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THE SLUMP, THE RECOVERY AND THE 'NEW NORMAL'

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The powerful downswing in economic activity in the past two years is *not* the first powerful downswing experienced in the western world since the Great Depression of the 1930s. The long slump that took hold in the U.S. and western continental Europe from the early 1970s into the 1980s had a profound impact. It was disturbing in part because – as in the Great Depression of the 1930s – there was at first little insight into its causes. Jean-Paul Fitoussi and I came to see that the causes were structural shifts, not the usual “Keynesian” forces operating through Keynesian channels. A cause common to all affected economies was the slowdown of “technical progress.” The upward pull on world real interest rates resulting from the U.S. fiscal stimuli added to the slump in Europe. As progress returned and the stimuli abated, the Continent saw a modest recovery.¹

This time, there has been early agreement on a timeline of events leading up to the boom, the boom’s end, and the slump that followed. In the now-standard narrative, Chinese saving caused a world “savings glut,” but this proved not to be the godsend that neoclassicals and neo-Keynesians had always wished for. The U.S. Congress cut the cost of capital for residential investment to expand “homeownership”; the U.S. Federal Reserve then cut its “policy rate” to match – if not over-match – the decline in the “natural” interest rate; U.S. regulatory changes allowed banks to borrow more in order to do more mortgage lending for residential and commercial structures; finally, changes in social norms permitted CEOs to ask and receive outsize bonuses, speculators to make one-way bets on housing prices, unscrupulous mortgage originators to prey on the gullible and homebuyers to file fraudulent loan applications, all of which removed the last line of defense against a scramble for more houses. The scramble drove up house prices to unsustainable levels, which in turn led to a construction boom. The subsequent collapse of the prices of houses and commercial structures left the economy with an over-investment. With the return of these prices to normal, the overhang of speculative investments and bad loans left the economy over-indebted – the banks, many businesses and households. Over-investment and over-indebtedness did not just end the boom: it ushered in a slump.

Yet we do not yet have a *causal* account – none that is both well-known and persuasive, at any rate. The Keynesian school asserts (unsurprisingly) that the missing causal links are none other than the mechanisms built into the monetary models of American Keynesianism. In their view, “aggregate demand” was the

¹ Jean-Paul Fitoussi and Edmund Phelps, *The Slump in Europe: Open Economy Theory Reconstructed* (Oxford, Blackwell, 1988). With the internet innovations from Netscape to Google, technical progress picked up for awhile in the U.S. and perhaps less strongly in Europe, as did employment, then sank back to a lower rate by the mid-2000s while employment was gaining strength. What creates jobs is more the *expectation* of technical progress, which excites entrepreneurs, than the realization of an already anticipated technical advance. Also, other forces intervened in the second half of the recent decade. The latter period is my subject here.

vehicle that carried the economy to boom, to slump and now to the beginning of some sort of recovery. But Keynesians do not explain how *aggregate* demand shot housing prices to the sky but not other prices. Moreover, there is little evidence to show that the aggregate demand curve (in the output-price plane) *did* plummet – by enough to cause the long and deep downswing. A Keynes-Phillips model would explain it by a long and deep fall of the inflation rate. In fact, Europe’s inflation in the consumption deflator has not fallen; it is up owing to soaring food and energy costs. The rate of inflation in the U.S. consumption deflator fell only for 2 or 3 quarters and then it recovered. (It has lately been running at the annual rate of 2.3%.) It is possible that the “Fed” supplied just enough liquidity to meet the increased demand for it. Then *aggregate* demand was *not* deficient. The fall of investment, residential and business, could have caused all the downswing, more or less, through structural mechanisms. That is the approach I will be outlining here.

The Chicago-MIT-NYU school says that its models leave plenty of spaces for random disturbances and, for this school, it is the *probability distributions* governing the *disturbance terms* that are behind fluctuations, including the recent one. But this school is not in a position to argue that the excessive vulnerability of banks (and counterparties) to loans gone sour and resulting stoppage of loans to business, which has been recurrent in the past two centuries, can be viewed as just an unusually large value in some disturbance term in this school’s models. After all, the precepts of this school imply that episodes of excessive leverage and credit stoppages *do not occur*: Markets are perfectly “efficient” to a decent approximation and so markets have information on the amount of each bank’s assets in every risk category. Further, markets have perfectly correct understanding of how the economy works and use this perfect knowledge to estimate “rational expectations” of the means and variances of all the relevant prices. The school that laid the ground for belief in “the magic of the market” cannot pretend that its models succeed in encompassing gross mispricing of risk and pathological values put on familiar assets.

Another school, one focused on industrial practice, is undoubtedly right to point to “poorly designed incentives” as an explanation of banks’ over-leveraging – their over-borrowing in order to over-lend. But that theoretical perspective does not explain the near-escape of housing *prices* from the gravitational pull of fundamentals, especially when the consumer price deflator never drifted very far from the target at the central bank. Absent from the narrative and from policy discussion is any role for misguided or unguided expectations and the actions of speculators.

In this paper I want to report on my understanding of the recent boom and recent slump from the perspective of stylized models of a *structuralist* kind – models akin to those in my 1994 book *Structural Slumps* and subsequent papers

addressing the internet boom.² My aim here is to see how far such non-monetary models can go toward illuminating the stages of the recent crisis – the boom, the downturn, the slump and the start of a recovery – the crisis that originated in the U.S., U.K., Spain, and Ireland and went on to have repercussions on other economies where banks made bad loans. The story told about these events is non-monetary in character in the sense that it abstracts from any role played by illiquidity.³ It is also non-REH in that it avoids the surreal premises of pervasive efficiency and knowledge that is unknowable. Let me add that parts of this survey remain sketchy at points. Like all of us thinking about this subject, my research on the issues here are very much a work in progress.

MECHANISMS FROM OVER-INVESTMENT TO SLUMP

If one or more mechanism failures figured in the crisis, we want a model containing the suspect mechanisms. Let me begin with a classical model and its mechanisms. Take the famous model in which there is a single durable capital good – say, houses – which shrink as they age. This asset is produced with labor alone and the services of a unit of housing are produced unassisted by labor. This model emerged from Böhm-Bawerk and Wicksell around the turn of the century and was developed further by Meade, Kaldor and Hicks in the 1930s.

False expectations. False expectations are not the *prime* cause of the recent crisis but they play a key role and it is convenient to begin there, circling back later on. For the moment I will suppose that some new *vision* of the future has caused speculators to expect a new and higher plateau of housing prices in the medium-term future, so that housing prices have been bid up. It is one of Keynes's lessons in elementary economics that an increased supply of "finance"

² Phelps, *Structural Slumps: The Modern Equilibrium Theory of Unemployment, Interest and Assets*, Cambridge, Mass., Harvard Press, 1994. See also Phelps and Gylfi Zoega, 'Structural booms: productivity explanations and asset valuations,' *Economic Policy*, April 2001, vol. 16, issue 32, 85-126, Hoon and Phelps, "Over-investment and Employment Dynamics in a Non-Monetary Incentive-Wage Economy," ms. 2007. See also closed-economy digressions in papers in fn. 11.

³ The economy is discussed as if units of the economy's assets, say homogeneous houses, were bought and sold using certificates entitling the holder to one unit of services of some house for one year. Thus the going, market-clearing rent on houses is the *numeraire* in terms of which the price of houses and other prices are measured. I don't see this feature of the model to be as restrictive as might be imagined. It does not mean that the future is foreseeable, that there is no uncertainty, that there are loans at banks of uncertain value and no debts at companies of uncertain value, since default probabilities are not exactly known, even if people are willing to put some bounds around the value.

is *not needed* to drive up an asset price: the mere expectation that the asset will command a higher price in the future is sufficient to cause the price to jump onto a higher path. Yet many commentators carelessly speak of the financial sector as having “fuelled” the rise of housing prices. (They overlook that the homeowners selling to speculators will use their proceeds to pay off the mortgages and the proceeds can finance the banks’ supply of new mortgages to the speculators.)

What is the effect of this speculation, which is unambiguous with respect to the price, on the rate of *construction*? I will be assuming that the speculation excites a construction boom, and will discuss briefly what it takes to reach that conclusion in theory. On the one hand, the increase in the price of houses causes employers in the construction industry to pull up the wage and the *wage effect* on employment we may safely take as positive. On the other hand, the increase in the price of the economy’s capital asset represents an increase in the value of the wealth and, if that increases the demand for leisure, the *wealth effect* on employment is negative. It would be forgivable to assume that the wage effect exceeds the wealth effect and let the matter go at that.⁴ But in fact there is another channel of influence on employment and this one tilts (or at any rate could tilt) in the direction of increased employment. Any increase in investment in housing must be matched by increased saving as a matter of national income accounting. A lesson here, which resonates with another theme of Keynes, is that it is unnecessary for households to reduce their consumption to supply the saving to finance the extra investment activity: It is enough that workers leave leisure pursuits – or, very commonly, unemployment – to add to the workforces producing new houses without demanding additional services of housing before the additional housing has been built. How is that to be done? If the increase in wages paid to workers increases saving (net of the decrease in saving induced by the increase in wealth) by less than the investment that the workers produce, there is an excess demand for consumption – for the consumption of the services of houses, called shelter. Whatever shortfall of saving is implied will have to be resolved through the short-term interest rate, since still higher wages will only aggravate the excess demand for shelter. The way out of the impasse is suggested by the point that the jump in the price of houses leaves room for expectations of a gradual rise over the future to the new and higher plateau, which pulls up short-term interest rates. The price jump must be just small enough to make the expected rate of remaining house price appreciation just high enough to deliver the needed increase in the rate of interest. Only through this elevation of short rates about their level in the steady state will workers agree to accept ownership claims to housing that just match the extra housing they are producing. Lastly, the

⁴ Hian Teck Hoon has worked out an analysis of a model like the one here in which the increased price of houses has unambiguously a net positive effect on employment. My discussion interprets that result while showing below that some countervailing effects dominate this price effect.

elevation of short-term interest rates has an interest-rate effect on the supply of labor – known, if it is a positive effect, as the Hicks-Lucas-Rapping effect. This shifts the balance of forces toward an increase of employment as the net result of the speculation.

Now suppose that these expectations are actually unrealizable. Then a time comes when speculators finally abandon their newfound expectations. The model implies that, when the disillusion arrives, the price of houses drops. The wage, wealth and employment, which were pulled *up* in tandem with the price of houses, are now pushed *down* by the fall in the price of houses. But even if the price of houses were to drop to the steady-state level of the start of the boom, then, on this account, employment would be driven down only to its steady-state level. The collapse of the price of houses to its original level is contractionary, of course, but *cannot* by itself cause employment to go from boom to slump.

Yet there is a complication. As Figure 1 illustrates, the stock of houses is now *elevated* owing to the recent boom in construction. In the neoclassical view, this windfall is cause for celebration. But what about employment? The windfall has two employment effects. First of all, the increase in the number of houses has a wealth effect on employment. In the closed economy here, thus one without foreign owners, the wealth increase saps older workers' will to go on earning. (All those houses to enjoy! And so many to look after!!) And in contracting the supply of labor, the wealth increase has a *negative* effect on employment. So it might seem that from a classical standpoint employment will drop to a level *below* the normal level from which we suppose the economy started.⁵ But there is also a wage effect. The elevation of the capital stock, in forcing down the relative price of the consumer good, namely the consumption of shelter, forces *up* the real price paid for a house – that is, the price paid relative to the rental per annum for housing. The price increase in turn pulls up the wage, which in turn has a *positive* effect on employment. *Both* effects cause an initial elevation of the wage and the price of houses. If the *wage effect* dominates the *wealth effect*, the net result is also an initial bulge of employment over the steady-state level. A slow decline of employment to its normal level then follows. But if the *wealth effect* is dominant, a recession relative to the normal follows, though one that is transient.⁶ (Provided

⁵ I reached this conclusion by degrees over 2008 in talks at the Milan Stock Exchange, a BIS conference in Luzern and a Banco Central conference in Buenos Aires. My thinking was that if the rewards of work and those of leisure exhibit very little substitutability, the income effect would dominate and that would add to the wealth effect in increasing the demand for leisure.

⁶ The accompanying paper by Hian Teck Hoon (2010) obtains the strong result that a helicopter drop of additional houses *must* cause a drop of employment. In the satires of some, this theory sees “depression as an outbreak of leisure.” But the demand for leisure is not of the essence. If incentive/efficiency wages are introduced into the model, unemployment of an involuntary kind

current construction, though higher than normal, is below the level required to replace the housing stock as units are retired, the stock of housing is then on a descending course to its normal level; the wage and employment subside to their normal level as well.) Our new friend, the *interest rate effect*, must also be factored in. With the price of houses propped up above its normal level by the bulge in the housing stock, and thus the price expected to be taking a downward path, short-term interest rates will be below normal. The Hicks-Lucas effect then contracts employment.

In the *closed* economy case, then, it appears to be theoretically possible that a *slump* will result from the over-investment, though the case for such an outcome is not overwhelming. What the Austrians took to be obvious is not exactly certain.

Let us then check for the existence of some other route from boom to outright slump, still staying with the confines of classical theory. In the above story, the wage rise and the house price rise yoked to it depend on a drop of the short-term interest rate – really, a rotation of the yield curve toward lower rates at the short end – so that the capitalized value of the expected future stream of rentals is increased. But, in the age of globalization, we must now consider an *open* economy under conditions of *capital mobility*. In the long run in such an economy, the domestic interest rate (in terms of the domestic consumer good, here, housing services) cannot differ from the world interest rate. Take the case where the home country is not so large that it can budge the world interest rate. Then capital mobility ensures that, in response to the bulge in the housing stock that has occurred, the short-term interest rate may be lower but cannot remain lower indefinitely; it has to end up at the level of the world interest rate. Furthermore, interest rate parity means that the short-term domestic interest rate can drop only to the extent that the drop of the real exchange rate offers cosmopolitan lenders the expectation of a capital gain from subsequent recovery of the exchange rate.

Let us “open” our model economy by supposing that, while houses are fixed, ownership and services of houses are “mobile.” The latter feature has important consequences. Take first the case of *constant terms of trade*. Recall that in the closed economy, households consumed the services of the additional housing as it shrank back to its normal level. The newfound prospect of future consumption smaller than present consumption forced a reduction of the short-term interest rate, which would then be rising gradually to its old level as the housing stock fell back to its old level. The bulge of houses causes depressed interest rates; the fillip this gives to the price of houses enables a soft landing for housing stock – with no slump. The tradeability of housing services in an open

results and the increase of wealth boosts the propensity to quit/shirk, so there results a jump of the natural rate of unemployment.

economy case means that domestic residents do not have to put their increased wealth into the increased stock of houses: they could instead buy assets or consumption services abroad. Domestic residents could, for example, sell to foreigners the entirety of the *added* housing stock, opting to own – and consume the services of – only the *normal* level of houses; then future consumption would equal present consumption and the interest rate would be at the level from which it started (prior to the new vision triggering the rosy expectations), returning the price of houses to its old level. In parallel to such “consumption smoothing,” workers, faced with the normal wage, would work just enough to produce new houses at the normal rate: “work smoothing.” Neither the real exchange rate nor the domestic interest rate departs from its steady state level.⁷ Left standing is the wealth effect, which will prompt households to work less and consume more until their wealth is back down to its steady-state level.

What of the usual case in which, as exports are steadily increased, there are *diminishing terms of trade*? I will restrict attention to the possibility that the increase in the housing stock represents an initial increase in the stock under domestic ownership. Then domestic households will again act to export added houses to foreigners in exchange for overseas assets, though they will not trade away as many houses as in the extreme case above. As a result, the consumption of housing services after the boom will not be as high as in the closed economy. So consumption will not be falling as rapidly as in the closed economy. Hence the short-term interest rate will not drop as much and the price of houses will not be as elevated as in the closed economy. With real domestic interest rates unable to drop as much as in the closed-economy case, the wage cannot be pulled up as much in that case either. Thus the *interest rate effect* that is crucial to turning the bulge of houses into a blessing is shut down to a degree. In this respect, the scale of the positive “wage effect” of the overhang of houses on labor supply is moderated, which leaves less opposition to the wealth effect, with its adverse effect on labor supply. The conclusion is that there is still something of a *presumption* of slump. The hitch is that it is a slump resulting from an overhang of wealth.

Another mechanism tending to produce a slump out of the boom requires an enriched version of the above model or some broader kinds of models. In this version, the export sector requires labor as well as capital for its production. And each company in that sector is large enough that it has a degree of monopoly power: it faces a downward sloping demand curve. In this setting, the over-investment causes a decline in the rentals on capital; the asset price cannot bear

⁷ In the thinking of Mundell and Fleming when they were Keynesians, the exchange rate depreciates by just enough to restore aggregate income (on which the demand for money depends), thus to pull the domestic interest rate all the way back to the world level; and in restoring income, the depreciation restores jobs too.

the entire burden of interest rate parity, so there is also a drop in the real exchange rate in the country. In one such model, the real exchange rate depreciation, taken alone, operates to contract the power or the threat of foreign competitors and thus to increase the monopoly power of domestic companies. As a result, these companies raise their mark-ups, which leads to a contraction of their output and employment. Labor is then forced to seek work in the nontradeable sector. In doing so it pushes down the real price and the *real wage* (in terms of tradeables), with the result that not all displaced workers take work (thus refuge) in the non-tradeable sector.⁸ A related model is used to observe that securities backed by a category of assets are apt to lose their liquidity and thus their value when the economy has over-invested in those assets.⁹

A classical economist would feel that she could stop here. Of course, by injecting *job rationing* into the model, making it somewhat modern, we obtain the result that the fall of employment largely takes the form of increased unemployment. (The models in my *Structural Slumps* do inject that feature into its models.)

The story starting from prime causes. Before leaving this relatively standard kind of model, let us see whether it is possible, up to a point, to cast the entire story – the boom as well as the slump – into these terms. We need a disturbance – what Alfred Hitchcock called a “McGuffin” – to start the speculation on housing. An attractive possibility is the fall of the world rate, r^* , brought about by increasingly large current account surpluses of China, India, Germany and other surplus countries. Another possibility is the actions that the U.S. government took in order to make housing affordable for more people. The cost of capital, r , thus falls relative to r^* , which has itself fallen. Central banks must lower their “policy rate” unless they want the price level to grope for a bottom from which to rise gradually, so that the over-high interest rate is offset by a rising price level. Owing to these forces, the price of extraordinarily long-lived assets, such as houses (as well as minerals and precious stones), would climb and the price would be expected to climb further on its way to docking at some new higher plateau. But how low would world rates be in the future? Lower because China was growing or less low because Chinese consumption would soon increase? And what would happen to the cost of capital, given the world real rate? All this was highly uncertain – a matter for speculation.

⁸ See Seppo Honkapoyja and Erkki Koskela, “The Economic Crisis of the 1990s in Finland,” *Economic Policy*, 29, 1992, 399-436; Gylfi Zoega, “Financial Crises and the Labor Market,” Working Paper, May 2010, Center on Capitalism and Society, www.capitalism.columbia.edu/

⁹ See Guillermo Calvo, “Looking at Financial Crises in the Eye: A simple Finance/Macro Framework,” Columbia University, mimeo. 2009, and “Reserve Accumulation and Easy Money Helped to Cause the Subprime Crisis,” October 2009.

In this situation, wealthowners might decide to speculate by bidding to acquire ownership of another house or to trying to acquire an owner-occupied house instead of a rented one on the belief that the general price level of houses would soon rise a notch. As a result, the prices of houses will go up; or at any rate some houses will, then still more houses, and so on. (Note that a new mortgage is created but an old mortgage is paid off, as the previous owners decide to rent a house newly acquired by a speculator.) At this stage, the expectation of the typical speculator is *exceeded*, since such a speculator thought he was one of not very many. (The price increase came immediately instead of after some wait.) This increase would give evidence to each such speculator that there were other speculators thinking along the same lines, a fact of which they could not have been certain. So these speculators will feel reinforced in their thinking and may well decide to bid for yet another house; and other speculators who had not found it convenient to speculate before might join in. Thus house prices can be bid up to still higher levels. It is pretty clear that speculators may go on taking chances until they are disappointed that the price increases did not bear out their guess. At this point, speculators may retrench, trying to sell the third house or the *k*th house.

In this completed version of the story, housing prices will *not return* either sooner or later to the previous level before the structural changes; but rather to some *higher* normal level – a level that corresponds to somewhat lower world real interest rates. The exercises of the previous section have to be revised to allow for the fact that the price rise of houses represented overshooting of the price above the new and *higher* normal price, not merely above the old normal price. As a corollary, if, *before* China's emergence as a big (and growing) supplier of savings to the rest of the world, the natural unemployment rate was, say, 5.5%, as it appears to have been in 1995 and 1996 (on the eve of the internet boom), the natural rate would *now* be 5% *on this account*. On the other hand, subsidies to lower the cost of capital for residential investment are unlikely to continue forever. And if an outright slump has resulted from the mechanisms studied above, we have to think not only of a medium-term natural rate *level* but also an equilibrium recovery path leading down to the medium-term natural level.

MECHANISMS FROM OVER-INDEBTEDNESS TO SLUMP

I hope the discussion on this point gives a sense of how over-investment could have driven the unemployment rate in the U.S. back down from the 4.5% level it had reached in mid-decade and toward a somewhat *higher* level than the 5.5% level of 1995-1996 if the natural unemployment rate had not shifted in the

interim; and to an *even higher* level like 7.5% if the natural unemployment rate had risen to about 7%. However, the fact is that the quarterly unemployment rate rose in the U.S. to nearly 10 % before backing off in the early part of 2010. So if we are to reach a sense of having explained how the unemployment rate could be driven by the crisis to such a level in the U.S. – and also in the U.K., Spain, and Ireland – we need more causes, or at least more mechanisms linking causes and effects. Such causes of note are the over-indebtedness and, in extreme cases, the insolvency created during the speculative run-up of various asset prices.¹⁰ These considerations help not only to explain the depth of the downturn but also to understand why the *rate of recovery* is apt to be very slow, statistically speaking.

In the story of the previous section, the labor force was willing in the aggregate to do the additional saving to finance the jobs created by the additional residential investment. This turned out to be a bad investment. The older people, getting ready to do reverse mortgages, are made worse off while the younger people, getting ready to buy houses, are in this respect better off; but that has to be weighed against their unemployment and reduced interest rates. What was won will be largely offset over ensuing years through delayed earnings and careers, reduced saving and declining capital stock as the economy journeys back to its normal state – or, more generally, growth path. The standard narrative, however, recognizes that much of the investment in added housing was financed by borrowing from overseas. So the collapse of (some) asset prices left the country with not only the subtle Austrian inconveniences of over-investment but also the painful Anglo-Saxon hardships of over-indebtedness. But, after that, the propositions of the narrative are novel from the standpoint of structuralist theory.

The narrative assumes, reasonably enough, that when households' balance sheets suffer a sharp rise in indebtedness, unaccompanied by any (but the most fleeting) rise in the values of their houses and other assets, households tighten belts in an attempt to repair their balance sheets. The narrative goes on to assume, however, that the reduction of consumer demand for domestic output causes a drop in employment. But there are two difficulties here. First, the drop in consumption would cause an "excess supply," thus a "deficiency" of aggregate demand, only over the short term. After adjustments of inventories, real wages, interest rates and the rest, the "excess" would have vanished – there would be no more surprises in product markets. In the standard Mundell-Fleming variation on the Keynes-Hicks model, the fall of aggregate demand results in a real exchange rate depreciation of a magnitude that reduces import demand and increases the demand for exports by just enough to restore aggregate demand and total employment. So the narrative's reference to household balance sheets cannot rest

¹⁰ For the record, I began to emphasize balance sheet effects of increased indebtedness at the Long Term Investing Conference in Paris in June 2009.

on Keynesian theory. However, in a structuralist model, the contraction of consumer demand, which leads to a real exchange rate depreciation in structuralist theory too, has supply-side effects that contract employment.

There is a one-sector structuralist model with a mechanism through which such a real exchange rate depreciation tends to produce a slump. In a customer market model, the real exchange rate depreciation operates like a tariff on supplies of goods by potential overseas competitors. With this lessening of the threat of foreign competition, domestic producers calculate that the customer outflow that would result from raising their prices to domestic customers has decreased. So they raise the price they require for any given output – equivalently, they reduce what they are willing to supply at any given price. This hike in the “supply price” is equivalent to a cut in the “demand wage” and thus causes a movement down the labor supply curve that lowers real wages and employment.¹¹ This is a strange paradox: when consumers lower their demand, domestic suppliers sock them with an increase in the markup, which raises their prices or lowers their wages.

The model can be extended to encompass increased indebtedness within *companies*. I believe that Seppo Honkapohja and Erkki Koskela were the first to point to corporate indebtedness as a force operating to drag out the recovery from a financial crisis. The way this works in my customer market model was called to my attention by Gylfi Zoega. The presence of a steep increase in company debt presents a hazard to companies wishing to remain in business for the long term, and they will want to take measures to reduce those debts sharply within a few years. This consideration will induce companies in customer markets to recalculate their optimum markups. Ordinarily they were not setting markups to obtain the largest sustainable cash flow; they pulled back from such a monopoly policy to one with reduced markups aimed at increased competitiveness. The increased indebtedness, though, causes firms to raise markups, thus to move closer to the monopoly point and farther still from the point of pure competition. The higher prices at any given money wage level translate into lower real wage offers, with the result that there is a movement down the labor supply curve to reduced employment – or down the wage curve toward increased unemployment.

One must also consider financial companies such as banks. Recall that the standard narrative also cites the near insolvency of the banks: it says that the

¹¹ Hian-Teck Hoon and Edmund Phelps, “Asset Prices, the Real Exchange Rate and Unemployment in a Small Open Economy,” in Warren Young and Arie Arnon (eds), *The Open Economy Macromodel*, Norwell, Mass., Kluwer Academic Press, 2002; Hoon, Phelps and Zoega, “The Structuralist Perspective on Real Exchange Rate, Share Price Level and Employment Path,” in W. Semmler (ed), *Monetary Policy and Employment*, London, Routledge, 2005. The models there grow out of Phelps, *Structural Slumps*, op. cit., Part III. (“No amount of money-wage/money-price flexibility and exchange-rate flexibility is sufficient to insulate the economy from fluctuations...”)

damage to balance sheets “impaired” the ability of banks to make loans. This led in turn to a massive “credit crunch” – a sharp *increase* in *credit rationing*. We want a causal mechanism. Fortunately, the above analysis of the effects of company indebtedness on the supply of output by businesses appears to translate well to the effects of bank indebtedness on banks’ supply of loans. The typical bank, at risk of tipping into insolvency, found it optimal to cut its supply of new loans and even decline to roll over existing loans.

Yet another reason for a rise of unemployment was the *increased uncertainty premium* resulting from ignorance of how far the downswing would go and thus what the prospects were for asset results and loan repayments in the future. Thus a collapse of share prices joined the sickening slide of housing prices. At the Banco Central in Buenos Aires in September 2008 I suggested that the contractionary effect of this premium could be captured by a vertical wedge between supply price and demand price, such as the wedge between R’ and R” in Figure 2. But see below.

THE MECHANISMS OF TURNAROUND

Only radical pessimists suppose that western economies will remain mired in the low employment levels to which they have sunk. Now we are seeing a marked upturn of employment in Germany and France and have seen the beginnings of an employment upturn in the U.S. over the first half of 2010. The question often asked is: What are the mechanisms that will propel a recovery – of whatever magnitude – over the next few years? That is, why should employment, after going down, turn around and go up? Some observers and even some professional analysts speak as if the economy can settle down at any arbitrary level of the unemployment rate and stay there, as if there was no centripetal tendency. I could cite a recent newspaper article that attributes to Mohamed El-Erian, the well-known economist at Pimco and formerly manager of assets at Harvard, the belief that the “new normal” is already upon us – that the unemployment rate at which the U.S. economy has been lingering in recent months, about 9½ per cent, *is* the “new normal” rate of unemployment for the medium-term future at any rate (until deep trends in wealth and know-how have nudged the global economy away from today’s pattern.)

From a purely formal point of view all the models that represent my thinking have a unique medium term rest point. Corresponding to this unique, medium term rest point is a vector of parameters: the utility discount rate, the expected future steady-state rate of growth of the technology, Knightian uncertainty, chronic Pigouvian optimism, and Keynes’s animal spirits. Let me try to give a brief discussion of these matters.

Obviously, this paper so far has discussed how, after above-normal employment has been aroused by false expectations, below-normal employment results (rather than a gradual retreat from the boom that mostly or entirely relies on attrition to phase out the high employment). It is clear that, in my models, the downward force pressing on employment lets up as the swelling in the housing stock abates with aging and wear. Likewise, the slump moderates as the balance sheets of banks improve and as uncertainty lifts. The medium-term natural level of employment can be thought of as a strong attractor – even though its exact magnitude depends very much on the “state of expectations,” to use one of Keynes’s great coinages.

There are other respects in which the U.S. economy and most other economies in the western world are *not in* a steady state, natural or unnatural. Investment activity is not enough to cover the retirement of the capital stock because of age and obsolescence, so the business capital stock, normalized by (labor-augmenting) productivity, is shrinking. And it can only shrink so far until continued shrinkage leads to a gradual increase in investment activity. In the models in the section on over-indebtedness, technical progress will be steadily diminishing the contractionary influence of any given amount of excess debt.

I would like to note that the gradual improvement of balance sheets will help to pull up employment as the increased saving by households and the cumulative profits at banks do their work. In the Keynesian view, the extra saving households decide to do is frustrated, since it only causes consumption to fall, thus output and incomes; and if investment is weakened, saving will actually fall – the “paradox of thrift.” But in the present models, which are not fixated on a short run of a few months, increased thriftiness does increase saving – but not necessarily by very much. The repair of the balance sheets of companies and of banks are also cast into doubt by the Keynesian models. Nevertheless, these models have not been tested, so their rather extreme claims have not yet received econometric support.

Another powerful reason for a turnaround is that as employment turns around, the sense of uncertainty will lift. There will be a resurgence of business confidence. Once housing prices, the prices of bank shares and asset prices generally appear to have “bottomed out,” the uncertainty premium will shrink and these prices will rise like a Phoenix from the ashes. This development will in turn spark a rebound of business investment.

Another source of upturn is that the *credit crunch will let up* once the number of non-performing loans stops increasing. (An added reason banks did not lend much during the downswing was their doubts about the ability to businesses to repay.) But see below.

I would *not* say that a weaker dollar – nor a weaker euro and pound – is a full cure, a recipe for return to high employment. These currencies are weaker, of

course. The problem is, as touched on earlier, that this weakness, while wonderful for exporters, such as manufacturers of tradable products, tends to *lower* the relative price of *non-tradable* goods, which are relatively labor-intensive. So recovery through this mechanism will tend to produce a recovery of output with little accompanying recovery of jobs. A real exchange rate weakness is also an inducement to companies to raise mark-ups, which is a contractionary, even if it proves profitable.

THOUGHTS ON THE ‘NEW NORMAL’

Does the recovery *ultimately* have to go back to its *original* level? If the original level was the *natural* level, at any rate? Not if the natural rate has shifted. But has it shifted? Even if we conceive of the U.S. unemployment rate prevailing in 1995-96, which was about 5.5%, as the medium-term natural rate in the U.S. then, should we suppose that this is where the natural unemployment rate is now? In one respect, the natural rate of interest may have been somewhat *lowered* in the early 2000s, thanks to the exploding current account surpluses in China and India. The natural unemployment rate may have been as low as 5.0% on this account.

A force pulling in the opposite direction is the colossal surge within the global economy in the stock of sovereign debt. The aggregate number is not readily available. However, if the *extra* fiscal deficits emerging in the 3 years since the start of 2008 were 2%, 6% and 10% of initial GDP and those over the next 6 years were 8%, 6%, 4% and 2%, the global public debt would have risen at the end of 2014 by 38% of initial GDP. So global public debt would have increased from about 40% of 2008 GDP to nearly 80% of 2008 GDP. If global GDP were to grow only at the historically normal rate over these 7 years, the pre-2008 base level of 40% would remain while the increment would be diminished to something like 30% of GDP, which, when added to the 40%, gives 70%. Various estimates suggest that such an increase may be enough to push the global long-term rate of interest from 5% to a level in the neighborhood of 6%.

It has to be added that work by Hoon and myself in the 1990s goes farther. This work argues that an increase in the constant level of the deficit as a ratio to the GDP might be *contractionary* for present employment when full account is taken of the effects of the mounting debt on the short-term (and a fortiori the long-term) rate of interest. Of course, this “backfiring” of fiscal stimulus is more likely to arise if the public debt to GDP ratio was large to begin with.

All of this has an excessively mechanical tone, however, notwithstanding the nod to Knightian uncertainty. It is a mistake to think that the level of investment, on which (in my view) the level of employment depends, is driven almost exclusively by the capital required, given interest rates and productivity

growth, for current production – particularly production of consumer goods. The economy can operate on a sort of war footing – in which only current consumption needs are addressed – as companies shy away from keeping or acquiring employees for work on *future* projects and there are no enterprises valuing capital goods highly enough in relation to their cost of production to purchase capital goods. Hence the above “mechanical” sources of turnaround may be able to get the unemployment rate down to, say, 7%. But getting unemployment from there to 5% will require a revival of the old propensity to innovate. Really high employment will require really high investment and the latter will require *dynamism* – a high propensity to invest in general, not just when the sun is shining.

The 'new normal' and the new dynamism. The question – for the U.S. and for the world – is whether the US economy is still structured in such a way as to possess the dynamism that powered the economy to the “old normal” – the normal dynamism of old. If it has the old dynamism, we can expect the natural unemployment rate to be around 5.5% – or something like 5.0% owing to the China effect.

One bad sign is that investors have withdrawn their funds from the venture capital firms in Silicon Valley. They say they became disillusioned by a decade of poor earnings on their investment. The venture capitalists say that there were few good entrepreneurial projects to invest in, such as solar energy. Perhaps the VCs made excessive demands on the start-ups, e.g., high interest charges. In any case, V.C. investment, which was over \$100 billion in 2000, shrank to \$23 billion in 2005 and to \$17 billion in 2009.

A bad sign on the horizon is the prospective increase in tax rates on corporate taxes and on middle and high personal incomes. The former will lessen the demand of entrepreneurs for the finance to create a start-up firm and the latter will lessen the supply.

Another difficulty is that the banking industry became greatly overcrowded early in the past decade, as Leo Tilman, a colleague of mine at the Center on Capitalism and Society, argues in his *Financial Darwinism*. Now, as banks are forced to shrink, the contraction of credit may ultimately induce new nonbanks and new operations in existing nonbanks to arise. But it is not clear that these developments will fill the gap in the supply of finance for business investment in general and for business innovation in particular.

Moreover, the banks are not only shrinking: they have oriented themselves away from lending to business, except indirectly, and heavily toward financing residential and commercial structures (alongside proprietary trading). In the *Harvard Business Review* this past January, Tilman and I advocate creating state-sponsored banks that, like the misnamed “merchant” banks of old, would lend to

and invest in businesses for investment projects of an innovative character – including large-scale long-term projects. But this is not a likely prospect.

Yet another deficiency in the system is the terrible short-termism in the business sector. There is a fixation on earnings in the next quarter. We have all been so caught up the housing boom, the commercial real estate boom, the explosion of exotic new financial products as banks struggle to avoid Darwinian extinction, etc. that we have not noticed signs that the business sector and the financial sector have suffered a slow decline in performance. The NASDAQ index was nearly stagnant from the end of 2000, following the correction that year, to the end of 2006. The year 2000 marked “the start of a slowdown of new drug and biological submissions to regulatory agencies worldwide,” the FDA reported.

I conclude that the medium-term economic outlook for the U.S. is not bright. It appears that the U.S. economy has now joined most parts of western continental Europe in needing a major rehabilitation. The western world must seek to avert a “lost decade” by taking measures soon – but not hastily – to boost both economic dynamism and economic inclusion.

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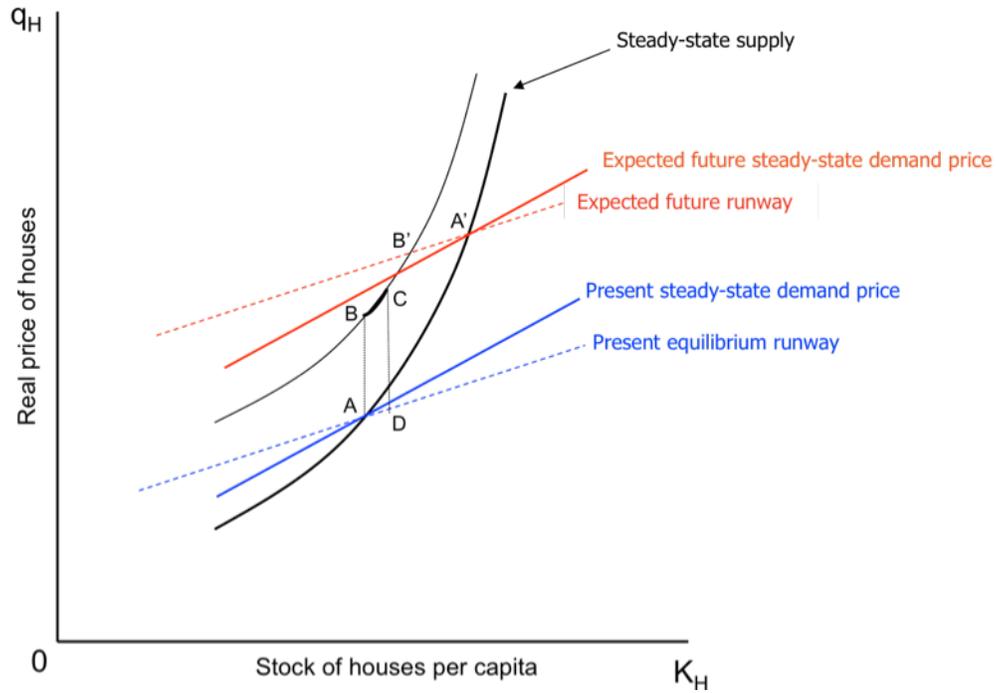
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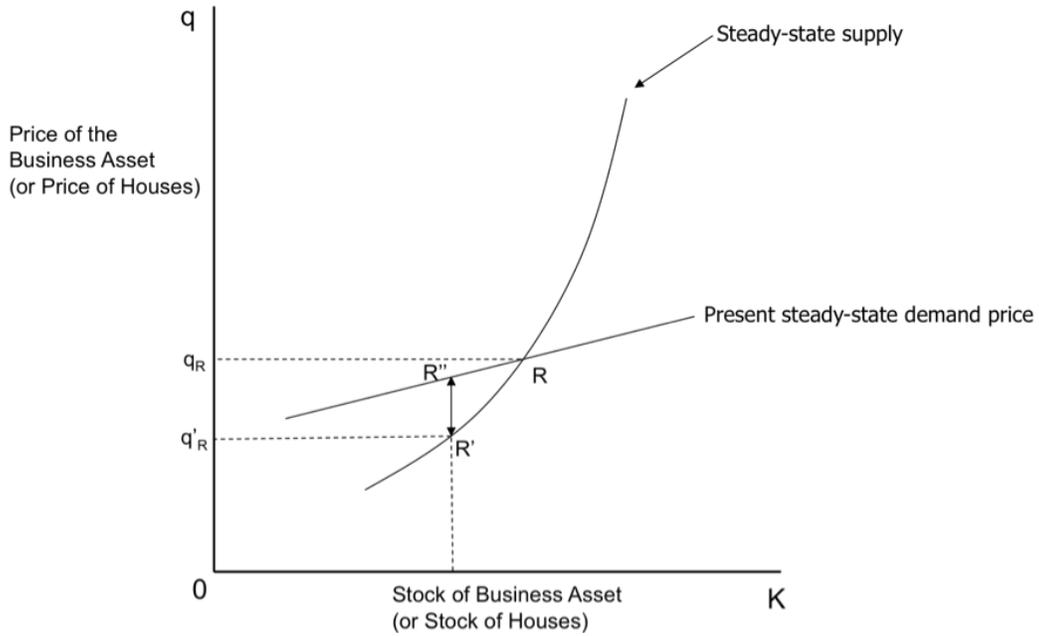
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Figure 1



The sudden expectation in the initial state A of a future step up in rentals, thus demand, causes the house prices to jump to point B. The economy is then expected to transit to B', thence to A'. A crisis occurs if at a point like C these expectations are seen to have been groundless. Then the price drops to point D, resulting in a housing depression and gradual return to A.

Figure 2



There is in general an uncertainty premium, represented by the wedge $R'R''$ between the Demand Price, which must be high enough to cover the premium, and the Supply Price, which reflects the net price – the observable price of which supply is a function. The rest point moves from R to R' , where the price is lower and the stock smaller.