

- CHAPTER 5 -
**HOUSING FINANCE, GROWTH, AND THE US DOLLAR'S PAST AND
FUTURE¹**

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Nothing seems more distant from a discussion of the future of the dollar as *the* international reserve currency – a universal, abstract, delocalized metric for and store of value – than housing, which appears irredeemably local, impacted, and granular. Yet the two were inextricably bound together during the growth cycle of the past twenty years.² America's housing finance system gave the US above OECD average growth, 1991-2005, and this in turn shifted the dollar from a negotiated currency to a top currency those years.³ Housing, or more properly housing finance systems and mortgage backed securities (MBS), are not intrinsically the pivot of the international financial system.⁴ But over the past two decades, contingent forces made housing finance of considerable importance. So much so that defaults on subprime mortgages packaged into MBS forced central banks and the US Treasury into unprecedented and escalating efforts to rescue illiquid credit markets.

What then is the relationship between the global housing boom, capital flows through the US, and the long run trajectory of the US dollar? The usual answers – though not those in this volume – display three weaknesses. They reify the dollar, treating its global pre-eminence as an independent source of economic power, rather than as a manifestation of broader US economic power. They typically consider dollar politics from an interstate or international point of view, rather than looking at how capital flows percolate in different ways through different domestic financial systems. Finally they

¹ Author's note: I thank Gerard Alexander, Eric Helleiner, Jonathan Kirshner and Gregory Nowell for comment and criticism; errors will be packaged into a CDO and sold to unwitting Norwegian municipalities.

² And it is worth remembering that British foreign investment and American housing were tightly connected in C19; see Brinley (1973) and Kuznets (1967).

³ See Eric Helleiner, this volume, for an elaboration of the concepts of 'top' and 'negotiated' currency.

⁴ Mortgage backed securities (MBS) and securitization will be explained later on.

also typically use aggregate data to assess the US “balance sheet,” obscuring how the effects of specific capital flows and financial channels do not net out. All three weaknesses conceal important underlying conditions affecting states’ and international market actors’ degree of support for the dollar.

This chapter argues that in the long 1990s, US housing finance markets helped make the dollar what Susan Strange called a ‘top’ currency, one with a natural, market based attraction for investors. Put simply, US housing finance markets translated falling nominal interest rates into extra aggregate demand and thus above OECD-average levels of GDP and employment growth in the US. By contrast, the more repressed housing finance markets in Japan and most continental European countries impeded the translation of falling interest rates into increased aggregate demand, producing below average rates of GDP and employment growth. Housing turbo-charged the US economy and in turn bolstered the dollar’s position. Differential rates of growth made the dollar attractive to private actors in OECD economies on a purely economic basis, that is, as a top currency. Housing led growth also led to more imports of Asian sourced goods, making the dollar attractive to political actors in developing Asia as a negotiated currency. Both factors reinforced inflows into dollar denominated securities that further reduced borrowing costs in the US economy, creating a self-sustaining housing led growth cycle that lasted until 2005. Above average growth was a significant supplement to the usual factors – primarily deep, liquid capital markets – inducing actors to use the dollar as a reserve currency.

Housing led growth rested on the availability of specific resources with finite supply: continued disinflation and a supply of new buyers at the bottom of the US housing market. By 2005, both were exhausted, shifting the US dollar from a top to a negotiated currency as the US’s *relative* growth advantage over Europe and Japan shrank. On the one side, US economic dynamism helped power Chinese economic growth to the point where China began exporting inflation rather than deflation. On the other side, the pool of new credit-worthy borrowers evaporated as imports helped slow wage growth in the bottom 60 percent of the US income distribution. The US became a less obvious place to invest, weakening foreigners’ attachment to dollar denominated assets and shifting the dollar back into a negotiated currency.

Nonetheless, the shrinking growth differential does not mean that the Euro, the dollar’s only plausible rival, will displace the dollar in the medium run. The same housing finance market factors that supported the dollar’s top currency status in the long 1990s condition its negotiated status after 2006. This has both economic and political aspects. On the economic side, the housing finance and collective bargaining systems in the countries at the heart of Euro-land continue to suppress aggregate demand there. This caused their below average growth in the long 1990s, and in turn led private actors to under-invest in their own economies while buying US and other foreign assets. Euro-land, and particularly Germany, thus relied on external demand for growth. The same is true for Japan, though the yen is a distant alternative to the dollar these days. Changing housing finance and collective bargaining systems in ways that might spark more domestic demand and thus growth would require wrenching and probably politically unacceptable changes in Euroland pension systems and industrial finance.

Intra-European differences in housing finance markets create an additional political barrier for the Euro. The countries that opted-out from the Euro or various EU treaties –

Britain, Denmark, and Sweden – have housing finance markets more like that of the US than of continental Europe, as does the Netherlands and Norway. Like the US, these countries enjoyed above average GDP and employment growth in the 1990s. These countries were also disproportionately invested in the US during the long 1990s. Thus they were double winners, inclining them to continued *political* support for the dollar and a US centered international financial system. This split breaks up a potential coalition of European countries around a project to propel the Euro from a regional to global reserve currency.

This chapter's location in the framework elaborated in this volume's introduction should now be clear. The dollar's primacy rests on both market-based and 'Bretton Woods II' foundations. The chapter thus foresees a gradual weakening of the dollar's role, with the extent of decline conditioned by the degree to which economic growth in the core of Euroland catches up with US growth. On the market-based side, private investors will continue to buy dollar assets so long as the US grows, or is perceived to grow *relatively* faster than Euroland and Japan. Asian central banks and oil exporter sovereign wealth funds have motivations closer to those elucidated in the Bretton Woods II argument. Their ability to increase their relative holdings of Euros is a function of European growth and European receptivity to their exports, because the counterpart to increased developing country holdings of Euro denominated assets is increased European trade deficits. Europe's trade deficit with China jumped from €128 billion in 2006 to €160 billion in 2007, but at the cost of considerable political friction. The 2008 financial crisis and the subsequent global economic slowdown inevitably will limit European receptivity to widening deficits with Asia.

Neither the relative openness of the US economy as compared to continental European economies, nor *relatively* faster US growth is likely to change. This implies that export oriented developing economies will continue to at least hold dollar assets, or maintain a stable proportion of dollars in their accumulation of new assets. And here too, European countries with housing finance systems similar to the US are also more accepting of Chinese goods, reinforcing the fault line inside the EU over the Euro's role. This chapter is thus much less "declinist" than the pessimistic chapters in this volume, because it offers an explanation for *cycling* in the dollar's position. The next few years most likely will resemble that of the 1980s, when the dollar's position as a reserve currency slipped relative to the yen and D-mark. Renewed US growth in the 1990s restored the dollar's position, just as a renewal of the relative growth gap will probably keep the dollar central to international capital flows in the near future.

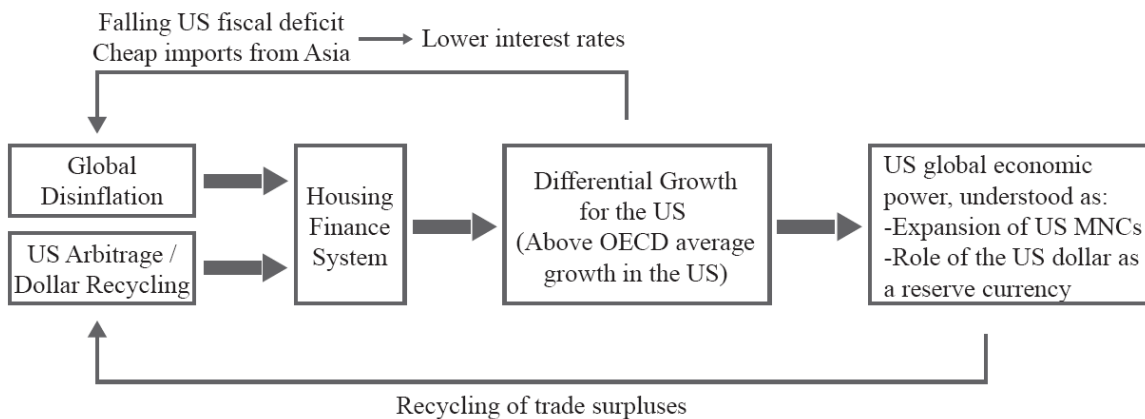
The chapter thus has three parts. Section one argues that the US operated a system of financial arbitrage at the global level: all debt is not created equal. The US systematically borrowed short term at low interest rates from the rest of the world and then invested back into the rest of the world long-term for a higher return. This system of arbitrage worked in part because the liquidity created by the US Federal Reserve system flowed back into US dollar denominated instruments that depress benchmark interest rates for mortgages, while capital flows from the US go into instruments that do not affect benchmark rates. This arbitrage generated not only outsized international investment returns for the US, but also outsized domestic growth, 1991-2005. I characterize this process as *arbitrage* rather than *intermediation* because the US economy benefited from differences in prices for financial goods created by differences in growth

rates and regulatory systems.⁵ The US in the aggregate was not simply accommodating natural foreign preferences for short term assets. No single actor or institution operated this system of arbitrage. Rather, it emerged from the behavior of discrete market actors, particularly the large financial firms that created financial derivatives based on housing and other assets, and organized the flow of those assets overseas.

The second section shows how this system of arbitrage connected *differentially* to OECD housing finance markets and thus produced heterogeneous outcomes with respect to employment and GDP gains in the OECD over the past 20 years.⁶ Just as all debt is not created equal, America's creditors and rivals are not all the same. Falling global *nominal* interest rates after 1990 potentially could have reflat all OECD economies. Differences in the institutional structure of housing finance markets instead caused uneven employment and GDP gains that favored the US and countries with similar housing financial markets. Housing-led differential growth restored the US dollar's top currency status after its decline in the 1980s.

The third section specifically considers how the dollar-mortgage connection discussed above might affect politics in the US. It argues that the US housing boom, bust and financial crisis could produce a new style of state economic regulation that is potentially conservatizing. The effort to unwind the current subprime mortgage debacle has already produced unprecedented government intervention in financial markets, but its fiscal cost is likely to limit new government initiatives. Additionally, homeowners facing mortgage interest rate resets should be hostile to inflation in the short term, because interest rate resets threaten them with foreclosure. This hostility to inflation and higher nominal interest rates in the US is an equilibrating factor for the dollar. All things being equal, low nominal interest rates produce more growth in the US than elsewhere. Figure 1 provides a schematic for the argument.

Figure 1



⁵ See Despres, Kindleberger and Salant (1970) for the original “intermediation” argument about the US trade deficit.

⁶ See Nitzan (1998) on differential accumulation.

Finally the conclusion offers some speculations on what might emerge from this latest cycle of boom and bust. Above OECD-average US growth was central to the dollar's top currency position, but the symbiotic relationship between global capital flows and US differential growth is not a perpetual motion machine. The housing-dollar relationship contained a large internal contradiction that closed this specific era of above average US growth. Housing will not drive future US growth, raising the same uncertainties about how growth will return that characterized the end of the 1980s. Equally so, the financial collapse portends a reorganization of the financial sector. Neither of these imply a permanent end to renewed and above OECD-average US growth.

Section One: US Arbitrage in Global Financial Markets

All politics are local; real estate is even more local. Nevertheless, local housing markets interacted with global capital markets in ways that affected the dollar. The usual literature sees the dollar's position as a source of seignorage, and fears that a weakening dollar could create a *constraint* on government policy and spending that might shelter people from the market. Other versions argue that an overly strong dollar has been a *constraint* on the 'real' economy and particularly manufacturing, which then secondarily affects average people through the kind of employment they can obtain. By contrast, this section will argue that the specific form global financial flows took in the 1990s and 2000s created *opportunities* for growth that materialized through the housing sector.

My starting point is a well known paradox: the US has been both a large net foreign debtor and the recipient of net positive international investment income since the early 1990s. A smart or lucky individual might have net positive investment income despite net debt. But it is implausible that at an economy-wide or global level all Americans are systematically better investors.⁷ Instead, the US operated a global system of financial arbitrage that produced net income. Arbitrage occurs when an intermediary exploits price differences between similar commodities on two different markets, buying and selling that commodity at the same time. Differences in political, regulatory and housing market finance structures produced these price differences. At the macro-economic level, the US systematically borrowed short term at low interest rates from the rest of the world, and then turned around and invested back in the rest of the world in longer term, higher risk, higher return, active investment vehicles. The depth and sophistication of US markets enabled these flows, but did not determine the shape they took. At the micro-economic level US financial institutions transformed cheap short term foreign borrowing into a huge variety of higher yield, longer term mortgage backed securities and collateralized debt obligations (CDOs). Physically, US arbitrage transformed cheap overseas credit into outsized domestic investment and in particular into (literally) outsized housing. This produced relatively faster US growth, reinforcing the flow into dollar denominated assets.

Space constraints prevent a detailed analysis of US global arbitrage.⁸ But a simple breakdown of inward and outward foreign investment stocks presents the essentials needed here. Table 1 shows that approximately three-fifths of US assets took the form of

⁷ Gourinchas and Rey (2005).

⁸ See Schwartz (2009).

foreign direct investment and holdings of equities at year-end 2006. By contrast, three-fifths of foreign investment in the US occurred as passive holdings of bonds and loans. Thus at a macro-economic level the world subsidized the global expansion of US firms and financial intermediaries and the US economy. MacKinnon's chapter presents a comprehensive analysis of the US-Asia negotiated currency connection via "Bretton Woods II," allowing me to concentrate on the connections to mortgage markets that made the dollar a top currency.

<u>\$ Billion</u>	FDI*	Portfolio Equities	Portfolio Debt**	Loans	Total
United States	5,148	5,171	1,478	5,002	18,615
Rest of World	3,524	2,833	6,965	5,387	19,810
Of which, Central Banks			2,931	406	3,307
<u>% shares</u>	FDI*	Portfolio Equities	Portfolio Debt**	Loans	Total
United States	27.7%	27.8%	7.9%	26.9%	100.0%
Rest of World	17.8%	14.3%	35.2%	27.2%	100.0%
Of which, Central Banks			88.6%	12.3%	16.7%

Source: BEA, International Investment Position, <http://www.bea.gov/international/index.htm#iip>. * Market Valuation; ** = omits trivial US holdings of currency and foreign holdings of US currency totaling \$279 billion, as well as derivatives, which largely net out.

The key point is that foreign purchases of US Treasury and "Agency" debt helped to drive down interest rates on US mortgages during the long 1990s. By December 2006, foreign investors held 52 % of marketable US Treasury securities and 16.8 % of outstanding Agency debt.⁹ Nearly all US mortgages are referenced against the interest rate on the ten year Treasury bond.¹⁰ Lower T-bond interest rates thus flow through immediately to new mortgage originations and less quickly to adjustable rate mortgage resets. Recycling of Asian trade surpluses – the Bretton Woods II phenomenon – during the late 1990s and early 2000s depressed yields on 10 year US Treasury debt by about 90 basis points, or almost 1 percentage point, and as much as 150 basis points in 2005.¹¹ European and oil exporter acquisitions of dollar denominated portfolio assets should have had much the same effect in the early to mid 1990s, when those groups primarily funded the US trade deficit.

Foreign purchases of Agency debt have an equally direct effect on housing and thus US growth. Agency debt comprises mortgage backed securities (MBS) originated by Fannie Mae (Federal National Mortgage Agency) and Freddie Mac (Federal Home Loan

⁹ Department of the Treasury (2007: 3, 5).

¹⁰ The majority of US mortgages have a 30 year maturity. But refinancing, trading up in housing, and long distance moves mean that few American families actually hold a mortgage to that maturity.

¹¹ Warnock and Warnock (2006).

Mortgage Corporation), as well as direct loans funding their operations. The US federal government created Fannie Mae in 1938 to make housing more affordable by creating a national market for mortgage funding. Fannie Mae was privatized in 1968-70 and then effectively renationalized in the 2008 crisis.¹² Savings and loan banks (i.e. the US version of *sparkassen* or building societies) got Freddie Mac, their own version of Fannie Mae, in 1970; it was fully privatized in 1989 and renationalized in 2008.

Fannie Mae essentially invented the modern MBS market in 1981, and pioneered the overseas sale of MBS. Freddie Mac invented the CMO, collateralized mortgage obligation, a derivative that slices up principal and interest payments so that investors can buy bonds with maturities and returns that vary from the underlying individual mortgages.¹³ Securitization allows banks to move mortgage loans off their books by selling those mortgages to the capital market and thus replenishing their capital. This allows banks to originate yet more loans while earning the bulk of their income from fees. Before securitization, banks held mortgages to maturity and made money off the interest rate spread between deposits and loans. By 2007, agency MBS and borrowing accounted for nearly half of outstanding US residential mortgage debt of \$11.1 trillion. A further quarter of outstanding mortgage debt was privately securitized, leaving only 25% in the traditional, illiquid bank-held format.¹⁴

Fannie and Freddie's securitization of mortgages enabled overseas sales of these assets to a wide range of customers, including central banks. Absent securitization, foreign funds could only enter the US market if foreign banks established a presence in the market, or if US banks accepted exchange rate risks and borrowed offshore. In 2001, foreign holdings of Agency MBS amounted to \$133 billion. By 2007 foreign holdings exceeded \$1 trillion, with foreign official institutions – i.e. Asian central banks – holding the majority.¹⁵ Without a standardized product and liquid markets, foreigners would have been less willing to buy mortgage assets from the US, making it harder for the US to fund its trade deficit. Non-Agency MBS did not become important until 2004-2007.

While the foreign share of securitized Agency and private label debt is *relatively* lower than its share of Treasury debt, the *absolute* amounts are not as disparate because at mid 2007 total agency debt amounted to nearly twice marketable Treasury debt. Indeed, Agency debt typically constitutes a third of all marketable US debt securities, public and private, and thus is central to the deep, liquid American financial markets of which analysts speak. Consequently, foreign purchases of US MBS energized a giant circle: Foreign purchases of Treasuries depressed the reference rate for mortgage interest rates, causing the issue of new mortgages through refinancing or purchase; the new mortgages were then bundled into MBS and sold to foreigners; their eager purchases further depressed mortgage rates, enabling banks to fund yet more mortgage debt.

As MacKinnon notes, virtuous Asians provided much of this cash. Japan and China accounted for 46% of foreign Agency MBS holdings – plus more private MBS –

¹² This privatization spun out the unsubsidized portions of FMNA as FMNA, leaving behind the third GSE giant “Ginnie Mae,” the Government National Mortgage Agency, to provide subsidized lending for public housing projects.

¹³ The CDO, collateralized debt obligation, is a generic version of the CMO, produced by bundling different debts into a synthetic product, to create a specific set of maturities, risks and returns through the use of derivatives.

¹⁴ Credit Suisse (2007); FNMA (2006); FHLMC (2006); Federal Reserve Bank (2008).

¹⁵ Department of the Treasury (2007: 11).

and 51 % of foreign Treasury holdings at mid 2007. Conventional wisdom sees this accumulation of foreign debt as a problem for the dollar. The next section argues that the reverse was true 1991-2005. Disinflation and access to cheap foreign loans strengthened the dollar as a top currency by enabling above average rates of growth for the US in relation to OECD countries. Housing was central to that growth process in ways that would have been difficult for other, smaller sectors.

Section Two: Differential Effects of Housing Market Financial Structures

Though now a dim memory, 1989 saw serious speculation that the yen or European currencies might replace the dollar.¹⁶ While the dollar comprised nearly 75% of official reserves in 1978, by 1989 it had fallen below 50% as central banks diversified into D-marks and yen.¹⁷ Various Euro-currencies peaked at 40% of holdings in 1990, and the yen at 10%. Yet by 2001 the dollar was back to 70% of official holdings, and the Euro down to 25%. Private attraction to the dollar – the real measure of a top currency – traced the same pattern as measured by the strength of the dollar relative to other currencies. Why?

The 1990s saw profound disinflation. Long term *nominal* interest rates fell everywhere in the OECD, and especially in Europe. Euro-area long term interest rates fell from 11.2 percent in 1990 to 3.5 percent by 2005. US long term rates declined less, from 8.7 percent to 4.0 percent 1990-2003.¹⁸ The lower nominal cost of borrowing should have stimulated growth everywhere. And indeed, the US and its OECD competitors all experienced positive effects from the supply chain revolution, the emergence of the internet, and mobile communications. But the structure of housing finance in the US and similar countries was more likely to translate disinflation into increased aggregate demand and thus increased growth than was the case in core Euro-land. Housing finance markets thus account for above OECD average US growth in the long 1990s. Note: the argument here is not that the housing market accounts for all US growth, but rather, the *difference* between the US and core Euro-land. Disinflation and US arbitrage in global capital markets stimulated the domestic housing market by providing relatively low interest rates to existing home-owners wishing to refinance their mortgages and to new homebuyers willing and able to bid up home prices. Relatively faster US growth re-validated the US dollar's position as a 'top' currency for OECD countries.

It could be argued that a strong US dollar merely shifted activity into the non-traded sector, raising returns to the non-traded sector and thus driving up housing prices. Yet Scandinavian currencies and perforce the Dutch all followed the Euro in weakening versus the dollar. Logically this should have led to weak housing prices as in Germany, Austria and Italy. Instead, as we will see, the similarity between Dutch, Scandinavian, and American housing market financial institutions produced the same sort of boom in all of them.

Housing market institutions like those in the US translated 1990s disinflation into increased demand and rising employment through the normal Keynesian multiplier

¹⁶ Bergsten (1991).

¹⁷ Wooldridge (2006).

¹⁸ *OECD Factbook, 2005*, <http://www.sourceOECD.org>.

mechanisms. Countries with housing finance market institutions least like those in the US, and which in addition stifled growth of aggregate demand through wage restraint, experienced less growth. In a disinflationary environment, financial repression hindered growth, rather than accelerating it. Four key features characterize US housing finance markets:

1. relatively high levels of private, individual homeownership
2. relatively high levels of mortgage debt in relation to GDP
3. easy and relatively cheap refinance of mortgages as well as ‘cash out’ of home equity
4. high levels of securitization of mortgages

These features, with occasional help from tax subsidies for mortgage interest, enabled a relatively straightforward process of Keynesian demand stimulus to operate in the US economy in the 1990s and even more so in the 2000s. As nominal interest rates fell, homeowners refinanced mortgages, shifting considerable purchasing power away from rentier interests and towards individuals with a higher propensity to consume goods, services and housing. This consumption in turn generated new employment through standard Keynesian multiplier effects. This new employment sustained the expansion by helping shift the federal budget into surplus, thus enabling the Federal Reserve to continue lowering interest rates. Much the same happened in equity markets, but for the average person, the housing market was a more important source of new consumption power, because more people own houses than own equities, because the average person has more housing equity than stocks, and because the propensity to consume housing wealth is higher. Retrospective analyses confirm that the release of home equity mattered much more than rising share markets for the net increase in real personal consumption in the OECD from 1996-2006.¹⁹ Again, though, without any easy way to tap that equity, the latent additional purchasing power in home equity remained exactly that: latent. This is why countries needed to combine all four features to get economic leverage from disinflation.

Widespread ownership without mortgage debt, as in Italy, meant consumers could not lower their housing costs and free up purchasing power. Widespread homeownership with costly and difficult refinance, as in France, meant that homeowners could not translate falling nominal interest rates into a smaller interest burden. Shallow homeownership and difficult refinance meant rentier interests prevailed over debtor consumption, as in Germany, where housing prices fell despite lower interest rates. As of 2004, all forms of securitized mortgage debt represented less than 20% of GDP for most European countries.²⁰

Falling interest rates also ramified through liquid housing markets to create fictitious capital that also generated employment and growth. Nominal interest rates matter for asset valuation. Falling nominal interest rates meant that the same nominal dollar income could service larger mortgages. People entering the housing market thus bid up housing prices because they could enjoy more ‘housing’ at the same monthly mortgage price. Alternately, incumbents could refinance their mortgages at a lower interest rate, enjoy lower monthly payments, and consume the savings. The nominal

¹⁹ Federal Reserve Bulletin, *Recent Changes in US Family Finances*, 2006, p. A8; Ludwig and Slok (2002); BIS (2003: 130); Borio (1995); Case, Quigley and Shiller (2001).

²⁰ European Commission (2005: 125-6); European Mortgage Federation (2005: 116).

value of all US residential real estate increased from roughly \$6.5 trillion in 1991 to over \$20.5 trillion in 2005.²¹ Securitization of mortgages accelerated this process by allowing banks to validate, price, and liberate the fictitious capital in housing. Consumers tapped their increased home equity through mortgage equity withdrawal (MEW), and MEW contributed to outsized levels of consumption and aggregate demand. Repackaged as MBS, MEW and new mortgages flowed overseas as the counterpart to the growing US trade deficit.

The US FED estimates that 80 percent of the increase in US mortgage debt in the 1990s can be accounted for by MEW, and that MEW ran at roughly \$0.3 trillion annually, 1991-2000 and then at roughly \$1 trillion annually 2001-2005.²² MEW flowed through three different channels. Roughly one-third of home equity was used to pay down higher interest rate consumer debt, freeing up cash for future consumption. One third was used for home improvements, which typically are very labor intense and thus have immediate employment effects. And one fourth flowed directly into consumption.²³

All this mattered for support of the US dollar. Support for a top currency is a matter of *relative* performance, not absolute performance, because market participants always want to out perform the average.²⁴ Money disproportionately flows into assets that are performing better than the average. Dollar denominated assets appeared to perform at above average levels in the long 1990s because the housing driven US economy performed at above OECD average levels in those years. Figure 2 graphs the *relative* growth in absolute employment and GDP per capita from 1991 to 2005 for seventeen OECD economies (although the underlying analysis includes 19 rich OECD economies).²⁵ It shows the degree, in percentage terms, by which a given country either *out-performed* or *under-performed* the average level of GDP and employment performance for the indicated OECD countries.²⁶ GDP growth captures the increase in output and the potential for increased profit volume. Employment growth, measured as the number of new jobs, captures the creation of new purchasing power as well as the potential for increased fiscal revenue and decreased welfare related expenditure. More people at work means fewer people on the dole.

Figure 2 (at end) is constructed by taking the weighted average of OECD GDP growth rates and the average growth in the actual number of employed people for these OECD countries, adjusting for the change in population, and then measuring the percentage deviation from that average for individual countries. I adjust for population to control for the very different rates of population growth across these countries, since rising population alone could account for increased employment numbers or GDP.

²¹ Greenspan and Kennedy (2007: 26).

²² Greenspan and Kennedy (2007: 9, 17).

²³ Greenspan and Kennedy (2007: 8).

²⁴ Nitzan (1998). It is also worth noting that faster growth drew in more immigrants, which in turn helped push up housing market prices- another positive reinforcement.

²⁵ Ireland is excluded from Figure 1 as an extreme outlier (GDP and employment rose at 4 times the average rate); Spain and Portugal are excluded because truly comparable data are not available.

²⁶ Thus I divided the difference between the percentage change in absolute employment (or GDP) for a specific country by the average percentage change for the OECD reference group, and then divided that by the average percentage change for the OECD reference group, yielding the degree of under or over performance relative to the OECD reference group. Negative values in the chart could thus correspond to *actual* gains 1991-2005. The point is to show *relative* gains, however.

Actual employment uses the head count of people in employment (not the unemployment rate), to capture job creation. And I assess these against the weighted growth rate because it more accurately captures the distribution of gains and losses across the OECD. Figure 2 shows an unsurprising but nonetheless significant correlation ($R^2 = .2185$, $p = .034$) between employment and GDP performance. The data from Figure 2 are used in Table 2 to construct a reverse misery or “un-misery” index combining the degree of deviation from the average evolution of population adjusted employment and GDP gains 1991-2005. Figure 2 raises two questions. Did housing led growth crowd out manufacturing growth, as some critics argue? And was growth really connected to housing finance markets?

Tables 2 and 3 (at end) provide data that help answer these questions. The data in Table 2 dispel the myth that the US boom was only about Harold James’ gas guzzling SUVs and McMansions. The US and other ‘winner’ economies typically had above average growth in economy wide gross value added, in manufacturing gross value added, in gross fixed capital formation (GFCF), and in metals and manufacturing GFCF, than did the stagnant economies. GDP and employment gains were not solely about housing construction. In almost all of the winners the change in the absolute level of GFCF in housing was smaller than the overall growth of GFCF. Moreover in most of the winners, the share of housing and all construction in GFCF fell; in the US for example it fell from roughly 65% of GFCF in 1991 to 48% in 2005. While US housing investment shot up in 2006 and 2007 this hardly explains the prior 15 years. On the contrary, the ‘hollowed out’ US economy experienced a doubling of investment in metals and machinery manufacturing investment, while ‘manufacturing powerhouses’ Germany and Japan each saw only a one-fifth increase in this investment over the whole 15 year period.

What about the connection between housing finance markets and growth? Table 3 displays data for the important housing market financial market characteristics noted above.²⁷ I use this data to create a synthetic housing index that tries to capture the degree to which a given housing finance market facilitates the translation of falling nominal interest rates into additional purchasing power. This index combines the rate of homeownership, the ratio of mortgage debt to GDP, the availability of home equity withdrawal, the level of transaction costs involved in mortgage refinance, and whether or not securitization of mortgages is possible.

Figure 3 (at end) then correlates the ‘unmisery’ data and the housing index data from Tables 2 and 3 to show how housing market characteristics relate to relative employment and GDP gains. Figure 3 shows a significant relationship between US style housing finance systems and above average employment and GDP growth ($R^2 = .355$, significant at $p=0.0088$).

During the long 1990s, then, a virtuous (but not perpetual) cycle of rising home prices, rising consumption, rising income and employment, and rising profitability drew foreign capital into US dollar denominated securities. Much of this investment flowed into Treasury and Agency securities, reducing interest rates and providing a further boost to aggregate demand and housing prices. And this in turn reinforced investments flows from relatively slowly growing OECD towards economies with housing booms,

²⁷ Table 3 reflects the situation prevailing in the mid to late 1990s. Some countries partially liberalized their mortgage markets and introduced mortgage securitization at the end of the 1990s. MBS volumes remained relatively small however and did not affect growth for the most part.

particularly the US. All this made dollar denominated securities attractive in the market, strengthening the dollar's value and restoring its position as a top currency after the turbulent 1980s.

Housing thus helped the US dollar regain its position as a top currency. Had US growth merely been average, or below average, market actors would have continued the 1980s' drift towards other currencies. But we still have not shown how this intersects with the interests and politics of individuals. Does the interaction of housing and the US dollar create a micro-level politics that enhances the dollar's position as a top or negotiated currency?

Section 3: The Politics of Homeownership in Relation to the 2008 Crisis and Beyond

The US housing boom, housing bust and current more-than-just-housing financial crisis have created two counterpoised political pressures over inflation and liquidity as actors fight over who bears the losses from the crisis.²⁸ The potential losses are very big: the subprime and Alt-A mortgages at the heart of the crisis nominally amounted to \$1.56 trillion in early 2007.²⁹ And by depressing housing prices they also threaten the much larger pool of jumbo and prime mortgages. These pressures bear directly on the dollar's position two ways. First, they have created an unusual reversal of typical creditor-debtor interests around inflation, as well as creating hostility to higher nominal interest rates and higher taxes. Second, in a clear demonstration of what a 'negotiated currency' actually means, threats to dollar denominated securities gave America's foreign creditors substantial influence in triggering policy responses to the ever expanding financial crisis in summer 2008.

The classic arguments about housing suggested that private homeownership created a politics inimical to a universal welfare state because mortgages crowded out taxes early in a household's life cycle.³⁰ Jim Kemeny and Francis Castles both argued that the need to accumulate a down payment and then to service a mortgage would incline homeowners against higher taxes for public services. The classic arguments largely address the early post-World War II period. We must thus supplement the classic arguments with one salient fact reflecting current realities: there is a lot of wealth and money to be lost if housing prices fall. Outstanding US mortgage debt totaled \$11.1 trillion at end-2007, and market prices at that time implied that homeowners had about \$11 trillion of nominal equity in their houses.³¹ The fear of foreclosure and equity evaporation is what creates the tension around interest rates and inflation. Lower interest rates would help maintain housing prices, validating creditors' assets, by allowing subprime buyers who cannot make payments to sell their house to buyers with better credit. But if central banks supply the liquidity needed to keep interest rates low they risk driving up long term inflation. Let's look at homeowners' interests first.

²⁸ See Schwartz and Seabrooke (2008).

²⁹ Credit Suisse, *Mortgage Liquidity du Jour*, 12 March 2007, p. 28.

³⁰ Kemeny (1980); Castles (1998); Kemeny (2005). A recent study of Australian public opinion suggests that homeowners with mortgages are 50% more likely to express tax resistance than free and clear homeowners or renters; Wilson (2006: 530).

³¹ Greenspan and Kennedy (2007: 26); Freddie Mac *2005 Annual Report*, p. 2; FRB data at: <http://www.federalreserve.gov/pubs/oss/oss2/2004/bulletin.tables.int.xls>. For comparison, home equity represented 40% of British household wealth; Aoki, Proudman and Vlieghe (2004: 415).

Why have debtors' short run interests around inflation reversed? Put simply, many households at all income levels had shoe-horned themselves into crippling mortgages homes at boom-era prices. This left them with little cash flow to handle the sudden jump in food and fuel prices. These jumps dramatically increased their personal risk of foreclosure. Inflation also threatened buyers who used adjustable rate mortgages (ARMs, i.e. variable rate mortgages) with rising interest rates once their mortgage rate reset. Nearly \$1 trillion of subprime and Alt-A ARMs were scheduled for resets in 2007-2008.³² And the cascade of foreclosures that would result from interest rate resets also affected older, incumbent borrowers through their variable rate home equity loans.

Consider typical subprime households. Subprime borrowers typically had bad credit scores and low income relative to their debt. These families were in their early 30s, had approximately \$37,000 of disposable income after taxes, and accounted for much of the 5 percentage point rise in the homeownership rate in the US that occurred from 1994 to 2005.³³ As late housing market entrants, these families on average paid a high price relative to their incomes – borrowing \$200,000 on average – because housing prices rose well ahead of incomes. This high debt to income ratios meant that most of these mortgages were done as ARMs. ARMs accounted for about 20% of mortgages in the 1990s. But during the housing bubble the share of subprime and Alt-A mortgage originations jumped from 2% in 2002 to 20% in 2006, and 92% of these were ARMs. The typical Alt-A buyer, with good credit an excessively large loan in relation to incomes, was in much the same position, as 68% of these loans were ARMs. The typical subprime ARM in 2007 was resetting from about a 7% or 8% annual interest rate to something closer to 10-10.5%.³⁴

Even older, incumbent borrowers were vulnerable to interest rate resets. At around \$50,000 or \$55,000, average post tax incomes for households aged 45-54 in the fourth income quintile are about one-third higher than for households aged 25-34. These families typically had some equity in their house, and generally had a fixed rate loan. But this is precisely the group that used mortgage equity withdrawal (MEW) to extract cash through Home Equity Lines of Credit (HELOC) or closed equity loans.³⁵ HELOCs are effectively a second mortgage secured on the owner's existing equity and most often used to remodel the house, purchase durable goods, or repay more expensive credit card debt. Approximately one-fourth of US homeowners have a HELOC or similar housing related debt, amounting to just over \$1 trillion, or a bit over 10% of total mortgage debt. HELOCs and other forms of mortgage equity withdrawal accounted for about 6% of disposable income from 2001 to 2007, up from the 2% level prevailing before 2001, and thus were a major contributor to excess US consumption and the trade deficit.³⁶

³² Data from Calculated Risk website at <http://calculatedrisk.blogspot.com>.

³³ Bureau of Labor Statistics, *Consumer Expenditure Survey 2004*, p. 9; Chambers, Garriga and Schlagenhauf (2007). More recent BLS data is unfortunately not available yet. This introduces a *conservative* bias into the analysis because housing prices rose substantially faster than incomes from 2004 to 2007.

³⁴ Credit Suisse, *Mortgage Liquidity du Jour*, 12 March 2007, pp. 4-5, 19, 21, 26; see also Freddie Mac, *2005 Annual Report*, p. 12.

³⁵ Bureau of Labor Statistics, *Consumer Expenditure Survey 2004*. A closed loan has a fixed term; a HELOC is permanently available to be drawn on.

³⁶ Greenspan and Kennedy (2007: 11, 43).

Rising inflation and taxes are a triple threat to these debtor families. While inflation erodes the real long term cost of their mortgage, this only helps if these families can hang on to their house in the long run. In the short run, inflation almost immediately increases mortgage payments as the nominal interest rate resets on ARMs. As of 2006 – before food and fuel prices really shot up – 20% of homeowners (homeowners, not households) in the bottom half of the income distribution were already spending more than half their income on housing. A further 19% were spending between 30 and 50% of their income on housing. All together, *homeowners* at all income levels spending more than 30% of their income on housing constitute 30% of all homeowners and 20% of all US households, including renters.³⁷

Inflation also indirectly reduces homeowners' equity as interest rates rise. Rising nominal interest rates depress housing prices. This threatens new homeowners with negative equity – owning more on the house than the market says it is worth. Rising interest rates depress the market price of houses because potential buyers confront higher monthly payments at any given price point. By June 2008, housing prices had already fallen 18% from their peak, leaving an estimated 13 million homeowners with negative equity, and obliterating the typical equity in 2005 and 2006 vintage subprime and Alt-A mortgages. The 30-35% decline from 2006 levels that is needed to bring housing prices back into line with traditional price to income ratios or price to rental ratios would leave nearly 30% of US homeowners, or 23 million households, with negative equity.³⁸

Declining home equity matter not only because households with negative equity are more likely to be foreclosed. Declining home equity also threatens the balance sheet of the average household. Home equity accounts for one third of the average American household's assets. But in the bottom 6 income deciles, median net worth is only \$38,000, and is almost exclusively home equity. These deciles own only 6 % of all US stock holdings, while deciles 7 and 8 hold only 11%. By contrast, the top 10% by income owned 58% of stocks in 2006.³⁹ Put differently, the bottom 6 income declines had \$1 trillion in net worth in 2006, but falling home prices have almost certainly taken away the entire \$1 trillion.

Finally, the run up in housing prices has probably made all of our groups hostile and vulnerable to rising taxes. Higher housing prices mean higher property taxes (i.e. 'rates'), which squeezes other revenue sources. In the US, property taxes are fundamentally a local revenue source that pays for education, policing and some social services. They account for roughly 70% of local government revenues and 10% of total revenue at all levels, and their dollar volume increased at twice the rate of all taxes 2000-2005.⁴⁰ 2001 to 2004, the average property tax bill rose 21% in the US. By 2007, property taxes accounted for 3.4% of total personal income.⁴¹ Because rising housing

³⁷ Harvard University Joint Center on Housing Studies (2008); Credit Suisse, *Mortgage Liquidity du Jour*, 12 March, 2007, p. 26.

³⁸ Calculated Risk, "Homeowners with Negative Equity," 30 September 2008, <http://calculatedrisk.blogspot.com/2008/09/homeowners-with-negative-equity.html>.

³⁹ Calculated from Federal Reserve Bank, *Survey of Consumer Finance*, 2001 and 2004, based on on-line data at <http://www.federalreserve.gov/pubs/oss/oss2/2004/bulletin.tables.int.xls>; Federal Reserve Bulletin, 2006, *Recent Changes in US Family Finances*, p. A8.

⁴⁰ OECD revenue database at <http://www.sourceOECD.org>.

⁴¹ Tax Foundation at <http://www.taxfoundation.org/taxdata/show/1775.html>, and <http://www.taxfoundation.org/taxdata/show/1913.html>.

prices have fed into higher property taxes through rising assessments, it has become harder to increase other tax burdens for national purposes like broad social programs. Citizen protests in 2006 and 2007 forced changes to and in some cases caps on both the level of and rate of increase for property taxes in twenty US states.⁴²

These dynamics reverse the usual debtor preference for inflation. Housing market incumbents in the 1960s and 1970s generally preferred inflation, which rapidly and unambiguously reduced their real debt burden while inflating the nominal value of homes. But home buyers in the 1960s and 1970s typically used *fixed rate*, long amortization (30 years) mortgages and did not have HELOCs. And they typically had reasonably secure jobs with the expectation of a long tenure and inflation adjustments to their wages. These conditions made inflation a one way bet favoring debtors. Consider a typical Californian buying a \$20,000 tract house in 1960 using a 1.75% Veterans Housing Authority fixed rate loan. And even today we might imagine that long incumbent homeowners who refinanced into fixed low interest rate mortgages after the Asian financial crisis or 9-11 might prefer a bit of inflation, *if their incomes keep pace*. But that is a large if, given that many high income jobs in the financial and real estate sectors evaporated during 2008, and that incomes are no longer inflation adjusted. If incomes failed to rise in the relatively benign economic environment of the 2000s, why will they rise in the post-bust era?

To summarize, the large number of debtors with ARMs or with tight budgets should exhibit a preference for low inflation in the short run. The current conjuncture only directly shifts the preferences of those most vulnerable to rising interest rates and declines in home equity. But a shift in the preferences of only 5-10% of voters can be electorally decisive. And subprime and Alt-A mortgages are geographically concentrated in electorally important states like California, Virginia, Florida and Texas, the first three of which also have relatively expensive metropolitan housing. It could be argued that a targeted bailout might relieve indebted homeowners. But the scale of such a bailout would still be quite inflationary given the scale of the problem even before the October 2008 financial meltdown.

On the other side of the inflation equation, the financial community, as well as America's creditors, have an interest in *more liquidity* even at the risk of *higher* short term inflation. Both commercial and investment banks had huge stakes in CDOs built on MBS, and on credit default swaps insuring those CDOs. Moody's estimated in 2007 that global exposure by various 'special investment vehicles' – off balance sheet entities created by banks to escape Basel II capital adequacy regulation – ran at around \$1.2 trillion, a number that seems too low in light of the cascading bank failures in mid-2008.⁴³ Either way, falling home prices and rising delinquencies posed a huge problem for financial firms. If financial firms marked these devaluing assets to market, they would obliterate their capital and go into overt or covert bankruptcy, like Lehman Brothers, Bear Stearns, Wachovia and AIG. If they didn't mark them to market and write them off, no one would lend to them. They thus sought massive injections of cash from the Federal Reserve and the Treasury in order to stabilize asset prices and their capital

⁴² Patrick Jonsson, "High Property Taxes Driving a New Revolt," *Christian Science Monitor* 28 March 2006 and Ron Scherer, "States Try to Ease Property Tax Rise," *Christian Science Monitor* 7 June 2005.

⁴³ Peter Thal Larsen and Paul J. Davies, "Trouble off balance sheet raises concerns," *Financial Times*, August 23 2007

bases. The bailouts – \$1.6 trillion by September 2008 – constituted huge increases in the money supply. Financial institutions hoped that increased liquidity would keep them solvent long enough for higher inflation to bring nominal incomes and nominal house prices back in line, allowing them to mark their dodgy debt to market at something closer to its par value. When this failed to resolve the crisis, the US state partially nationalized nine core financial firms by buying \$125 billion of preferred shares in October 2008 and guaranteeing \$1.5 trillion in bank debt.

In the 1980s and 1990s, the financial community and elite income groups constituted the social base for very low inflation and a global push for independent central banks, often at the expense of employment levels. Finance pursued a parallel politics of market deregulation and fiscal restraint. Meanwhile individual financial firms developed adjustable rate mortgages and aggressively securitized loans to move interest rate risk off their books. But in the current conjuncture they now need a few years of 4-5% inflation to bring nominal housing prices back to something close to the nominal value of the mortgages secured by those houses. This would validate the bad mortgages on their books, bring their balance sheets back into balance with fewer write offs or less new capital.

In a clear demonstration of what it means to be a negotiated currency, foreign creditors clearly influenced the timing and choice of bailout targets. The increasing concentration of foreign holdings of US dollar securities into fewer countries and public authorities in those countries gave increasing market power to those countries, particularly the Chinese. By 2008, China probably accounted for more than one-eighth of all portfolio holdings of US securities. The Chinese state's refusal to absorb more Agency MBS in summer 2008 was the proximate cause for the re-nationalization of Fannie Mae and Freddie Mac. Up until July 2008, foreign official investors were absorbing about \$20 billion per month in Agency debt. But in July and August, China actually shed \$4.6 billion in Agencies, while other foreigners sold \$10.1 billion. Fears that foreigners would sit out a \$200 billion refinancing for Freddie and Fannie in September 2008 prompted the Treasury to impose its conservatorship on the two Agencies. Nonetheless, foreign creditors had no place to go with their dollars. They dumped Agencies, only to buy \$71 billion in Treasuries instead.⁴⁴ Similarly, AIG's \$300 billion in credit default swaps (i.e. insurance on bond defaults) benefiting European banks apparently forced the Treasury to nationalize AIG. AIG's holdings of bankrupt Lehman Brothers bonds, and its \$25 billion in payouts on bad MBS depleted its capital base. An uncontrolled AIG bankruptcy would have seriously damaged major European banks by forcing them to increase their regulatory capital or call in loans.⁴⁵

Both a low inflation-low interest rate regime and a direct bailout affect the US dollar's global position. The low interest rate regime will deter investors from shifting additional cash to the US, unless the US continues to maintain a growth differential with the rest of the developed world. And low interest rates in general tend to stimulate the US economy more than Japan or Euro-land. But it is hard to see how large masses of consumers trying to build up a big enough equity position in their homes to be able to

⁴⁴ Saskia Scholtes and James Politi, "Bank of China Flees Fannie-Freddie," *Financial Times* 28 August 2008, <http://www.ft.com/cms/s/0/74c5cf58-7535-11dd-ab30-0000779fd18c.html>.

⁴⁵ Daniel Gros and Stefano Micossi, "The Beginning of the End Game..." 20 September 2008 <http://www.voxeu.org/index.php?q=node/1669>.

refinance into lower interest rate fixed rate mortgages will be able to contribute anything to a growth differential that ultimately derived from increased spending rather than increased saving. Furthermore, bailouts exacerbate the fiscal deficit. This too is likely to have adverse consequences for investment flows into the US and US dollar denominated securities. In the short run the unwinding of the housing bubble is unambiguously negative for the dollar. Over the long term, though, broader resistance to inflation helps secure the dollar's position.

Conclusion

This chapter argued that housing financial systems played an important role in making the US dollar a top currency for OECD countries and a negotiated currency for developing Asia from 1991 to 2005. Deep and liquid US financial markets certainly exerted their own influence on actors' choice of reserve currency. Yet these markets were not independent of the US housing finance system, which supplied one third of the "depth" in the form of highly liquid mortgage backed securities from Fannie Mae and Freddie Mac. The American housing finance system growth also generated differential versus Euroland. Fiscal restraint, falling prices on imports from Asia, and large volumes of short term, low interest lending to the US market depressed nominal interest rates on US mortgages. Falling interest rates created increased aggregate demand because the structure of US housing markets permitted easy and cheap mortgage refinance and home purchasing. This housing-led Keynesian demand stimulus gave the US and similar countries above average OECD levels of GDP and employment growth, inducing self sustaining capital inflows. Above average growth secured the capital flows that made the US dollar as a top currency. Capital flowed out of rich OECD economies that could not translate disinflation into increased aggregate demand and into the US on a portfolio basis. Above average growth also reinforced the position of the US dollar as a negotiated currency, because above average growth made the US a large and growing market for developing Asia's exports.

It is important to note that this process was conjunctural, in that disinflation fueled the US growth motor, and that housing price bubbles, like any asset bubble, cannot continue indefinitely. Thus I am not arguing that at all times and under all circumstances US style housing markets are more likely to lead to above average growth. Indeed the reverse is obviously true: *inflation* probably percolated through US style housing markets in differentially detrimental ways for the dollar in the 1970s and 1980s, and clearly helped push many borrowers into foreclosure 2006-2008, precipitating a global financial crisis. Our analysis suggests why US style housing institutions are deleterious in an inflationary environment. Inflation leads to *rising* nominal interest rates on mortgages, which sucks demand out of the economy more rapidly when mortgage debt is high relative to GDP and homeownership is widespread. During the 1970s and parts of the 1980s the US had higher inflation and thus higher nominal interest rates than Japan and core Euroland. This caused the GDP and employment motors to run in reverse. Japan and corporatist Europe had superior employment and sometimes GDP performance from the late 1970s until 1990/92.⁴⁶ And as noted above, the dollar's attractiveness as a

⁴⁶ Kenworthy (2002).

reserve currency faded in the 1980s, until the 1990s disinflation reversed this relationship.

It is also important to note that US style housing finance institutions are not a perpetual motion machine. The financial flows that drove US growth contained two internal contradictions that ultimately choked off this cycle of growth. First, the positive feedback loop between US and Asian/Chinese growth required deflation/disinflation to continuously free up more purchasing power in the US. From 1991 through July 2007, prices for developing Asia's exports to the US fell 27%, enhancing US consumers' purchasing power and Asian trade surpluses.⁴⁷ And swelling Asian trade surpluses were of course recycled into US Treasuries and Agencies, depressing interest rates. But China's export successes also implied rapid Chinese growth, and thus increasing Chinese calls on global raw materials and China's own supplies of semi-skilled labor. Raw materials prices started rising in 2004, and Chinese wages in 2007. China thus began exporting inflation rather than deflation. This forced US interest rates up, breaking the disinflationary dynamic powering US growth.

The second limit on perpetual housing growth was exhaustion of the pool of potential new entrants or up-graders in the housing market. This pool dried up as lending markets chased less and less credit-worthy buyers and homeownership rose 5 percentage points above historical levels. Absent a large increase in incomes at the bottom of the market, this last tranche of new homeowners would necessarily find themselves stretched when it came to affording even an average house after a decade of rapid increases in housing prices. And without new entrants at the bottom, those in the middle would have no one to sell to and thus no unrealized equity to finance their own movement up the property ladder. But because the 1990s disinflationary growth model relied on increasing volumes of imported Asian goods, workers at the bottom of the income distribution eventually faced downward pressure on wages. Increasingly expensive houses could not be bought by increasingly impoverished workers, unless buyers and lenders were willing to engage in varieties of fraud in order to repackage subprime mortgages into "toxic waste" CDOs and then sell them to investors. Which they did until this market collapsed in 2007. Efforts to restore the US growth differential versus Euro-land and Japan and thus restore the US dollar's top currency position necessarily involve some improvement of income at the bottom.

The exhaustion of deflationary pressures and creditworthy buyers by 2005 put the US dollar's position as a top currency back into play just as it was during the 1970s-80s. Then, higher than OECD average inflation in the US led to lower than OECD average growth. Higher US inflation and slower US growth going forward from 2008 are likely to make the dollar more of a negotiated reserve currency for the foreseeable future. The dollar will rely on the forbearance of Asian and oil exporting states, for whom 'Bretton Woods II' and geopolitical considerations respectively loom largest. Whether the dollar can once more attract support on a market-based basis and thus regain its position as a top currency remains to be seen. Whether housing finance will play the same key role in this financial balance of terror around renewal of the US dollar is unclear. But it certainly cannot fail to play some role, because of its sheer size in terms of outstanding assets and because of its huge macro-economic effects.

⁴⁷ US Bureau of Labor Statistics website (<http://data.bls.gov/PDQ/outside.jsp?survey=ei>).

The central issue for the dollar in the medium term is thus whether Europe, Japan, and developing Asia can decouple from the US economy. If these areas can attain risk adjusted growth rates above that in the US economy, the dollar will be in considerable trouble. This is particularly true if growth in core Europe approaches or exceeds US levels. Some current analyses suggest that unwinding the US housing bubble will shave at least 2 and possibly as many as 4 percentage points off US growth over the next few years.⁴⁸ This clearly puts the US at a disadvantage relative to Euroland, because the latter figure implies a serious recession.

Against this, though I wouldn't bet my house on it, my sense is that the dollar will muddle through for two reasons. First, the political changes needed to attain *consistent* above OECD-average growth in Euro-land's core states are so painful that the Euro will not rise above its current regional status. Euro-land is unlikely to escape unscathed from America's housing finance crisis. Far from decoupling, Euro-land and Japanese growth decelerated in tandem with US growth in 2008. Europe's banks also faced their own difficulties, prompting the same sort of extraordinary interventions and nationalizations occurring in the US during 2008. In October 2008, governments fully or partially nationalized banks in Belgium, Britain, France, Germany, the Netherlands and Switzerland.⁴⁹ While the *relative* gap in growth rates between the US and Euro-land will be narrower than that which emerged in the long 1990s, it will persist, which favors the dollar.

Second, the time required for adjustment means that foreigners either must accumulate more US assets, or step up purchases of US goods. In particular, given what the US can export, China and the other Asian exporters will have to scale back domestic industrial promotion programs. In the medium run, the dollar is thus likely to be more of a negotiated currency than a top currency, with central banks and sovereign wealth funds having more influence than private investors. The terms of the negotiation will be set by foreigners' relative appetite for US goods as compared to US assets, and by well-to-do Americans' willingness to curb their appetite for imported goods.

⁴⁸ Reinhardt and Rogoff (2008).

⁴⁹ Stephen Castle and Katrin Bennhold, "European Officials Debate Need for a Bailout Package," *New York Times* 2 October 2008 <http://www.nytimes.com/2008/10/02/business/worldbusiness/02regulate.html>.

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Table 2: *Relative Economic Performance in Select OECD Economies 1991-2005, adjusted for changes in population, and ordered by 'Un-misery index'*

Interpretation: 0% = perfectly average performance; < 0 below average; > 0 above average. Thus the increase in Australian economy wide Gross value added was 52% greater than the OECD average, after adjusting for population changes; Japan's increase was 48% lower than the average.

Relative change in real:	Australia	UK	Canada	USA	Nether-lands	France	Italy	FRG	Japan
Gross Value Added	52%	49%	19%	21%	5%	-23%	-46%	-30%	-48%
<i>Manufacturing GVA</i>	-68%	-79%	24%	71%	-35%	-35%	-99%	-79%	-47%
Gross Fixed Capital Formation	119%	33%	18%	66%	-32%	-52%	-70%	-94%	-128%
<i>Metals and machinery GFCF</i>	297%	-28%	4%	60%	-5%	-62%	-86%	-81%	-77%
<i>Housing GFCF</i>	-9%	1%	-3%	90%	-32%	-69%	-90%	-96%	-159%
No. of Employed*	10%	4%	8%	2%	11%	2%	3%	-3%	-3%
GDP	49%	38%	22%	19%	8%	-24%	-44%	-38%	-53%
Un-misery index**	5.9	4.1	3.0	2.1	1.9	-2.2	-4.1	-4.1	-5.5

Source: Author's elaboration from www.sourceOECD.org data.

Notes: * = percentage change in absolute number of people employed in 2005 versus 1991, as compared to the average change for all rich OECD countries. Performance is judged against all 20 rich OECD economies. * Un-misery index = 10* (Δ Employed + Δ GDP), i.e. 10 times the relative change in number of employed plus relative change in GDP, adjusted for population changes, in order to construct a normalized -10 to 10 index. File: figure2-table2 in EHJK directory.

Table 3: Comparative Housing Finance Market Characteristics, Select OECD Countries, Ordered by Synthetic Housing Index											
	UK	Australia	USA	Canada	American- zed Rich average*	Aver. all 20	Repressed Rich Ave.	Japan	FRG	Italy	France
Relative Transaction costs for property acquisition, as % of total cost	4.8	3.8	0.6	2.8	3.3	0.0	-4.1	1.2	-1.9	-7.7	-6.9
Is mortgage securitization possible? (10= yes and common; 0 = no or rare)	10	10	10	10	6.0	4.4	0.7	0	4	0	0
Home Equity Withdrawal 1990-2002 (as % of GDP *10)	7	7	5	2	4.7	3.2	0.3	1	0	1	0
Mortgage debt as % of GDP, 1992	64.3	50.8	58	43.1	53.4	44.7	32.2	36.8	54	11.4	22.8
Owner occupied housing, 2002, %	68	70	69	66	64.7	64.6	63.9	60	42	80	55
Synthetic housing index***	7.00	6.59	5.65	5.13	4.9	3.2	0.9	2.37	2.34	0.49	0.17
* = Britain, Denmark, Sweden, Netherlands, Australia, New Zealand, Norway; ** = Japan, Germany, Austria, France, Belgium, Italy, Spain; *** SHI calculated by normalizing all data to 1-10 range, adding all five indicators and then averaging.											
Sources: Row 1: Global Property Guide, Housing Transaction Costs in the OECD,” http://www.globalpropertyguide.com/articleread.php?article_id=95&cid= . Row 2: Pietro Catte, Nathalie Girouard, Robert Price and Christophe André, “The Contribution of Housing Markets to Cyclical Resilience,” <i>OECD Economic Studies</i> #38, 2004/1, pp. 125-156. Row 3: OECD National Accounts at www.sourceOECD.org ; Kostas Tsatsaronis and Haibin Zhu, “What Drives Housing Price Dynamics: Cross Country Evidence,” BIS Quarterly Review March 2004, pp. 65-78 at pp. 69-70, plus Massimo Giuliodori, “The Role of House Prices in the Monetary Transmission Mechanism Across European Countries,” <i>Scottish Journal of Political Economy</i> 52:4, September 2005, pp. 519-543, at pp. 523-524. Row 4: Catte, et al., p. 138; Swedish National Board of Housing, Building and Planning (Boverket), “Housing Statistics in the European Union 2004,” Falun, Sweden: Intellecta Strållins, 2005; data supplied by European Mortgage Foundation. Row 5: Data supplied by European Mortgage Foundation.											

Figure 1: Deviation from Weighted Average Level of GDP and Employment Growth, 1991-2005, 17 OECD nations, percentage points

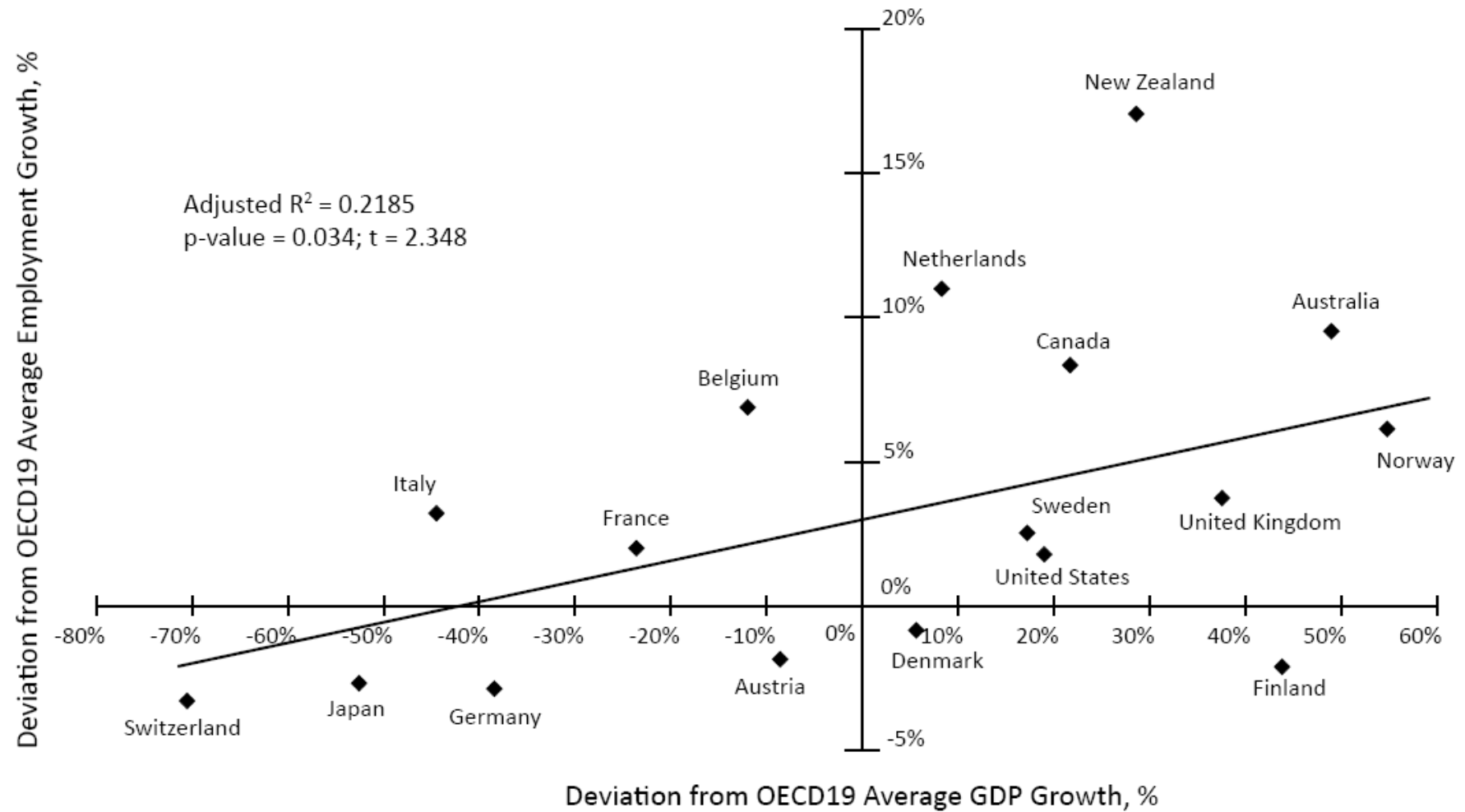


Figure 2: Synthetic housing index vs “Un-misery” index. The synthetic housing index measures the degree to which we would expect housing related increases in aggregate demand from a given set of housing finance institutions. The Un-misery index adds the percentage deviation of the per capita increase in Employment and GDP 1991-2005 from the weighted average for the rich OECD countries.

Interpretation: The chart assesses the connection between housing finance market arrangements and *relative* growth. Excluded data: Ireland is excluded as an outlier (its ‘un-misery index’ is 35, housing index 3.5), but its position confirms the general logic here; Spain, Switzerland and Portugal omitted because of missing data.

