

The Financial Instability Hypothesis

by

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The financial instability hypothesis has both empirical and theoretical aspects. The readily observed empirical aspect is that, from time to time, capitalist economies exhibit inflations and debt deflations which seem to have the potential to spin out of control. In such processes the economic system's reactions to a movement of the economy amplify the movement--inflation feeds upon inflation and debt-deflation feeds upon debt-deflation. Government interventions aimed to contain the deterioration seem to have been inept in some of the historical crises. These historical episodes are evidence supporting the view that the economy does not always conform to the classic precepts of Smith and Walras: they implied that the economy can best be understood by assuming that it is constantly an equilibrium seeking and sustaining system.

The classic description of a debt deflation was offered by Irving Fisher (1933) and that of a self-sustaining disequilibrating processes by Charles Kindleberger (1978). Martin Wolfson (1986) not only presents a compilation of data on the emergence of financial relations conducive to financial instability, but also examines various financial crisis theories of business cycles.

As economic theory, the financial instability hypothesis is an interpretation of the substance of Keynes's "General Theory". This interpretation places the General Theory in history. As the General Theory was written in the early 1930s, the great financial and real contraction of the United States and the other

capitalist economies of that time was a part of the evidence the theory aimed to explain. The financial instability hypothesis also draws upon the credit view of money and finance by Joseph Schumpeter (1934, Ch.3) Key works for the financial instability hypothesis in the narrow sense are, of course, Hyman P. Minsky (1975, 1986).

The theoretical argument of the financial instability hypothesis starts from the characterization of the economy as a capitalist economy with expensive capital assets and a complex, sophisticated financial system. The economic problem is identified following Keynes as the "capital development of the economy," rather than the Knightian "allocation of given resources among alternative employments." The focus is on an accumulating capitalist economy that moves through real calendar time.

The capital development of a capitalist economy is accompanied by exchanges of present money for future money. The present money pays for resources that go into the production of investment output, whereas the future money is the "profits" which will accrue to the capital asset owning firms (as the capital assets are used in production). As a result of the process by which investment is financed, the control over items in the capital stock by producing units is financed by liabilities--these are commitments to pay money at dates specified or as conditions arise. For each economic unit, the liabilities on its balance sheet determine a time series of prior

payment commitments, even as the assets generate a time series of conjectured cash receipts.

This structure was well stated by Keynes (1972) :

There is a multitude of real assets in the world which constitutes our capital wealth - buildings, stocks of commodities, goods in the course of manufacture and of transport, and so forth. The nominal owners of these assets, however, have not infrequently borrowed money (Keynes' emphasis) in order to become possessed of them. To a corresponding extent the actual owners of wealth have claims, not on real assets, but on money. A considerable part of this financing takes place through the banking system, which interposes its guarantee between its depositors who lend it money, and its borrowing customers to whom it loans money wherewith to finance the purchase of real assets. The interposition of this veil of money between the real asset and the wealth owner is an especially marked characteristic of the modern world."(p.151)

This Keynes "veil of money" is different from the Quantity Theory of money "veil of money." The Quantity Theory "veil of money" has the trading exchanges in commodity markets be of goods for money and money for goods: therefore, the exchanges are really of goods for goods. The Keynes veil implies that money is connected with financing through time. A part of the financing of the economy can be structured as dated payment commitments in which banks are the central player. The money flows are first from depositors to banks and from banks to firms: then, at some later dates, from firms to banks and from banks to their depositors. Initially, the exchanges are for the financing of investment, and subsequently, the exchanges fulfill the prior commitments which are stated in the financing contract.

In a Keynes "veil of money" world, the flow of money to firms is a response to expectations of future profits, and the

flow of money from firms is financed by profits that are realized. In the Keynes set up, the key economic exchanges take place as a result of negotiations between generic bankers and generic businessmen. The documents "on the table" in such negotiations detail the costs and profit expectations of the businessmen: businessmen interpret the numbers and the expectations as enthusiasts, bankers as skeptics.

Thus, in a capitalist economy the past, the present, and the future are linked not only by capital assets and labor force characteristics but also by financial relations. The key financial relationships link the creation and the ownership of capital assets to the structure of financial relations and changes in this structure. Institutional complexity may result in several layers of intermediation between the ultimate owners of the communities' wealth and the units that control and operate the communities' wealth.

Expectations of business profits determine both the flow of financing contracts to business and the market price of existing financing contracts. Profit realizations determine whether the commitments in financial contracts are fulfilled--whether financial assets perform as the pro formas indicated by the negotiations.

In the modern world, analyses of financial relations and their implications for system behavior cannot be restricted to the liability structure of businesses and the cash flows they entail. Households (by the way of their ability to borrow on

credit cards for big ticket consumer goods such as automobiles, house purchases, and to carry financial assets), governments (with their large floating and funded debts), and international units (as a result of the internationalization of finance) have liability structures which the current performance of the economy either validates or invalidates.

An increasing complexity of the financial structure, in connection with a greater involvement of governments as refinancing agents for financial institutions as well as ordinary business firms (both of which are marked characteristics of the modern world), may make the system behave differently than in earlier eras. In particular, the much greater participation of national governments in assuring that finance does not degenerate as in the 1929-1933 period means that the down side vulnerability of aggregate profit flows has been much diminished. However, the same interventions may well induce a greater degree of upside (i.e. inflationary) bias to the economy.

In spite of the greater complexity of financial relations, the key determinant of system behavior remains the level of profits. The financial instability hypothesis incorporates the Kalecki (1965)-Levy (1983) view of profits, in which the structure of aggregate demand determines profits. In the skeletal model, with highly simplified consumption behavior by receivers of profit incomes and wages, in each period aggregate profits equal aggregate investment. In a more complex (though still highly abstract) structure, aggregate profits equal

aggregate investment plus the government deficit. Expectations of profits depend upon investment in the future, and realized profits are determined by investment: thus, whether or not liabilities are validated depends upon investment. Investment takes place now because businessmen and their bankers expect investment to take place in the future.

The financial instability hypothesis, therefore, is a theory of the impact of debt on system behavior and also incorporates the manner in which debt is validated. In contrast to the orthodox Quantity Theory of money, the financial instability hypothesis takes banking seriously as a profit-seeking activity. Banks seek profits by financing activity and bankers. Like all entrepreneurs in a capitalist economy, bankers are aware that innovation assures profits. Thus, bankers (using the term generically for all intermediaries in finance), whether they be brokers or dealers, are merchants of debt who strive to innovate in the assets they acquire and the liabilities they market. This innovative characteristic of banking and finance invalidates the fundamental presupposition of the orthodox Quantity Theory of money to the effect that there is an unchanging "money" item whose velocity of circulation is sufficiently close to being constant: hence, changes in this money's supply have a linear proportional relation to a well defined price level.

Three distinct income-debt relations for economic units, which are labeled as hedge, speculative, and Ponzi finance, can be identified.

Hedge financing units are those which can fulfill all of their contractual payment obligations by their cash flows: the greater the weight of equity financing in the liability structure, the greater the likelihood that the unit is a hedge financing unit. Speculative finance units are units that can meet their payment commitments on "income account" on their liabilities, even as they cannot repay the principle out of income cash flows. Such units need to "roll over" their liabilities: (e.g. issue new debt to meet commitments on maturing debt). Governments with floating debts, corporations with floating issues of commercial paper, and banks are typically hedge units.

For Ponzi units, the cash flows from operations are not sufficient to fulfill either the repayment of principle or the interest due on outstanding debts by their cash flows from operations. Such units can sell assets or borrow. Borrowing to pay interest or selling assets to pay interest (and even dividends) on common stock lowers the equity of a unit, even as it increases liabilities and the prior commitment of future incomes. A unit that Ponzi finances lowers the margin of safety that it offers the holders of its debts.

It can be shown that if hedge financing dominates, then the economy may well be an equilibrium seeking and containing system. In contrast, the greater the weight of speculative and Ponzi finance, the greater the likelihood that the economy is a deviation amplifying system. The first theorem of the financial

instability hypothesis is that the economy has financing regimes under which it is stable, and financing regimes in which it is unstable. The second theorem of the financial instability hypothesis is that over periods of prolonged prosperity, the economy transits from financial relations that make for a stable system to financial relations that make for an unstable system.

In particular, over a protracted period of good times, capitalist economies tend to move from a financial structure dominated by hedge finance units to a structure in which there is large weight to units engaged in speculative and Ponzi finance. Furthermore, if an economy with a sizeable body of speculative financial units is in an inflationary state, and the authorities attempt to exorcise inflation by monetary constraint, then speculative units will become Ponzi units and the net worth of previously Ponzi units will quickly evaporate. Consequently, units with cash flow shortfalls will be forced to try to make position by selling out position. This is likely to lead to a collapse of asset values.

The financial instability hypothesis is a model of a capitalist economy which does not rely upon exogenous shocks to generate business cycles of varying severity. The hypothesis holds that business cycles of history are compounded out of (i) the internal dynamics of capitalist economies, and (ii) the system of interventions and regulations that are designed to keep the economy operating within reasonable bounds.

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Global imbalances: Strategic prospects for the US and the world

*Dimitri B. Papadimitriou**

Introduction

The prospects for world trade, the motor of growth for many countries for almost a decade, are discouraging especially during a time the global economy is enduring a recession. Since the summer of 2007, trade declined and was exacerbated when trade finance became difficult to obtain for importers, and consumer confidence dropped to unprecedented lows. In December 2008, exports were down in Brazil, China, South Korea and Taiwan by 2, 2.8, 17.4 and 42 percent respectively while in November 2008 exports from the US, Germany, Japan and India were correspondingly lower by 4, 22, 12 and 10 percent respectively – all significant declines (Patel/Trivedi 2009, Norris 2009). Expectations and consensus forecasts for the first quarter of 2009 suggest a decrease in overall trade value around 15 percent in both the advanced and emerging economies and a three percent contraction for the entire year, in real terms. These conditions demonstrate the synchronized slowdown of global demand and the implausibility of any economy to »export its way out of trouble« (Norris 2009). Furthermore, history is full of events illustrating protectionism attempts in many countries intended at improving their trade position with detrimental effects on others. This paper argues that the US and the rest of the world will not be able to achieve balanced

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growth and full employment unless they are able to agree and implement an entirely new way of running the global economy. In what follows, we outline the nature and magnitude of the emerging crisis, and suggest some of the things that must happen, even if our suggestions for achieving these things might be considered weak.

Background

Over the last ten years, many papers have been published especially by the Levy Economics Institute, setting forth a range of scenarios which showed over a period of five to ten years the likely obstacles to growth with full employment and the resulting imbalances on a global scale. In this paper and in concert with other Levy Institute papers, we advance a contrarian view that unsustainable imbalances are building up which eventually require both large fiscal stimulus and a substantial depreciation of the dollar. As early as 1999, a similar diagnosis and prescription was suggested (by Wynne Godley) especially at a time when there was an emphatic consensus that »the good times were here to stay«.

The first part of this diagnosis was validated de facto by the huge relaxation in US fiscal policy in 2001 – 2003, amounting close to 700 billion \$, which staved off the worst part of the recession that took place at that time as a result of the stock market crash. This stimulus very properly put the federal budget permanently into deficit, obliterating the surplus of which the Clinton administration had been so proud.

The balance of payments – which had been zero in 1992 – then moved even further into deficit on a scale never seen before, reaching over six percent of GDP in 2006. Despite the growing subtraction from aggregate demand as a result of this trend, the US economy continued to grow at its trend rate of three percent because the balance of payments deficit was offset by a large and growing fall in personal net saving which was fed by a renewed rise in net lending to the private sector, the counterpart to the unsustainable frenzy in subprime and other lending.

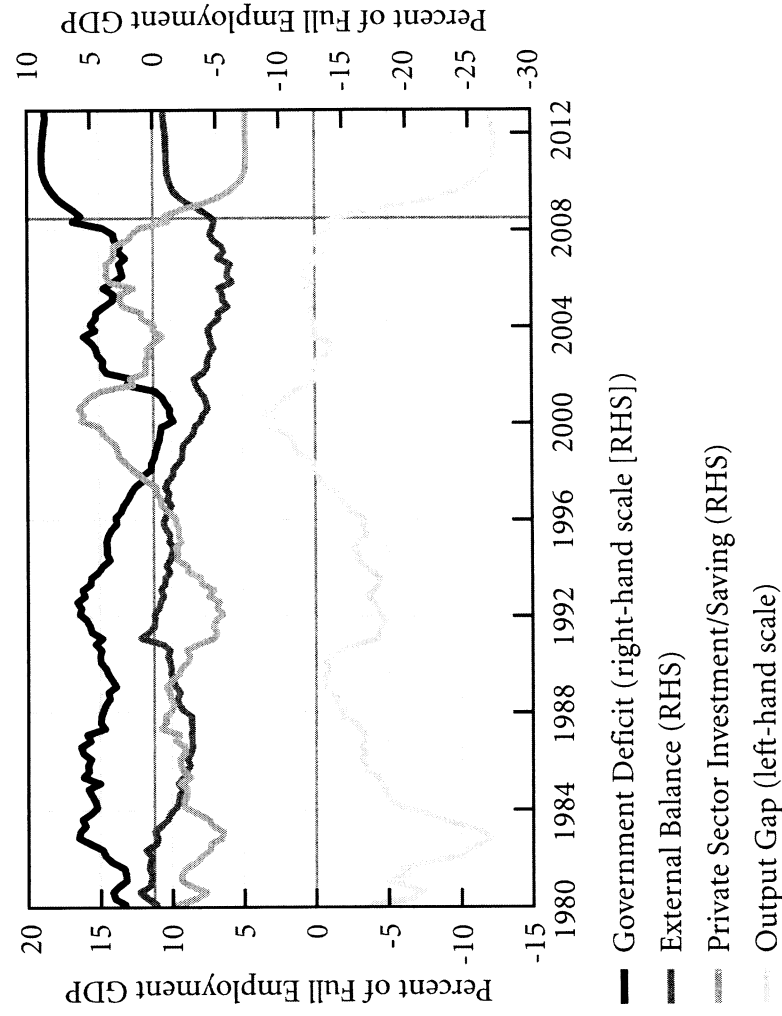
It should have been clear that these trends could not continue for long. Continuing the growth in net lending to the private sector indefinitely was impossible and at some stage of reckoning there would have to be a collapse both in lending and in private expenditure relative to income. It would not be possible to save the situation by applying another fiscal stimulus as in 2001, because that would increase the budget deficit to about eight percent of GDP implying that the public debt would then be nearing 100 percent of GDP, with more to come – the US's deep pockets notwithstanding. As the turn-round in net lending eventually became manifest the result was a recession. This was the focus of a previous paper (Godley et al. 2007) in addition to exploring the possibility that, with the dollar being so low, net exports might save the day after a relatively short period of recession.

The processes by which US output was sustained through the long period of growing imbalances could not have occurred if China and other Asian countries had not run huge current account surpluses with an accompanying »saving glut« and a growing accumulation of foreign exchange reserves which prevented their exchange rates from falling enough, flooding US financial markets with dollars, thereby helping to finance the lending boom.

Some economists, among them Federal Reserve Chairman Bernanke (2007) have gone so far as to suggest that the growing imbalance problem was entirely the consequence of the 'saving glut' in Asian and other surplus countries. In our view, there was an interdependent process in which all parties played an active role. The US could not have maintained growth unless it had been happy to sponsor, or permit, private sector – particularly personal sector – borrowing on such an unprecedented scale.

Changes in the three financial balances, government, foreign and private, illustrating the major forces driving the US economy are shown in Figure 1, which also shows the level of GDP relative to trend – taken to be actual output in excess of what it would have been with a six percent unemployment rate (Godley et al 2008).

Figure 1: *US main sector balances and output gap*



Sources: *Federal Reserve and Godley et al. 2008*

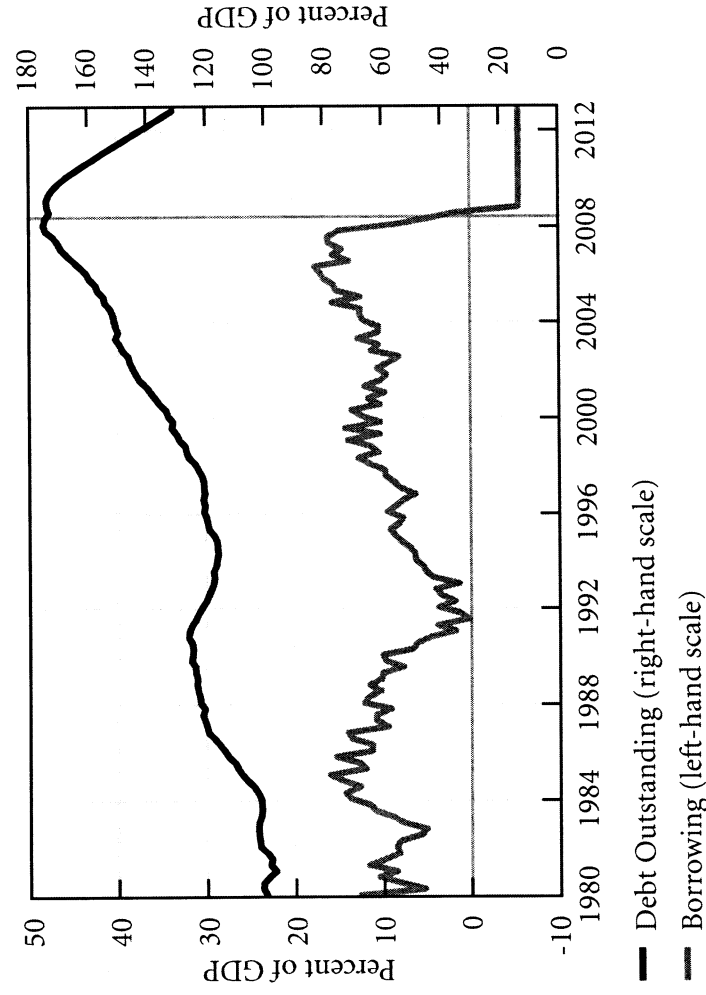
As it can be seen, Figure 1 indicates how the first two output recessions (in the 1980s and 1990s) were driven by falls in private expenditure relative to income. Then between 1993 and 2000, a moderately stable growth masked persistent negative impulses from the government and foreign sectors, offset by a persistent upward influence from private expenditure relative to income. The brief .com. recession (2000 – 2003) was partly offset by a fiscal stimulus, sending the government budget into deficit. Between 2004 and the first half of 2007, there was a renewed expansion in private expenditure, substantially caused by a very

large rise in financial balance of the private sector resulting from a fall in private net saving. Figure 1 also simulates the future at the time of this writing (January 2009). The base run on which the projections are grounded are discussed in the section that follows.

The recession 2007 – ?

The effect of private indebtedness on private net saving can be ascertained by taking both the level of private borrowing and debt. These are shown in Figure 2, as proportions of GDP since 1980. The trend of debt was upwards throughout the period, but between 2000 and the beginning of 2007 there was a marked acceleration, the proportion rising from about 130 percent to 174 percent of GDP. The growth suddenly ceased in the first quarter of 2008, though it did not actually fall much immediately. A vertical line is drawn in the third quarter of 2008, for which figures relating to the Flow of Funds have recently become available.

Figure 2: Private sector borrowing and debt



Sources: Federal Reserve and Godley et al. 2008

The lower half of Figure 2 shows how borrowing in the private sector fell, between the third quarter of 2007 and the third quarter of 2008, by an amount equal to about 13 percent of GDP – by far the largest fall over such a short time in the history of the series. Borrowing is calculated from two components: repayments plus interest which will be a relatively stable proportion of the stock of debt, and receipts in the form of new loans which may be highly volatile and which must have been falling extremely sharply through 2008 as the credit crunch took hold. It is important to recognize that there is no natural floor to the flow of borrowing

as it reaches zero; indeed it is expected that gross borrowing will go on falling below repayments – causing negative borrowing – for a considerable time (Godley et al 2008).

Figure 2 also projects that over the next five years the level of private debt relative to GDP will decelerate back to about 130 percent of GDP – roughly where it had stabilized before 2000. The implication of these assumptions is that net borrowing in the private sector falls to about zero percent of GDP by the first quarter of 2009, most of which has already taken place. Furthermore, borrowing continues negatively for a long time after that.

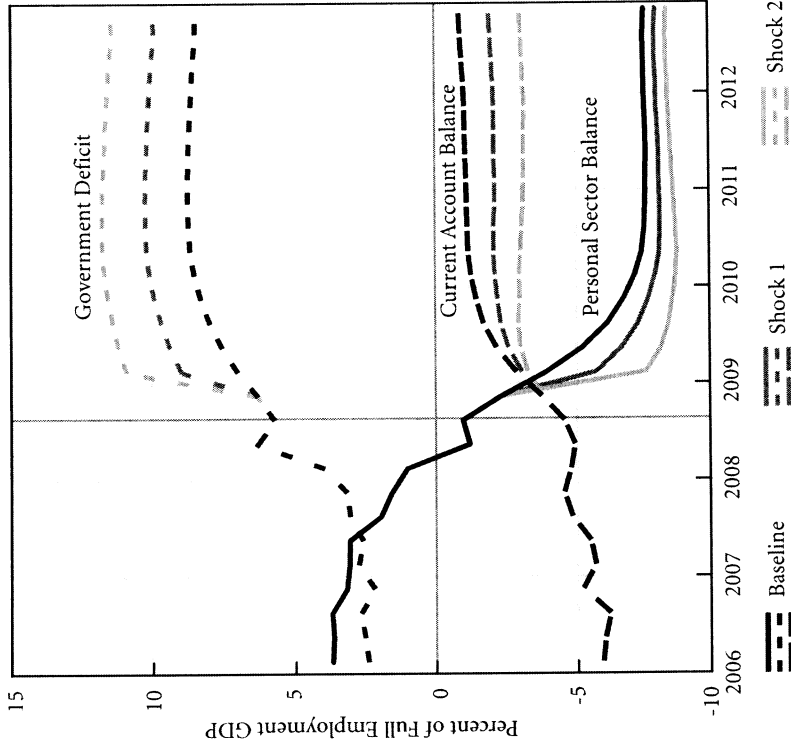
The unprecedented cut in interest rates by the Federal Reserve may be the correct policy but will not do the trick in reactivating standard lending practices, unless business confidence in future profits and income growth is restored. On the other hand, low interest rates will keep mortgage payments low, sustaining disposable income and may help the economy to recover (Papadimitriou/Wray 2008).

Future private and public spending and external balances

The simulation of the four years (2009 – 2012) illustrated in Figure 1 traced out a base run projection for the public sector financial balance based on neutral assumptions regarding government expenditure and tax revenues. But it is on the dramatic fall of borrowing in the private sector that the projected large rise in private balance and large fall in GDP during the next few years crucially depend. The balance of trade is determined by identity though there are solid grounds for it to be plausible; according to the projection it improves quite a lot mainly as a result of the collapse in US GDP. The projection for exports is consistent with that published by the IMF and the Levy Institute's macro econometric model generates figures for imports (Godley et al 2008).

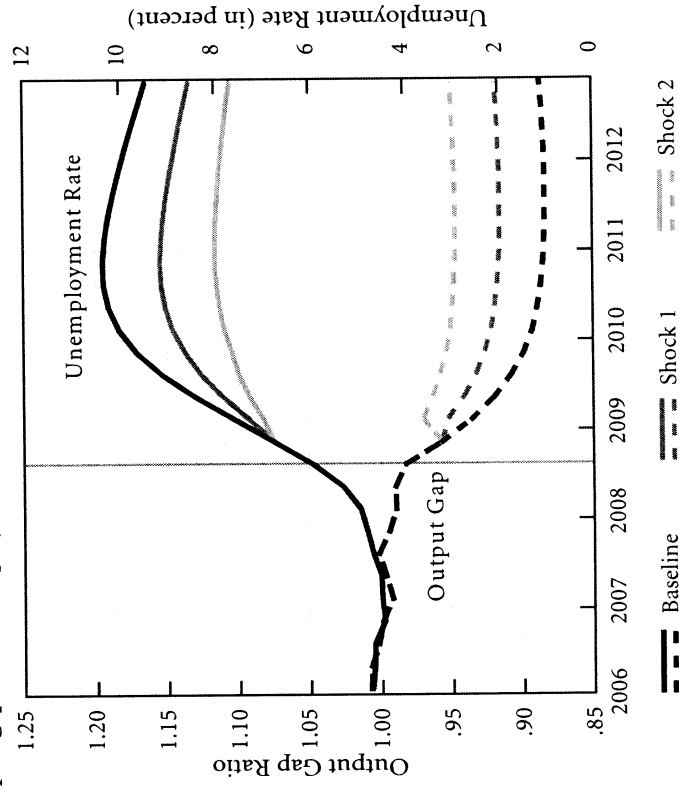
As illustrated in Figure 1, the implication of all these assumptions, taken together, is that GDP will fall about twelve percent below trend between now and 2010 while unemployment rises to about ten percent. It can be surmised that the collapse of private spending which has already been so steep and so large, will render impossible for the US to apply fiscal and monetary stimuli large enough to improve such a drop in output and rise in unemployment to more tolerable levels within the next two years. Godley et al (2008) support this contention by providing alternative projections for all the financial balances, as well as for output and unemployment on the assumptions that fiscal stimuli are immediately applied equal to an increase in government outlays of about 380 billion \$ or 2.6 percent of GDP (Shock 1) and, in the extreme case, 760 billion \$ or 5.3 percent of GDP (Shock 2). These alternative cases are shown in Figures 3 and 4 reproduced on the next page.

Figure 3: US main sector balances



Sources: Federal Reserve and Godley et al. 2008

Figure 4: Output gap and unemployment



Sources: Federal Reserve and Godley et al. 2008

The message of the projections in Figures 3 and 4 is that even with the application of very large fiscal stimuli, output will not rise to prevent unemployment from continuing to increase through the next two years.

Given the on-going debate about the type and magnitude of the needed fiscal stimulus between President Obama's Administration and Congress, it seems unlikely that budget deficits of the order of 8 – 10 percent through the next two years could be tolerated. The current economic and financial crises notwithstanding, there is still a strong and widespread belief that the US budget should normally be balanced. The conclusion to be drawn, therefore, is that nothing like the configuration of balances and other variables derived in Figures 3 and 4 could possibly be sustained over any period of time. The budget deficits imply that the public debt/GDP would rise permanently to about 80 percent, while GDP would remain below the three percent trend with unemployment above six percent.

Fiscal policy alone cannot, by any means, resolve the current crisis. A large enough stimulus will help counter the drop in private expenditure, reducing unemployment, but will bring back a large and growing external imbalance which will keep world growth on an unsustainable path.

Need for concerted action

The baseline scenario presented may be considered as a rather extreme case, when borrowing in households and firms is not restored for a considerable amount of time. If confidence is restored in financial markets, and lending is resumed to normal pre-bubble levels, private expenditure will increase, helping the economy to recover. In this case the private sector balance will slowly be restored to its pre-bubble level, with a slower reduction in the debt to income ratio, and the government deficit will drop due to increased tax revenues. But, the balance of payments will begin deteriorating again, unless counter measures are taken.

At the moment the recovery plans under consideration by the US and many other countries seem to be concentrated on the possibility of using expansionary fiscal and monetary policies. However well coordinated, these policies will not be sufficient. What must come to pass is a worldwide recovery of output combined with sustainable balances in international trade. This conclusion is in concert with previous Levy Institute papers emphasizing that a solution that ensures sustained growth with full employment would require both fiscal expansion and a rapid acceleration in net export demand. Part of the needed fiscal stimulus has already occurred and much more is immediately in prospect. But the US balance of payments languishes and a substantial and spontaneous recovery is now highly unlikely in view of the developing severe downturn in world trade and output. A decade ago it seemed possible that a dollar devaluation of 25 percent would do the trick. But a very much larger adjustment is needed now. By now, if the US attempts to restore full employment by fiscal and monetary means alone, the balance of payments deficit will rise back over the next three to four years to six percent of GDP or more – i.e., to a level which could not possibly be sustained for a long period let alone indefinitely. Yet to get trade expanding sufficiently

would require that exports grow faster than they are at present, implying that in 3 – 4 years the level of exports is 25 percent higher of what it would be with no adjustments.

It is impossible that such a large rebalancing could occur without dramatic changes in the institutions responsible for running the world economy which would place far less than total reliance on market forces.

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