existing facilities are shut down. However, as the overshooting then reverses itself, these resource movements appear to have been excessive. Resources then must move back into these industries.

Relative price adjustments are an important and necessary part of the market system. They signal the need for resource reallocations. The concern here is not with relative price changes in general. The concern is with the possibility that the dynamics of floating exchange rates sometimes send false price signals or signals that are too strong, resulting in excessive resource reallocations. Proponents and defenders of floating rates agree that variability has been high and that some real effects occur. Exchange rates are price signals about the relative values of currencies. These signals represent the summary of information about the currencies at that time. As economic and political conditions change the price signals change too. The variability of exchange rates represents the ongoing market-based quest for economic efficiency. The proponents of floating rates believe that the support-

ers of fixed rates delude themselves by claiming that the lack of variability of fixed rates is a virtue. A fixed exchange rate can be looked at as form of price control. Price controls are generally inefficient because they either too high or too low. That is with a fixed rate the country's currency is often overvalued or undervalued by government fiat. Sudden changes can be highly disruptive, and it often occurs in a crisis atmosphere brought on by large capital flows, as speculators believe that they have a one-way speculative gamble on the direction of the exchange rate.

In sum, as a general statement on the exchange rate debate it can be said that variability and overshooting may have logic in international finance, but they nonetheless cause undesirable real effects like discouragement of international trade and excessive resource shifts.²⁵ Exchange rates should make transactions between countries as smooth and easy as possible. To the opponents of floating rates, exchange rates, like money, serve transaction functions best when their values are stable.

Each of the major international capital market related currency crises since 1994 in Mexico, Thailand, Indonesia, and Korea in 1997, Russia and Brazil, Argentina and Turkey in 2000, has in some way involved fixed or pegged exchange rate regimes. At the same time, countries that did not have pegged rates – among them South Africa, Israel, Turkey, and Mexico in 1998 – avoided crises of the type that affected emerging market countries with pegged rates. Little wonders, then, that policymakers involved in dealing with these crises warned strongly against the types of pegged rates for countries open to international capital flows. That warning has tended to take the form of advice that intermediate policy regimes between hard pegs and floating are not sustainable

But this bipolar view has not solidified either. Fisher (2001) argued that proponents of this bipolar view – himself included – have exaggerated their point for a dramatic effect. The right statement with respect to desirability of flexible exchange rate regimes is that “*for countries open to international capital flows (i) pegs are not sustainable unless they are very hard indeed; but (ii) a wide variety of exchange rates are possible; and (iii) it is to be expected that policy in most countries will not be indifferent to exchange rate movements*” (Fisher, 2001, p. 2). For Hungary, as well as for other emerging markets, this statement has strongly proven itself (Darvas–Szapáry 1999, Magas 2000).

On the way to developing a fundamental, let alone “fool proof” theory on the determination of exchange rates serious doubts remain. In an IMF working paper, Brooks et al (2001) have found, for instance, that the key feature of currency markets over the 2000–2001 has been the pronounced weakness of the euro particularly against the U.S. dollar. The theoretically important feature of their argument is that the weakness seemed to have defied “traditional” explanations of exchange rate determination, which focus on interest rate differentials and current account imbalances. For instance, in the mentioned years the interest rate differentials

25 There is a rapidly growing literature on alternative theories of exchange rate behavior and on the evaluation of the impacts of real exchange rate changes in particular. Empirical results point to many different directions, which are hard to encapsulate into a single new theory. For a review, see: Froot–Rogoff (1995) and Edison–Melick (1999), Darvas (1996).

moved in favor of the euro in many instance, yet successive hikes of short term rates by the ECB were often associated with euro weakness rather than strengthening it. In addition, the dollar gained against the euro even if euro area current account moved into strong surplus while U.S. current account deficit has grown! There was a need to look for alternative explanations emphasizing the impact of portfolio and FDI investments, for example. Up until July of 2001, the portfolio flows from the euro area to the U.S. stocks reflected differences in expected differences in productivity growth, they have tracked movements in the euro/U.S. dollar rate closely. At the same time, the yen versus dollar exchange rate movements remained more closely tied to the conventional variables as the current account and interest rate differentials. The paper concluded that different forces determined these two key exchange rates of international financial markets and that the currency traders must have looked at different aspects too. This makes one wonder about the applicability of some safe and proven laws on foreign-currency denominated asset building.

We are not speaking of the short term driving forces that rule on these enormous markets which move moneys to the tune of a trillion dollars a day! That motive is obvious, short-term profit making. Make no mistake. It is clear that the foreign exchange market is no different from any other financial market in its susceptibility to profitable forecasting determined by laws. Instead, we mean a reliable set of rules that can determine longer-term expectations. Very likely, there is no such fixed set, which is not subject to change. In light of these uncertainties, little wonder that The IMF working paper itself closed with a careful statement:

“To day the high reliance of the U.S. on capital inflows to finance the current account balance has not been a problem, but if expectations of relative rates of return on assets, particularly in the euro area were to increase, Competition for global funds could make markets sensitive to the large U.S. current account deficit and lead to substantial and rather abrupt changes in major currency rates.” (Brooks et al., 2001, p.26)

This warning, rather than an intended prophecy, let alone forecast, has come true by the end of 2011. It could have been said 10 years after it first appeared in press. The U.S. dollar depreciated by almost 15 per cent against the euro, and by 10 percent against the Japanese yen. The problem is that even a moderately precise explanation of why this has happened is by no means straightforward. Based on the above uncertainties, it becomes very hard indeed to assess (let alone forecast) the real effects of the big swings in exchange rate movements between the three key currencies of the world economy. This is a reason for concern.

Now, let us turn to the last American-born global market phenomena, to what we call real and “designed complexity” to spread risk.

3. FRAGILE SECURITIES MARKETS NEED FOR BETTER REGULATION

With the spread of modern technology to gather, store and generate information about non tangible but engineered financial products (derivatives) that do not have a traditional market value, one that can be easily measured against its utility

(weighing its profitability against its risk), there is new world and indeed a new division of labor being formed that neither Adam Smith or nor his successors could have foreseen. The market for these derivative products is growing rapidly, both on futures and options exchanges and in private sales, which tend to be more complex and more lucrative, at least for a while. In this new world, the art (not science) of valuing shares may be getting harder because of changes in the nature of the economy, creating even greater scope for bubbles to form. When the bulk of a company's assets were physical and its markets were relatively stable, valuation was more straightforward. Now growing proportions of a firm's assets—brands, ideas, human capital—are intangible and often hard to identify, let alone value. They are also less robust than a physical asset such as a factory.²⁶ This new, partly IT-related, complex market development has increased the difficulties of assessing risk and value, especially in a global context.

Still, as long as risk remained concentrated within a country and largely its banks, its financial regulators should have been able to keep tabs on it. The trouble with today's global pool of capital is that regulators may be out of their depth.

Does a global financial system need a global regulator? Who regulates Citigroup, the world's largest and most diverse financial institution? With its operations in over 100 countries, selling just about every financial product that has ever been invented, probably every financial regulator in the world feels that Citi is, to some degree, his problem. America alone has the Federal Reserve, the Securities and Exchange Commission, the Commodities and Futures Trading Commission, the New York Stock Exchange, 50 state insurance commissioners and many others. Yet in a sense nobody truly regulates Citi: it is a global firm in a world of national and sometimes sectoral watchdogs. The same is true of AIG, General Electric Capital, UBS, Deutsche Bank and many more.

Might that be a good thing? Howard Davies, boss of Britain's Financial Services Authority, noted that it has become fashionable to think of regulators as Shakespeare's "caterpillars of the commonwealth, creatures who, far from adding value, get in the way of the market". Naturally Sir Howard does not share this opinion. All the same, it seems clear that much of the dynamism in global finance during the past three decades has been due to fewer regulations on the movement of capital, particularly across borders, and on what can be done with it. For the most part, money is now free to flow wherever an opportunity presents itself, and has generally done so, leaving everybody better off than with heavy regulation.

Leaving capital free to move where it could earn the highest return also showed up over-costly or misplaced regulation: the money simply went elsewhere. For instance, because Japan prohibited the use of derivatives, options in Japanese securities were traded in more accommodating Singapore. As Japan gradually eased these restrictions, some of the offshore business shifted back to Tokyo. In general, competition for capital has encouraged countries to improve their regulation to

²⁶ As Enron showed, a reputation for trustworthiness, and the market value resulting from it, can vanish in a moment. The dotcoms pushed this valuation challenge to extremes, often expecting investors to put a price on profits that would not be forthcoming for many years, and would be derived from business models and intangible assets such as brands that had not yet been created.

appeal to mobile capital-although some, such as Malaysia, have resisted this pressure, and continue to impose controls on cross-border capital flows.

Strikingly, there has been no race to the bottom in regulation. Behind every great market is good regulation-whether by a government agency or organized by the market participants. Internationally mobile capital has tended to reward regulation that protects investors and minimizes privileges for market insiders. Broadly speaking, this has led to a convergence of regulation around common international standards, but this process is by no means complete, particularly for investment products sold to personal investors. The day when a global firm can sell the same simple stock market-index fund anywhere in the world remains a long way off. America remains reluctant to allow European securities exchanges to ply their trade via screens in America, even though technically this is now easy to do. "Outrageously protectionist," stand for the European regulator.

Given the political difficulties, the idea of a single global regulator is not on any serious agenda. That may be just as well: competition among regulators has some benefits. What is on the agenda, at least of the regulators in countries open to international capital, is to ensure that good information is available about the state of global markets and about financial firms' global operations. The FSA, for example, is able to regulate only Citigroup's British activities, but it will have a much better chance of doing it well if it knows enough about the health of the firm worldwide. Information is already flowing more freely between different national regulators. Multinational institutions such as the International Monetary Fund, the Bank for International Settlements and the Financial Stability Forum all play a useful part in this, but it is bilateral communication between national regulators that matters most-and the global financial system is nowhere near as transparent to national regulators as it should be.

One reason is that no global consensus exists on what exactly should be regulated. For instance, in Britain reinsurers are regulated by the FSA, but in their home markets Munich Re and Swiss Re, the world's largest reinsurance companies, are mostly unregulated. Non-financial firms with big financial operations do not fit comfortably into the current regulatory framework anywhere. Enron, which has been plausibly described as an investment bank or hedge fund with an energy business on the side, was not regulated in America. In Britain, the firm itself was not regulated, but its financial subsidiaries were monitored by the FSA. There are big question marks over who regulates the growing number of firms now transforming themselves into financial behemoths, modeled on GE with its huge GE Capital operation. Hedge funds and other highly leveraged institutions are regulated lightly in most countries, and not at all in America.

A second problem, at least in foreign eyes, is that America has too many different regulators. Whereas Britain has merged its numerous financial regulators into a single authority, and several other countries around the world are moving the same way, America continues with its plethora of different regulators for different parts of the financial-services industry. It seems doubtful that any of them has a good overview of what is happening in America's financial system as a whole-though the Fed claims it gets all the information it needs, one way or another. During the Clinton administration, regulation often took place on the golf course

between Mr. Greenspan, Arthur Levitt, the chairman of the SEC, and Robert Rubin, the Treasury secretary. All the same, single foreign regulators would find it easier to resolve cross-border issues with a single American counterpart.

Some American regulators defend their multiple systems, despite the considerable duplication it entails, mainly on the ground that regulatory competition keeps them keen and lean. Certainly, the superiority of the single, consolidated regulator has yet to be proved. According to a report published in 2009 by the Centre for the Study of Financial Innovation, “There is a pervasive mood of discontent in the City with the FSA: people find it bureaucratic, intrusive and insensitive.” Still, the current division of labor among the different American regulators is hard to justify. Why, for instance, should the SEC oversee trading on stock exchanges and the CFTC trading on futures exchanges when the regulatory needs of all exchanges are essentially the same? And why is insurance regulated not federally but at the state level, mostly by elected insurance commissioners? Nobody really thinks this makes sense, but the system survives because each regulatory body has its own supporters in Congress. In some respects, an inefficient regulatory system suits powerful financial firms. The Glass–Steagall laws, which kept banks, investment banks and insurers separate, survived a dozen attempts in Congress to scrap them—until 1998, when Travellers, an insurer, merged with Citibank, which immediately ended its expensive lobbying against abolition. They went soon after.

The Dodd–Frank Financial Act has reformed the entire system for the satisfaction of almost all players, true the product is lengthy, it is incorporated into twenty five hundred pages of new legislation.

So far America’s cumbersome regulatory system does not seem to have retarded the development of its markets, but in the long run it may prove costly, particularly if – and it is a big if – the European Union succeeds in fully integrating its capital markets and introducing appropriate regulation. America has long boasted of having the most efficient capital markets in the world, and to date that has broadly been true. But its unwieldy system of multiple regulators could become a competitive disadvantage should Europe develop a better, less costly regulatory mousetrap. Indeed, it is possible that pressure from the EU will help to consolidate American regulation. Under a forthcoming EU directive, any financial conglomerate operating within the Union will have to choose a main EU regulator who will be responsible for global supervision of the firm. In practice, the European regulator for the big American firms, such as Goldman and Citi, will probably delegate by requiring the firm to nominate one of the American regulators as its “coordinating regulator”, which would become a de facto single national regulator for the firm.

Even if the infrastructure for effective global regulation were in place, huge challenges would remain. Some are of an intellectual sort. “How much failure should a regulatory system allow?” asked Sir Howard Davies. He did not supply an answer, beyond saying it should be more than zero, and less than would cause system-wide collapse. Another regulator reckons that the ideal would be “a trickle of little problems, to keep people aware of the risks”. It may be a tribute to American regulation that Enron was actually allowed to go bust, and luckily this does not appear to have had system-wide consequences. Some countries might have tried to

organize a rescue; indeed, even the Fed has a reputation for keeping alive firms that should have been allowed to die. Understanding whether the level of risk is getting too high has become harder now that so much risk is being transferred out of the banking system. Many worry that regulators and financial firms alike are better at judging the relative riskiness of different instruments, institutions and counterparties than the total risk in the system.

The problem has been brought to the fore by the technology bubble, and the fear of a wider American equity bubble. Do regulators know when a bubble has formed and the financial system is becoming dangerously imbalanced? Probably not with enough certainty to base policy on. What is clearer is that aggregate risk ebbs and flows with the economic cycle, credit officers tend to lend too much in good times, heating up the economy, and then cut back too much in a downturn, making things worse. One way to get round this would be to require banks to set aside higher amounts of capital during economic booms than during recessions, to make risk-taking less pro-cyclical. How much capital financial firms should set aside against risks going wrong is the trickiest decision international regulators have to make. Since 1988, big banks have been abiding by the Basel capital regime, which links the amount of capital they have to hold in reserve to the riskiness of the loans they make. However, the categories of risk are too undifferentiated: banks have to set aside as much capital against a loan to Microsoft as to a Hungarian dot-com, as much against a loan to America as one to South Korea. Banks have also discovered ways to use derivatives and other securities to allow relatively risky loans to qualify for a low-risk, low-capital treatment. Regulators fear that a large part of the growth in the use of derivatives and securitization by banks may stem from evasion of regulatory controls.

Basel 3, a more sophisticated version of risk-based capital rules, is now in the pipeline. It is meant to apply not only to big banks but to all banks worldwide, and to all investment firms in the EU. There is also talk of an insurance Basel before long. But Basel 3 has met with considerable opposition, partly because it is too complicated, partly because some countries disagree over how much capital should be set aside against some sorts of loans. Germany wants a lower capital requirement for loans to small businesses, for example, because bank loans are their traditional source of funding. The launch of the new regime, originally scheduled for 2004, had already been delayed. Meanwhile, the banks are operating with a capital regime that does not work as intended, but may be lulling regulators into a false sense of security.

In determining regulatory capital, Basel 3 would give an even more important role to credit-rating agencies such as Moody's and Standard & Poor's. How good their ratings are is the subject of much debate. As an alternative, banks will be encouraged to use their own in-house credit ratings. But regulators still mistrust the use of quantitative credit-risk models to set regulatory capital. They need better techniques and better data, especially in Europe. Many big banks already use quantitative models to assess how much capital they need to set aside against portfolios of marketable securities. These "value at risk" (VAR) models typically measure the most the firm could lose in a day, judging by past performance, but they tend to underestimate the frequency with which really bad days occur. There have

been half a dozen “perfect storms” in the market in the past decade, during which VAR calculations proved useless in predicting losses. Stress-testing portfolios against imaginary perfect storms remedies some of the weaknesses. But modeling credit risk in this way is much harder, not least because data about past credit performance are scarce.

Another market-based system of regulation has also received some attention. If banks issue short-term subordinated debt that is traded every day and has to be refinanced regularly, and can stay in business only as long as the debt is refinanced, then the market will in effect regulate the bank. Lenders will not finance a bank they think is in risk of default. Alas, the only country to have tried it so far has been Argentina, where the government’s fleecing of the banking system after its debt default rather spoils the plot. Regulators are only too aware that the sheer complexity of the financial system imposes practical limitations on what they can do. Increasingly, they are having to rely on the private sector to assist them in their regulatory task. They simply do not have the capacity to find out what risks are being taken inside a large international bank unless it tells them.

The consolidation in the banking sector may be increasing the risk of the financial system in other ways.²⁷ The new global dilemma, and with it the real danger, that the risk originally taken on by the capital markets will eventually find its way back into the banking system. Much of the risk-transfer apparently being undertaken may be an accounting ruse, designed to escape regulatory capital requirements without truly shedding the risk. And if insurers are unable to meet their liabilities and go bankrupt, the banks may be caught short of needed reserve funds. It is safe to assume that much of the unwanted risk assumed by the banking sector may end up in the hands of less sophisticated investors, including some of the individuals now being targeted by the financial-services firms. They may be taking on this risk unwittingly. Nobody knows how those individuals might react if they found out, or how this would affect the economy

27 Consolidation has cut down the number of big market participants. In 1995, 20 banks in the United States accounted for 75% of foreign exchange transactions; by 2001, the number was down to 13. What is certain is that financial firms, especially on Wall Street and in the City of London, love derivatives, and have hired an army of mathematicians and physicists to work as “financial engineers”, creating complex new derivatives to shift risk around the financial system. Credit derivatives already have a nominal value of almost \$1 trillion, up from around \$100 billion five years ago. They are forecast to top \$3 trillion by 2005. The nominal value of over-the-counter derivatives now exceeds \$100 trillion, 60% of which is handled by a mere five dealers, including two giants, J.P. Morgan and Citigroup. Derivatives and other tools of financial engineering can be used to manage risk better by hedging positions and transferring unwanted risk to a counter-party, which is what banks say they mostly use them for. However, those tools can also be used to increase risk, perhaps by a big margin, and there is a growing danger that this will be done accidentally. Leaving capital free to move where it could earn the highest return also showed up over-costly or misplaced regulation: the money simply went elsewhere. For instance, because Japan prohibited the use of derivatives, options in Japanese securities were traded in more accommodating Singapore. As Japan gradually eased these restrictions, some of the offshore business shifted back to Tokyo. In general, competition for capital has encouraged countries to improve their regulation to appeal to mobile capital—although some, such as Malaysia, have resisted this pressure, and continue to impose controls on cross-border capital flows.

as a whole. They might feel poorer and less inclined to spend, which could inflict the sort of damage on the economy and the banking system fears. There is a real threat that it might accelerate itself through the reverse multiplier. Still, as long as risk remained concentrated within a country and largely its banks, its financial regulators should have been able to keep tabs on it. The trouble with today's global pool of capital is that regulators may be out of their depth, their national jurisdiction. In this sense, there is an obvious need for global regulation. At the same time, it seems clear that much of the dynamism in global finance during the past three decades has been due to fewer regulations on the movement of capital, particularly across borders, and on what can be done with it. For the most part, money is now free to flow wherever an opportunity presents itself, and has generally done so, leaving everybody better off than with heavy regulation. One should add, in the general case with normal behavior.²⁸

Given the serious political difficulties, the idea of a single global regulator is not on any serious agenda. That may be just as well: competition among regulators has some benefits. What is on the agenda, at least of the regulators in countries open to international capital, is to ensure that good information is available about the state of global markets and about financial firms' global operations. The FSA, for example, is able to regulate only Citigroup's British activities, but it will have a much better chance of doing it well if it knows enough about the health of the firm worldwide. Information is already flowing more freely between different national regulators. Multinational institutions such as the International Monetary Fund, the Bank for International Settlements and the Financial Stability Forum all play a useful part in this, but it is bilateral communication between national regulators that matters most, and the global financial system is nowhere near as transparent to national regulators as it should be (Magas, 2000, 2009).

Understanding whether the level of risk is getting too high has become harder now that so much risk is being transferred out of the banking system. The problem has been brought to the fore by the technology bubble, and the fear of a wider American equity bubble. Do regulators know when a bubble has formed and the financial system is becoming dangerously unbalanced? Probably not, with enough certainty to base policy on. What is clearer is that aggregate risk changes and flows with the economic cycle. Credit officers tend to lend too much in good times, heating up the economy, and then cut back too much in a downturn, making things worse. One way to get around this would be to require banks to set aside higher amounts of capital during economic booms than dur-

28 In this context, mention must be made of how a natural scientist views the world of modern financial markets, and ask the question more often heard: "Why do so many people cling so hard to the notion of efficient markets?" Emanuel Derman of Goldman Sachs, one of the growing number of former physicists working in investment banking, puts this notion in perspective. In finance, he says, you are playing against people, who value assets on the basis of their feelings about the future. "These feelings are ephemeral, or at best unstable." What a simple way to portray the complex reality (as quoted by U.S. Weekly Analyst, Goldman Sachs, March 24 2002).

ing recessions, to make risk-taking less pro-cyclical.²⁹ If this was internationally required, it would be all the better. Initiatives in this regard should come from the regulators of the largest key players of the American markets.

4. SUMMARY AND CONCLUSION

- (a) The two prime transmitters of competitive forces in the global economy are the multinational corporations and the international capital markets. They both show revealed systemic behavior with well defined goals and measurable efficiency. For good global market performance, however, – among other things – we need efficient markets (with respect to information processing), good rules, and, of course, determined, yet not over-ambitious regulators that have a powerful bite. In a global economic framework, however, as of yet, we do not seem to have any of these requirements met. National government choices, as well as multinational company and individual international investment decisions do remain largely within their “own” perceived boundaries, and without regard to any “globally defined” or desired goals. This present dichotomy of determining international economic events by large-country (e.g. USA, EU-27, Japan) preferences, but in fact domestic macro needs, and by firm-level multinational company preferences, is not likely to change soon. At the same time, there is increasing need to act and manage markets globally, and, as consequence there is a need to be ready to coordinate national policy actions, regulate multinational company behavior and agree on some commonly shared safety rules of international financial markets. These global coordination efforts can be looked at as contributions to the provision of global economic stability, which is a valuable public good.
- (b) As a general rule, competing firms, domestic and international alike, do learn from their past mistakes and constantly adapt to change. We have reasoned that governments and regulators learn, too. True, they learn slowly, but they do learn. In this perspective, there is an evolution of concepts and proper policy actions as a function of a constantly changing global economic environment. Although the macro economy is not self-correcting, it has a learning capacity. At least, that is the impression one gets from the American experience of interactions between markets and government of the last two decades. In the

²⁹ How much capital financial firms should set aside against risks going wrong is the trickiest decision international regulators have to make. Since 1988, big banks have been abiding by the Basel capital regime, which links the amount of capital they have to hold in reserve to the overall risk of the loans they make. Basel-3, a more sophisticated version of risk-based capital rules, is now under way. It is meant to apply not only to big banks but to all banks worldwide, and to all investment firms in the EU. There is also talk of an insurance Basel before long. But Basel 3 has met with considerable opposition, partly because it is too complicated, partly because some countries disagree over how much capital should be set aside against some sorts of loans. Germany wants a lower capital requirement for loans to small businesses, for example, because bank loans are their traditional source of funding.

American economy, overall, we argued that despite the recent dramatic weakness of the stock market, and despite the corporate scandals, the resilience of its financial system and the attractiveness of its domestic markets in the eye of foreign investors has not diminished dramatically. This surprising loyalty can be accredited in no small measure to the mostly proper economic policy measures taken, or, – if you like – to the trusted values of the American market mechanisms in general.

- (c) Based on the international debt history of the U.S. economy, we suggested that for a more even and sustainable future growth-pattern for the world economy, a higher U.S. savings rate and a higher Japanese and euro-area consumption rate would be beneficial. This by no means is a novelty, but it can be considered as a very pressing global issue to be (re)addressed soon.
- (d) Neither the IT revolution nor globalization have managed to delete, let alone iron out unwanted recessionary business cycles. In addition, we argued that Central banks should constantly monitor the wealth effects too, not just inflation. This has been a recent lesson to be (re) learned. Thus, we stressed that the useful elements of anti-cyclical government interference should be kept. What is more, ongoing intergovernmental efforts are needed to sustain global demand.
- (e) Recent capital market developments have confirmed that there is also a need to overseeing the global impacts of international capital movements. The need for some globally coordinated supervision of international capital mobility is warranted if it is to match the accelerated intra-company cross border flows of funds with some regulation, to prevent the hiding of unwanted risk internationally. The trouble with today's global pool of capital is that regulators may be out of their "depth", i.e. jurisdiction. In this sense, there is an obvious need for some kind of global regulation that increases global safety standards of managing risks that are being spread over numerous international participants. Unlike domestic capital markets, global markets have no desire and means to self-police, not to mention a strong formal supervision.
- (f) But certain things do not change, as it was put by former FED chairman Alan Greenspan(2003) in one of his famous statements: "...there is no tool to change human nature. Too often people are prone to recurring bouts of optimism and pessimism that manifest themselves from time to time in the build-up or cessation of speculative excesses."

When exactly the build up collapses is very hard to tell and forecast, so the Rajan (2010) statement sounds as a realistic tune: *"The credit crisis was certainly not one of those 'forecastable' events. If we ask why economists failed to predict the credit crisis, we should also ask why political scientists failed to predict the recent Arab Spring, or a terrorist event like 9/11, or why seismologists cannot predict earthquakes."*

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