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Currency and Financial Crises of the 1990s and 2000s

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Abstract

We survey three distinct types of financial crises which took place in the 1990s and the 2000s: (i) The credit implosion leading to severe banking crisis in Japan, (ii) The foreign reserves' meltdown triggered by foreign hot money flight from frothy economies with fixed exchange rate regimes of developing Asian economies, and (iii) The 2008 worldwide debacle rooted in financial institutional opacity and reckless aggregate demand management, epi-centered in the US, that spread almost instantaneously across the globe, mostly through international financial networks. (JEL codes: E30, F30, G01, N1)

Keywords: Currency crises, depression, financial meltdown, protracted unemployment, asset bubbles, self disciplined financial institution vs. regulation

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1 Financial Crises: 1990–2010

Financial institutions, banks and shadow-banks (financial institutions providing credit through the derivative trade) are typically arbitrageurs. They borrow short at low rates, lending money long for higher returns. Many also offer a wide range of fee generating services, including packaging and distributing derivatives.[1] Like any other business, their fortunes are affected by fluctuations in aggregate demand and supply; flourishing in good times, and floundering in bad. Their health in this way partly depends on the prosperity of others, but the relationship is asymmetric

[1] Derivative is a generic term for swaps, futures, options, and composites which do not have any intrinsic value (proprietary claims to interest, dividends or asset appreciation), their worth depending derivatively on promises to acquire, sell, swap, and insure securities not yet owned. They take many forms including equity, foreign exchange, interest, commodity, credit [credit default swaps (CDS)], mortgage backed, and packaged derivatives. Simple, or common, derivatives are called 'vanilla'; more complex instruments are dubbed 'exotic'. Their primary purposes are leveraging and hedging risk (e.g. traditional short sales) for personal portfolio management or speculation, but this has broadened into 'shadow banking', where large institutions use derivative instruments to manage their financial operations. They serve legitimate business purposes, but also facilitate arbitrage as a business in itself (hedging business), and leveraged speculation [including gambling with other people's money (Nick Leeson, Barings Bank fiasco)]. All are traded either on exchanges, or over-the-counter, and bear 'counterparty' risk as well as security risk because 'promises' can be broken. 'Performance' risk is another seldom considered problem, because even if promises are kept, ownership rights to the assets underlying derivatives like mortgage backed securities are often obscure and unenforceable. According to the Bank for International Settlements the total notional worth of derivatives worldwide was 684 trillion dollars in June 2008.

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because financial institutions together with monetary authorities determine the aggregate supply of money and credit. Financial institutions are special. They are strategically positioned to directly and indirectly lever more than most other businesses, expand the aggregate money and credit supplies, create debt and speculatively affect stock, commodity and real estate prices. Self-discipline and competent regulation are essential, but are too often compromised by the lure of easy profits, and a regulatory desire to foster financial innovation. Financial crises contract aggregate money and credit, diminish the income velocity of money, and jeopardize the profitability, solvency and survivability of firms throughout the economy. In the direst cases, they can wreck national economic systems (what U.S. Federal Reserve Chairman Ben Bernanke calls 'systemic risk').

Financial crises vary in frequency and intensity. There were three major events during the last 20 years: the Japanese 'zombie bank' debacle, the 1997 Asian financial crisis (broadened to include Russia 1998–1999, and Argentina 2001–2002), and the global financial crisis of 2008. The first two were respectively local and mostly regional, the third worldwide. Two were exacerbated by Keynesian liquidity traps, and debased sovereign debt (as tax revenues dropped and bailout money surged) and all were severe, but none approached the 1929 Great Depression's ferocity. They provide interesting clues about how a Black Swan catastrophe (Taleb 2007) might have unfolded, but are more useful for learning how to deter and mitigate future financial crises and recessions (depressions) in perpetually changing technological, regulatory, developmental, transitional, and psychological environments.

This broad perspective is essential because although historical patterns are instructive, they cannot be relied on entirely either to accurately identify causes, or predict future events. Things never are completely the same (continuity), as human societies change, learn, adapt, and evolve.

On one hand, recent crises have much in common with the Great Depression. All followed asset bubbles. They started in the financial sector and gradually spread to the real sector. During these crises, many financial institutions either defaulted or had to be bailed out. The Japanese and 2008 global crises appear to have begun with burst bubbles that dried up credit and drove short term interest rates toward zero.

On the other hand, the crises of the 1990s and 2000s displayed even more differences judged from the Great Depression benchmark. Institutions, policies, financial innovation, globalization (vs. autarky), regulation, deregulation, floating exchange rates, and reduced financial transparency have profoundly altered potentials, conditions, dynamics and rules of the game. Domestically, nations have established and expanded an alphabet soup of oversight and regulatory agencies including the 1932 Glass-Steagall Act (repealed 1999), 1933 Federal Deposit

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Insurance Corporation (FDIC), and the 1934 Securities and Exchange Commission (SEC).

Internationally, the world today is still being swept by a wave of globalization, characterized by rapidly growing foreign trade, capital movements, technology transfer, direct foreign investment, product and parts outsourcing, information flows, improved transport, and even increased labor mobility. This contrasts sharply with a post World War I universe in retreat from the prewar globalization wave which began in the 1870s, and the protectionist, beggar-thy-neighbor, isolationist and autarkic tendencies of the 1930s. The pre-Great Depression international exchange and settlements mechanism underpinning the old regime has vanished. The gold standard, and 1944 Bretton Woods system [which established the International Monetary Fund (IMF), and World Bank Group] fixed, and adjustable peg exchange rate mechanisms are no long with us, replaced since the early 1970s by flexible exchange rates exhibiting a distinctive pattern of core-periphery relations that some describe as Bretton Woods II.[2] Free trade globalization has been evangelically promoted by the 1947 General Agreement on Trade and Tariffs (GATT), its 1995 World Trade Organization (WTO) successor, and diverse regional customs unions, while the IMF provided currency and crisis support, and the World Bank development assistance. Many claim that as a consequence of these institutional advances, emerging nations including China and India have not only been able to rapidly catch up with the west, but in the process accelerated global economic growth above the long-run historical norm, buttressing prosperity and dampening business cyclical oscillations.

Scholarly and governmental attitudes toward managing financial crises and their consequences likewise bear little resemblance to those prevailing after World War I and through the early years of the Great Depression. Back then, Say's law, and government neutrality were gospel. What goes up must and should come down. If financial and related speculative activities raised prices and wages excessively, it was believed that the government should let those responsible reap what they sowed by allowing prices and wages to freely adjust downward, and firms go belly up. There was some, but very little room for stimulatory monetary and fiscal policy. The Keynesian revolution as it has gradually unfolded and evolved radically altered priorities and attitudes toward macro causality and appropriate intervention. Its seminal diagnostic contribution lay in showing the

[2] Dooley, Folkerts-Landau and Garber contend that the periphery undervalues its currency to foster export-led growth in order to facilitate the rural-urban employment process, and enabling technology transfer from the center, causing embedded trade and financial flow imbalances. See Dooley et al. (2003) cf. Eichengreen (2004).

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decisive roles of price rigidities, and credit crises in causing and protracting depressions. Sometimes, depressions began when real wages were too high, inducing output and credit to fall. On other occasions depressions were engendered by financial crises [sharp contractions in loanable funds (credit), and consequent liquidity crises], and then inured by 'sticky wages and prices'. Regardless of the sequencing, Keynes claimed that two gaps, the first a supply shock, the second impairments of the Walrasian automatic wage and price adjustment mechanism (invisible hand), created double grounds for fiscal intervention. Policymakers accordingly made the restoration of full employment and economic recovery their priorities, dethroning neutrality in favor of activist fiscal and supportive monetary intervention. Where once it was resolutely believed that eradicating anticompetitive practices and empowering the market were the best strategies for coping with financial crises and their aftermaths, Keynesians, neo-Keynesians, and post-Keynesians all now believe that fighting deflation and stimulating aggregate effective demand are highest goods, even if this means rescuing those who cause crises in the first place, and tolerating other inefficiencies. These attitudes are epitomized by Ben Bernanke's unflagging commitment to bail out any institution that poses a 'systemic threat', and to print as much money as it takes [quantitative easing (QE)], (Bernanke 2004) while governments around the world push deficit spending to new heights (sometimes passively due to unexpected slow economic and tax revenue growth), tempered only by looming sovereign debt crises. They also are evident in growth accelerating excess demand strategies, and prosperity promoting international trade expansion initiatives.

This characterization of novel aspects of the post Great Depression order would have been complete two decades ago, but is no longer because it conceals a penchant among policymakers to square the circle. Governments today are intent on restoring aspects of pre-Great Depression laissez-faire, including the financial sector liberalization and decontrol, at the same time they press disciplined, globally coordinated monetary and fiscal intervention. One can imagine an optimal regime where regulatory, simulative, and laissez-faire imperatives are perfectly harmonized, but not the reality. Consequently, the most novel aspect of the 1990s and 2000s may well be the emergence of a global economic management regime built on contradictory principles that can be likened to stepping full throttle on the accelerator, while intermittently and often simultaneously slamming on the regulatory brakes.

Which subsets of these factors, including the null subset appear to best explain the Japanese, Asian and 2008 world financial crises and their aftermaths? Let us consider each event separately, and then try to discern larger, emerging patterns.

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2 Japan's Financial Crisis: The Lost 1990s and Beyond

Japan was lashed by a speculative tornado 1986–1991, commonly called the baburu keiki (bubble economy). It was localized, brief, and devastating, with allegedly paralytic consequences often described as ushiwanareta junen (two lost decades). The phenomenon was a selective price bubble, disconnected from low and decelerating GDP inflation, as well as more vigorous, but diminishing rates of aggregate economic growth converging asymptotically toward zero, or worse (1982–2010). The bubble was most conspicuously manifested in rabid land and stock prices speculation, but also affected Japanese antiques and collectibles (like high quality native ceramics and lacquer ware). The Nikkei 225 (Neikei Heikin Kabuka) stock market index rose from below 7000 in the early 1980s to 38 916 on December 29 1989, plummeted to 30 000 seven months later, continuing to fall with fits and starts thereafter before reaching a 27 year low March 10 2009 at 7055. It currently (January 2011) hovers around 10 000. At its height, Japan's stock market capitalization accounted for 60% of the planetary total, now its worth is a pale shadow of its former glory. The real estate story was similar. Condo prices increased 140% between 1987 and 1991, on top of already globally sky high values, then plummeted 40% by 1994.[3] At the bubble's apex, the value of a parcel of land near the Emperor's Tokyo imperial palace equaled that of California. By 2004, prime 'A' property in Tokyo's financial district had slumped to less than 1% of its peak, with the total destruction of paper wealth mounting into the tens of trillions of dollars. The speculative frenzy, predictably ended badly, but also displayed uniquely Japanese characteristics.

Its technical cause was financial; an institutional willingness to accommodate domestic hard asset speculation in lieu of low, zero, and even negative returns on business investment and consumer savings accounts. Corporations and households having piled up immense idle cash balances during the miraculous 'Golden Sixties', and subsequent prosperity through 1985, (Johnson 1982) encouraged to believe that the best was yet to come despite diminishing returns to industrial investment, seized on stock and real estate speculation as the next great investment frontier. They succumbed to what savvy Wall Streeters call a 'bigger pig' mentality, persuading themselves that fortunes were at their finger tips because whatever price little pigs paid today for stocks, real estate and collectibles, there always would be bigger pigs tomorrow willing to pay more. Banks capitulating to the frenzy began binge lending; rationalizing that clients always would be able to repay interest and principle from their capital gains, until

[3] Bloomberg, Real Estate Economic Institute, Japan, Home Price Indices, as of March 18 2009.

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one fine day they ruefully discovered that there were no bigger pigs at the end of the rainbow. This epiphany, coupled with a panic driven free fall in assets values and capitalization, left bankers both in a predicament and a quandary.

The predicament was that slashed asset values by regulatory rule required them to contract loan activity, and force borrowers to meet their interest and principal repayment obligations even if this meant driving clients into bankruptcy. The quandary was that Japanese cultural ethics strongly proscribe maximizing bank profits at borrowers' expense. (Rosefielde 2002) Through thick and thin, Japanese are trained from birth to communally support each other, subordinating personal utility and profit seeking to the group's wellbeing. Watching out first for number one is never the right thing to do, as it is in competitive, individualistic societies. Tough love is not an option; burden sharing is the only viable course,[4] which in this instance meant refusing to 'mark capitalizations to market', seeking government assistance, and stalling for time hoping that with patience, clients' financial health eventually would be restored. This judgment was not wrong. Japanese corporations operating under the same cultural obligation immediately began earmarking revenues from current operations for debt reduction at the expense of new capital formation, and refrained from new borrowings to cover the gap. Banks for their part, not only maintained the fiction that outstanding loans were secure, but provided cash for current corporate operations and consumer loans at virtually no cost above the bare minimum for bank survival. Moreover, they kept their lending concentrated at home, instead of seeking higher returns abroad.

These actions averted the broader calamities that typically accompany financial crises. Japan did not swoon into hyper depression (GDP never fell, growing 1.7% per annum 1990–1993),[5] or experience mass involuntary unemployment. The country was not swept by a wave of bankruptcies. There was no capital flight, sustained yen depreciation, deterioration in consumer welfare (Sawada et al. 2010) or civil disorder. There was no need for temporary government deficit spending, long-term 'structural deficits', 'quantitative easing', comprehensive financial regulatory reforms or high profile criminal prosecutions. Interest rates already were low, and although the government did deficit spend, arguably it didn't matter in a Keynesian universe because Japanese industrial workers in large companies were employed for life (shushin koyo). For pedestrians on hondori

[4] Westerners once knew this, but have forgotten. See Ruth Benedict (1946) Sword and the Chrysanthemum.

[5] An hyper depression is any depression greater than the great American depression of 1929; see Maddison (2003) p. 298.

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(Main Street) who blinked, it seemed as if nothing had happened at all beyond a moment of speculative insanity.

However, matters look very differently to western macro theorists and Japanese policymakers, particularly those who erroneously believe that structural deficits, and loose monetary policy are the wellsprings of sustainable rapid aggregate economic growth (as distinct from recovery). Their prescription for Japan's 'toxic asset' problem was to bite the bullet, endure the pain, and move on swiftly to robust, ever expanding prosperity. Given ideal assumptions, biting the bullet is best because it doesn't sacrifice the greater good of maximizing long-term social welfare for the lesser benefits of short term social protection. Advocates contend that the Japanese government fundamentally erred in condoning bank solicitude for the plight of endangered borrowers, and abetting banks with external assistance because these actions transformed otherwise healthy institutions into 'zombie banks' (the living dead),[6] unable to play their crucial role in bankrolling investment, technology development and fast track economic growth.

Their claim has some disputed merit,[7] but also is seriously incomplete. It is true that Japanese growth has been impeded by 'zombie banks', 'deflation', the 'liquidity trap' conjectured by Paul Krugman in the 1990s,[8]

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6 Caballero, Hoshi and Kashyap contend the zombie banks crowd the market and the resulting congestion has real effects on the healthy firms in the country. They find the cumulative distortionary impact of investment and employment to be substantial. See Ricardo J. Caballero et al. (2006) cf. Akiyoshi and Kobayashi (2008). For a detailed historical review of the Japanese banking crisis see Kanaya and Woo (2000).

7 Miyajima and Yafeh (2007). The authors find that small, undercapitalized firms were the primary victims of the credit crunch. These firms contribute little to Japanese productivity growth, undercutting the claim that the financial crisis caused Japan's two lost decades.

8 Paul Krugman contends that after Japan's bubble burst savings rose (consumption collapsed) and the natural interest rate (needed for full employment general equilibrium) turned negative, the money interest rate reached the lower bound of zero, rendering monetary policy impotent. The actual real interest rate immediately after the crash and for decades to come often was slightly positive; the combined effect of modestly falling prices (due partly to collapsed demand and retail liberalization in an otherwise keiretsu price-fixed environment), and a zero money interest rate. This created a small Keynesian output gap (albeit with negligible unemployment) that was addressed with fiscal deficit spending, but it is still possible to argue that deflation and a 'liquidity trap' kept, and still keep Japan's GDP and employment below its full competitive potential. Krugman contends that Japan's 'liquidity trap' was the first manifested since the Great Depression, and sends a signal to monetary authorities like Ben Bernanke to be alert to the danger. He recommends that Japan's and America's output gaps should be closed with quantitative easing (central bank purchase of medium and long term government securities) and nurtured inflationary expectations through a Phillip's mechanism. The suggestion is sound in principle (albeit controversial) for contemporary America. Japan's institutions prevent its economy from attaining natural output levels. There may be a gap between Japan's achieved and potential institutionally constrained GDP, but it is impossible to reliably measure these gaps. See Krugman (1998), Krugman (2010) cf. Stiglitz (2010) cf. Aoki and Saxonhouse (2000).

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faulty banking policy, and the aftermath of stock and real estate market speculation, but its should have done much better because its competitiveness has substantially improved. Stock market and real estate values denominated in yen are where they were three decades ago, while prices elsewhere across the globe have soared. Japan is more competitive now on inflation and exchange rates bases against much of the world than it was in 1990. Moreover, the government has tenaciously pursued a zero interest, loose money policy, in tandem with high deficit spending that has raised the national debt to 150 percent of GDP. If Japan's growth retardation were really primarily due to insufficient 'zombie bank' business credit, government stimulus should have mitigated much of the problem.

There is a better explanation for Japan's two lost decades that has little to do with two concurrent, and isolated speculative incidents, one in the stock market, the other in real estate with scant sustained effects on production and employment. The advantages of Japan's postwar recovery and modernizing catch up diminished steadily in the 1980s and were fully depleted by 1990, when its per capita GDP hit 81% of the American level. Thereafter, Japan's culturally imposed, anticompetitive restrictions on its domestic economic activities became increasing pronounced, causing its living standard to diminish to 73% of America's norm.[9] Japan, at the end of the 1980s was poised to fall back, with or without a financial crisis, and it is in this sense that the two lost decades are being erroneously blamed on the bubble, and its 'zombie banking' aftermath.[10] Yes, there were eye-popping speculative stock market and real estate price busts, but they weren't the national economic debacles they are usually painted to be, either in the short or intermediate term.

This interpretation raises a larger issue that cannot yet be resolved, but nonetheless is worth broaching. Does Japan's fate, presage China's future? When the advantages of catch up are depleted, its population grays,[11] and the delusion of permanent miraculous growth subsides, will the end of days be punctuated with a colossal, accommodatively financed speculative

[9] Rosefielde (2010), www.ggdc.net/Maddison/oriindex.htm; Russia, China 1991–2008 (EU benchmark).

[10] It is unclear whether Krugman ascribes Japan's second lost decade 2000-2010 to his conjectured 'liquidity trap'.

[11] Japan's population growth had slowed noticeably by 1990, was still positive when its financial crisis hit. Deaths first began exceeding births in 2007, and the trend will not be swiftly reversed. Demographers are currently forecasting that more than one in three Japanese will be over 65 in 2055, with the working age cohort falling by over a third to 52 million. Immigration could alleviate the pressure, but the Japanese are resolutely opposed to it because of unvoiced fears of being inundated by the Chinese. The long term demographic prospect for China, including the possibility for expanded immigration mimics the Japanese pattern due to Deng Xiaoping's one child per family policy, and xenophobia. See Eberstadt (2007) and Eberstadt (2010).

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bust, followed by uncountable lost decades? Perhaps not, but still it is easy to see how history may repeat itself.

3 The 1997 Asian Financial Crisis and Out of Region Spillovers

The Asian financial crisis which erupted in 1997 was a foreign capital flight induced money and credit implosion.[12] It began as a run on Asian banks by foreign short-term depositors, and expanded into an assault on government foreign currency reserves, sending shock waves as far as Russia's and Argentina's shores.[13] Banks were decimated by acute insolvency. They did not have the cash on hand to cover mass withdrawals of short-term deposits because these funds had been lent long, sparking asset fire sales, slashed capitalizations and credit and money contractions, which in turn triggered widespread business failures, depressions and mass unemployment. Thailand's GDP plummeted 8%, Indonesia's 14% and South Korea's 6% 1997–1998.[14] Foreign capital flight (repatriation of short-term deposits), compounded by insufficient government foreign currency reserves, soon compelled steep devaluations that increased import costs, reduced 'command national income', (domestic purchasing power including 'command' over foreign imports), disordered balance sheets, and otherwise diminished real national consumption.

These events, unlike Japan's financial crisis eight years earlier, were triggered by foreign capital flight rather than domestic stock and real estate meltdowns, and were not quarantined. The crisis started in Thailand, spreading rapidly to Indonesia, South Korea, Hong Kong,[15] Malaysia, and the Philippines, with lesser reverberations in India, Taiwan, Singapore, and Brunei, but fledgling market communist regimes in China, Vietnam, Laos, and Cambodia were spared runs on their banks and foreign currency reserves by stringent state banking and foreign exchange controls. They experienced secondary shocks from diminished regional economic activity, but otherwise escaped unscathed.

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[12] Stiglitz (1996), Radelet and Sachs (1998), Rajan and Zingales (1998), and Fratzscher (1998). Rajan and Zingales contend that 'hot' money in Asia is white hot, because in the absence of the rule of contract law, in a relationship based culture, short-term foreign investors are especially wary.

[13] Argentina's money supply contracted sharply because constitutionally its money base was tied peso for peso to its foreign reserves, which wreaked havoc on business activity when hot money fled the country under its fixed foreign exchange regime.

[14] Angus Maddison *The World Economy: Historical Statistics*, Geneva: OECD, 2003, Table C3-b, p. 298.

[15] Hong Kong's currency board, however, was successfully defended by massive foreign reserve sales, and purchases of private equities.

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The root cause of the runs on Asia's banks and foreign reserves lay in foreign financed Asian economic development, and east–west interest rate differentials. After World War II Asia became a magnet for both foreign direct and portfolio investment, driving foreign debt-to-GDP ratios above 100% in the four large ASEAN economies (Thailand, Malaysia, Indonesia, and the Philippines) 1993–1996, and local asset market prices to soar (real estate and stocks). Rapid, near double digit GDP growth contributed to the asset boom, inspiring confidence that investments were safe because Asia's miracles were expected to continue for the foreseeable future. Thailand's, South Korea's, and Indonesia's GDP growth rates during the decade preceding the Asian financial crisis were 9.6, 8.2 and 7.2% per annum, respectively.[16] At the same time, Asia's high interest rates attracted the 'carry trade'; short-term borrowing of low yielding currencies like the Japanese yen, and their subsequent short-term investment in high yielding foreign bank deposits and similar liquid debt instruments. Short term 'hot' money (including large sums from Japanese financial institutions searching for positive returns on near money instruments well after Japan's financial crisis ended) poured into the region, creating what increasingly came to be perceived as a pan-Asian bubble economy, exacerbated by 'crony capitalism',[17] severe political corruption and instability (especially Thailand, Malaysia, and Indonesia).

Foreign investors steeled by their faith in Asian miracles at first were not perturbed by the frothiness of the orient's markets, but the swelling bubble, compounded by surging current account trade deficits undermined their confidence. Speculators, hot money carry traders, and other investors gradually grasped that the high returns they were reaping could be wiped out by catastrophic devaluations, and began planning for the worst, realizing that those who fled early would preserve their wealth; those who dallied would be left holding an empty bag. The incentive to flee was increased further by developments outside the region. America's Federal Reserve Chairman, Alan Greenspan began nudging U.S. interest rates higher to deter inflation, creating an attractive safe haven for hot money hedging, made more appealing by the prospect of an appreciating dollar.

The precise combination of factors that ignited full throttle capital flight is open to dispute. Southeast Asian export growth dramatically slowed in

16 Maddison, *Op. Cit.*

17 Crony capitalism is a vague term often used to describe market economies, especially in the Third World, where business depends heavily on patronage in closed privileged networks of officials, relatives and friends that thrive even though under other circumstances their companies would fail the competitive test. These systems are considered morally hazardous, corrupt, inefficient, and ripe for disaster. See Pempel (1999).

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the Spring of 1996, aggravating current account deficits. China started to out-compete its regional rivals for foreign directly invested loanable funds. The domestic asset bubble began to pop with stock and land prices in retreat, forcing large numbers of firms to default on their debts. No doubt for these and many other reasons including asymmetric information (Mishkin 1999), opacity, corrupt corporate governance, and 'crony capitalism'; foreign investors rushed for the exits in early 1997, symbolically culminating in the Thai government's decision on 2 July 1997 to abandon its fixed exchange rate, allowing the value of its baht to 'freely' float. Over the course of the next year, the Baht's value fell 40%. The Indonesian, Philippine, Malaysian, and South Korean currencies swiftly followed suit, declining 83, 37, 39 and 34%, respectively.

Devaluation, stock and real estate market crashes, bankruptcies, mass unemployment, wilted interest rates, and heightened risk aversion dissolved the fundamental disequilibria that had beset the region before the fall, only to be immediately replaced by urgent new priorities. Downward spirals had to be arrested, economies stabilized, and steps taken not only to achieve rapid recovery, but to foster structural changes supporting long-term modernization and growth. Thai economic planners and their counterparts elsewhere in the region had a coherent overview of what needed to be done (mundane partisan squabbles aside), but unlike the Japanese seven years earlier, sought external foreign assistance from the International Monetary Fund, the World Bank, the Asian Development Bank, and individual nations including China to finance balance of payments deficits and facilitate structural adjustment. Japan did not run a current account deficit during its crisis, did not need foreign exchange rate support, nor structural adjustment assistance funding, and so relied entirely on its own resources, whereas the dependency of non-communist developing Asia on the developed west was placed in stark relief. The region of course could have gone it alone; however, its aspirations for fast track convergence, and counter crisis stimulus were clearly tied to its integration into the global financial system, and perhaps acceptance of some bad IMF conditionality as the price for the good.

Much ink has been spilt over whether Washington Consensus style monetary and fiscal stringency, combined with mandated economy opening structural reforms imposed by the International Monetary Fund helped or harmed Asia.[18] This issue is important, but only so for present purposes insofar as structural reforms increased or diminished the likelihood of

[18] The term Washington Consensus was coined by John Williamson in 1989 to describe 10 standard reforms advocated in Washington, DC for ameliorating crises and promoting sustainable growth in developing countries. These reforms include fiscal discipline, structural investments (in education, etc.), tax rationalization, market determined interest

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future crises. The evidence to date on balance, despite strong claims to the contrary, favors the regional decision to follow the IMF's tough love advice. Asia accepted fiscal austerity and monetary restraint. It liberalized, amassed large foreign currency reserves, maintained floating exchange rates and prospered. After enduring a protracted and perhaps excessively painful period of adjustment, Asia not only resumed rapid growth within the IMF's framework, but when push came to shove in 2008, weathered the global financial shock wave better than most. It appears that although global financial liberalization does pose clear and present speculative dangers as IMF critics contend, the risks can be managed with prudence and discipline.[19]

Some have suggested that Russia provides a cogent counter Washington Consensus example because having liberalized after its own financial crisis in 1997, and recovered, its economy was crushed by the 2008 financial crisis. The claim however is misleading on a variety of grounds. There simply are too many dissimilarities for the Russian case to be persuasive. Unlike Asia, Russia was mired in hyper depression when it defaulted on its sovereign Euro denominated debt in 1997. It never received significant sums of direct and/or hot money inflows into the private sector during the Yeltsin years, had a floating peg exchange rate, and received no IMF support after the ruble collapsed. Consequently, it is fatuous to lump Russia into the same basket with Asia.[20] Asia's and Russia's systems

rates, competitive exchange rates, trade liberalization, privatization, deregulation, and rule of law. See Williamson (2002) cf. Blustein (2001).

[19] Stiglitz (2011) argues that controls can dampen the destabilizing effects of productive and financial regional and global integration. See also Lee and Jang (2010).

[20] Vavilov (2010), Rosefielde's (2011) 'Review of Vavilov's, The Russian Public Debt and Financial Meltdown', and Rosefielde (2005) cf. Shleifer and Treisman (2004). The only thing that really links Russia's 1998 financial crisis to Asia's is the demonstration effect. When the Asian bubble burst July 1997, Europeans started to reassess Russia's creditworthiness, after being assured by Anders Aslund, the IMF, World Bank and the G-7 that Russia had become a 'capitalist market economy' on the road to recovery. The real story is that Yeltsin officials after scamming their own people innumerable times including the infamous 1996 'Loan for Shares' swindle of the millennium, began a massive issue of GKO (Gosudarstvennoye Kratsrochoye Obyazatel'stvo; government short term obligations) designed to entice foreign hot money by paying 150% interest, at a time when it could not cover its budgetary expenses with tax revenues hopelessly in arrears. Yeltsin insiders knew that the obligations could not be met, but also saw opportunities for self-enrichment and played the situation that way. They secured a 22.6 billion IMF rescue package on 13 July, swapping GKOs for long-term Eurobonds to string the process out, before finally repudiating their GKO and Euro-denominated obligations, and abruptly devaluing on 17 August 1998. In the Asian case, foreign capital fled because private sector risks had increased. By contrast, in the Russian case it fled because carry traders realized that the Russian government was intent on ripping them off. The only question was when, not if, the Kremlin would strike. See Goldman (2003), Aslund (1995), Rosefielde and Hedlund (2009).

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and contexts are too disparate for them to be pooled. The same argument for different reasons applies to Argentina 1999–2001. Russia's and Argentina's crises were both linked to sovereign debt issues, but their problematic, and roles within the global economic and financial system place them in separate categories.

Clarity in this regard is essential for gauging the Asian financial crisis's historical significance. Some like Niall Ferguson contend that Asia's financial crisis was the first tremor of the second globalization age that emerged after the Bretton Woods international monetary and financial order collapsed in the late 1970s, early 1980s; weakly implying that future crises will mimic Asia's experience (Ferguson 2008, 2010). This is implausible. Asia's crisis provides an object lesson on the broad danger posed to a wide variety of economies in various stages of economic development by overly exuberant international financial liberalization, but does not offer a blueprint about how things must unfold.[21]

4 The 2008 Financial Crisis and Subsequent Great Recession

The origins of the 2008 financial crisis can be traced to various milestones in the construction of the post World War American economy. During the 1950s, Keynesianism became orthodox at the same time momentum built to rescind sundry New Deal and wartime restrictions on free enterprise including wage-price controls, and fair trade retail pricing (Miller-Tydings Act 1937; McGuire Act 1952, both rescinded in 1975 by the Consumer Goods Price Act). Deregulation in rail, truck, and air transportation during the 1970s, ocean transport in the 1980s, natural gas and petroleum sectors 1970–2000, and telecommunications in the 1990s created opportunities for asset value speculation, soon facilitated by complementary deregulation initiatives in the financial sector. The Depository Institutions Deregulation and Monetary Control Act of 1980 (DIDMCA), and Garn-St. Germain Depository Institutions Act (1982) both increased the scope of permissible bank services, fostered mergers, facilitated collusive pricing, and relaxed accounting rules (Moody's for example is permitted to accept fees from insurers it rates). Beginning in the early nineties banks shifted from the direct loan business to packaging and marketing novel debt instruments like mortgage-backed securities (ultimately including subprime loans) to other financial institutions, and

[21] The rebirth of financial globalization, and the possibility of serial crises of increasing intensity, evoke memories of Rudolf Hilferding's Marxist classic Das Finanzkapital 1910, but the fit is inexact because Hilferding stressed the international capitalist concentration of financial power, rather than the competitive variety evident today.

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shortly thereafter President William Jefferson Clinton approved the Gramm-Leach-Bliley Act (1999) enhancing business flexibility. The Glass-Steagall Act 1933 (Banking Act of 1933) had compartmentalized banks, prohibiting those engaged in stable businesses like mortgages and consumer loans from participating in riskier stock brokerage, insurance, commercial, and industrial activities with the intention of building a firewall against speculative contagion. The repeal of provisions banning holding companies from owning other financial companies ushered in an era of financial merger mania across old divisional lines, allowing companies like Citicorp and Travelers Group to unite.

These developments, replicated across much of the globe, were all positive from the standpoint of neoclassical microeconomic theory because they enhanced competitive efficiency, with the proviso that moral hazards and speculative abuses were optimally contained by residual regulations ('liberalization'). However, if residual 'laissez-faire' (do whatever you want) regulations were inadequate, then ensuing financial crisis costs could easily outweigh deregulatory efficiency gains.

Clearly, there are legitimate grounds for conjecturing deregulatory involvement in the 2008 global financial crisis, but deregulation isn't the only suspect. The financial environment also was placed in jeopardy by revisionist Keynesianism. John Maynard Keynes was an apostate monetarist who devised and spread the counter-depressionary gospel of deficit fiscal spending in his General Theory of Employment, Interest and Money (Keynes 1936).

He contended that the Great Depression had been caused by deficient aggregate effective demand brought about by negative income effects, prolonged by a liquidity trap and claimed that full employment could be easily restored by offsetting private hoarding (speculative idle cash balances) with government expenditure programs (deficit financed state procurements and programs). Other things equal, Keynes insisted competitive markets could and would achieve perpetual full employment, if it were not for income (multiplier) effects, and this destabilizing force could be overcome without inflation through countercyclical government deficit spending and countervailing surpluses. There was no place in Keynes's universe for continuously mounting 'structural deficits', sovereign debt and/or 'managed' inflation that could feed speculation and cause financial crises.

Nonetheless, immediately after World War II, the U.S. government passed the Employment Act of 1946 prioritizing the attainment and maintenance of full employment (further codified and expanded in the Humphrey–Hawkins Full Employment Act, 1978). The law did not fix quantitative targets, but marked the Truman administration's expansion of federal powers to include macroeconomic administration, management

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and regulation, without explicit constitutional sanction, and established the Council of Economic Advisors to aid presidential policymaking, as well as the Joint Economic Committee of Congressmen and Senators to review executive policies.

These actions enabled Washington to go beyond the perimeters of Keynesian orthodoxy, whenever full employment could not be sustained with trans-cyclically balanced federal budgets. The exclusion remained moot throughout much of the 1950s until William Phillips discovered, (Phillips 1958) and Paul Samuelson popularized, the notion that full employment could only be maintained with 'excess' monetary and/or fiscal stimulation accompanied by inflationary side-effects (Phillip's Curve). Keynes, many concluded was almost right. Deficit spending was essential, but it also should be applied no matter how much inflation it generates to secure the higher goal of full employment. Full employment zealots insist that governments are 'morally' obliged to deficit spend forever, a position still widely maintained despite Milton Friedman and Edmund Phelps demonstrations that Phillips was wrong in the medium and long runs by omitting inflationary expectations.

The orthodox Keynesian straitjacket was loosened further by Walter Heller, Chairman of President John Kennedy's Council of Economic Advisors, 1961–1964, who introduced across the board tax cuts as a counter-recessionary stimulus, even though this meant creating credit not just for investment, but for consumption as well. Keynes's employment and income multiplier theory required stimulating investment as the only legitimate method for combating deficient aggregate effective demand [Works Projects Administration 1932 (WPA) providing 8 million jobs, and later investment tax credits]. He argued that new investment creates new jobs, wages, and derivatively increases consumption, whereas deficit consumption spending via diminished marginal propensities to consume merely transfers purchasing power from one recipient to another, without increasing employment. Heller's revisionism brushed Keynes's concerns aside, making it possible for politicians to claim that any deficit spending which benefited them and their constituents would stimulate aggregate economic activity and employment, including intertemporal income transfers from one consumer's pocket tomorrow to the next today.

This logic was extended by falsely contending that deficit spending and expansionary monetary policy accelerate long-term economic growth. Although, there are no grounds for claiming that structural deficits and lax monetary policy accelerate scientific and technological progress (the ultimate source of sustainable economic growth), policymakers could not resist the temptation to assert that deficit spending and inflation are indispensable for maximizing current and future prosperity. The ploy has been successful as a political tactic, making not only deficits and inflation seem

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more palatable, but also has widened the door to compounding past abuses by upping the ante whenever the economy sours. Policymakers' reflex is not to retrench, but to do more of what caused problems in the first place.

Academic macroeconomists likewise succumbed to wishful thinking, brushing aside the speculative momentum embedded in postwar institutional liberalization and fiscal indiscipline. Influenced by Robert Lucas (1972), and Phil Kydland and Edward Prescott (1982), the conventional wisdom of 2000–2008 came to hold that business cycle oscillations were primarily caused by productivity shocks that lasted until price- and wage-setters disentangled real from nominal effects. These shocks sometimes generated inflation which it was believed was best addressed with monetary policy. Accordingly, central bankers were tasked with the mission of maintaining slow and stable, Phillips Curve compatible inflation. Although, central bankers were supposed to be less concerned with real economic activity, many came to believe that full employment and two percent inflation could be sustained indefinitely by 'divine coincidence'.[22] This miracle was said to be made all the better by the discovery that real economic performance could be regulated with a single monetary instrument, the short-term interest rate. Happily, arbitrage across time meant that central bankers could control all temporal interest rates, and arbitrage across asset classes implied that the U.S. Federal Reserve could similarly influence risk adjusted rates for diverse securities. Fiscal policy, which had ruled the roost under the influence of orthodox Keynesianism from 1950 to 1980 in this way, was relegated to a subsidiary role aided by theorists' beliefs in the empirical validity of Ricardian equivalence arguments, and skepticism about lags and political priorities.[23] The financial sector likewise was given short shift, but this still left room for other kinds of non-monetary intervention. The consensus view held that automatic stabilizers like unemployment insurance should be retained to share risks in case there were any unpredictable shocks. Commercial bank credit similarly continued to be regulated, and federal deposit insurance preserved to deter bank runs, but otherwise finance was lightly supervised; especially 'shadow banks', hedge funds and derivatives.

A similar myopia blinded many to the destabilizing potential of Chinese state controlled foreign trading. As postwar free trade gained momentum, liberalizers not only grew increasingly confident that competitive commerce was globally beneficial, but also that trade expansion of any kind increased planetary welfare. Consequently, few were perturbed after

[22] The term refers to situations where stabilizing inflation is the same as stabilizing output.
[23] See De Grauwe (2010).

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China's admission to the World Trade Organization (WTO) in 2001 either by the conspicuous undervaluation of the renminbi (RMB) fixed to support export-led development, or by Beijing's ever mounting dollar reserves. It was assumed that even if China over-exported (at the expense of foreign importables jobs), this would be offset by employment gains in the exportables sector as China increased its import purchases. 'Overtrading' as theory teaches is suboptimal, but not seriously harmful to aggregate employment and has the compensatory virtue of expanding international commerce.

However, a fly spoiled the ointment. The Chinese (and some others like Brazil) chose to hold idle dollar reserve balances (hoard), instead of importing as much as they exported, compounding a 'saving glut' caused by a broad preference for relatively safe American financial assets.[24]

Beijing's dollar reserves grew from 250 billion in 2001 to 2.6 trillion in 2010. In a perfectly competitive universe this would not matter because others would borrow these unused funds, but not so in a Keynesian world where rigidities of diverse sorts transform idle cash balances into deficient aggregate effective demand, and simultaneously serve as a vehicle for financial hard asset speculation. For reasons that probably involve the Chinese Communist Party's desire to protect privileged producers in both its domestic importables and exportables sectors (implicit, stealth 'beggar-thy-neighbor' tactics), Beijing became an immense source of global real and financial sector disequilibrium, contributing both to the 2008 financial crisis and its aftermath. Chinese leaders in its state controlled foreign trade system had, and have the power to reset the renminbi exchange rate, and increase import purchases, but they chose, and are still choosing to do neither.[25]

The cornerstones of 2008 financial crisis in summary are: (i) an evolving deregulatory consensus, (ii) a mounting predilection for excess deficit spending, (iii) a penchant for imposing political mandates on the private sector like subprime mortgage, student loan lending, and excess

[24] Ben Bernanke, Carol Bertaut, Laurie Pounder DeMarco, and Steven Kamin have provided convincing evidence that foreign investors during the 2000s preferred what they perceived to be safe American financial assets, particularly US treasuries and Agency-sponsored collateralized debt obligations. Although, European foreign trade surpluses were smaller than China's, they leveraged their balance sheets, issuing large volumes of external dollar liabilities to finance purchases of US mortgage based securities, stoking the American housing bubble. See Bernanke et al. (2011).

[25] The G-20 is trying to pressure China into curtailing its dollar surpluses without conspicuous success. The parties are still quibbling over technical measurement indicators. Rosefielde (2011), 'China's Perplexing Foreign Trade Policy: "Causes, Consequences, and a Tit for Tat Solution", American Foreign Policy Interests', Steinhauser and Keller, 'Fuzzy Compromise Threatens Relevance of G-20', Yahoo!News, February 19 2011.

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automobile industry health benefits which drove GM and Chrysler into bankruptcy in 2009, (iv) waning concern for labor protection manifest in stagnant real wages and therefore flagging mass consumption demand, (shift towards promoting the security of other social elements), (v) a proclivity to prioritize full employment over inflation, (vi) the erroneous belief that structural deficits promote accelerated economic growth, (vii) the notion that government insurance guarantees, off budget unfunded obligations like social security, and mandated preferences to savings and loans banks were innocuous, despite the 160 billion dollar savings and loans debacle of the late 1980–1990s, (viii) deregulatory myopia, and activists social policy, including the encouragement of subprime loans, adjustable rate mortgages (ARMs), and tolerance of finance based credit expansion which flooded the globe with credit,[26] (ix) lax regulation of post-Bretton Woods international capital flows (early 1970), (x) the 'shareholder primacy' movement of the 1980s partnered Wall Street with CEOs to increase management's ability to enrich itself at shareholder expense, widening the gap between ownership and control first brought to light by Adolf Berle and Gardner Means in 1932,[27] (xi) an indulgent attitude toward destructive financial innovation apparent in the 1987 'program trading', and 2000–2002 'dot.com bubble' stock market crashes,[28] as well as the 1998 Long-Term Capital Management hedge fund collapse,[29] (xii) a permissive approach to financial auditing,[30] including mark to face valuation for

[26] Subprime mortgages involved loans to people likely to encounter difficulty maintaining their repayment schedules. ARMS allowed homeowners to borrow inexpensively, but obligated them to pay more if interest rates rose. Additionally, during the new millennium it was common for banks to waive down payments, enabling 'owners' to walk away from their properties when housing prices (and values) fell, leaving banks with an huge inventory of bankruptcy repossessions and distressed sales. The Clinton Administration pushed subprime lending. The value of U.S. subprime mortgages in 2007 was 1.3 trillion dollars. In an inflationary environment, driven in part by people borrowing from their home's inflationary premium, home buying was transformed into a speculative game. The ratio of global liquidity to global GDP quadrupled 1980-2007; doubling 2000–2007. Cross border capital flows dectupled 1990–2007 from 1.1 to 11.2 trillion dollars. Derivatives rose from virtually zero in 1990 to 684 trillion dollars in 2007. American nonfinancial debt outpaced GDP growth since 2007 by 8 trillion dollars. See Mills (2009), p. 51.

[27] Berle and Means (1932), The Modern Corporations and Private Property.

[28] The dot.com bubble began shortly after Federal Reserve Chair Alan Greenspan's 'irrational exuberance' speech on December 5 1996. For proof that dot.com stocks were grossly overvalued see Delong and Magin (2006). The Nasdaq composite index peaked at 5132.52 on March 10 2000 and bottomed at 1108.49 on October 10 2002. The Enron accounting scam, tied to energy deregulation and lax accounting by Arthur Anderson also contributed to the slaughter.

[29] Nobel Prize laureate Myron Scholes and Robert Merton famous for devising a new method for valuing derivatives were members of LTCMs board of directors.

[30] Richard Bowen III testified to the Financial Crisis Inquiry Commission that mortgage underwriting standards collapsed in the final years of the US housing bubble

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illiquid securities, (xiii) the creation of a one-way-street, too big to fail mentality that transformed prudent business activity into a venal speculative game on Wall Street, main street and in Washington, (xiv) the 2001 Wall Street stock crash which shifted speculative exuberance from stocks to hard assets (commodities, land, natural resources, precious metals, art, antiques, jewelry), and paved the way for the subordination of individual stock market investment to institutional speculation,[31] (xv) credit easing in the wake of the dot.com bust, orchestrated by the Federal Reserve which started a consumer credit binge, reflected in high consumption and low savings rates, adding fuel to the inflationary fires, (xvi) 9/11 and the Iraq war which swelled America's federal budget deficit and triggered a petro bubble (and broad based commodity inflation), (xvii) an epochal surge in global economic growth led by Brazil, India, Russia, and China (BRICs) wrought by technology transfer, outsourcing and foreign direct investment, which induced a wave of speculative euphoria, (xviii) Chinese stealth 'beggar-thy-neighbor' renminbi undervaluation and dollar reserve hoarding, reflected in Chinese under importing, a burgeoning American current account deficit and an overseas 'savings glut' which exacerbated inflationary pressures, raised prices for American treasuries and lowered interest rates, (widely mischaracterized as 'financing imports') (xix) the 2006 American housing bust which toxified mortgage and derivative financial instruments,[32] (xx) the emergence of 'institutional' bank runs, where financial and nonfinancial companies flee repurchase (repo) agreements, (xxi) rapidly mounting sovereign debt in Iceland, several European Union

(2006–2007). Sixty percent of mortgages purchased by Citicorp from some 1600 mortgage companies were defective. Clayton Holdings reported in parallel testimony that only 54%of mortgage loans met their originators' underwriting standards.

[31] Jack Boogle, Founder of Vanguard Group privately estimated that 40 trillion of the 41 trillion traded on world stock exchanges in 2009 year is speculative. The institutional share of American stock market investment has risen in the last two decades from 8% to 70%.

[32] American housing prices peaked in early 2005 and the Case–Shiller home price index began falling in 2006. Prices plunged 34% thereafter, bottoming in 2009, and are expected to continue declining in 2011 despite more than a trillion dollars of government support. On 24 December 2009 the Treasury Department pledged unlimited support for the next 3 years to Fannie Mae and Freddie Mac, despite 400 billion dollars in losses. The bubble was predicted by Robert Shiller in 2000. See Shiller (2000), Irrational Exuberance and Shiller (2008), The Subprime Solution: How Today's the Global Financial Crisis Happened, and What to Do About It. As early as 1997, Federal Reserve Chairman Alan Greenspan fought to keep derivates unregulated, a goal codified in the Commodity Futures Modernization Act of 2000. Derivative like credit default swaps (CDS) were used to hedge or speculate against particular credit risks. Their volume increased 100-fold 1998–2008, with estimates of the debt ranging as high as 47 trillion dollars. Total over-the-counter derivative notional value rose to 683 trillion dollars by June 2008. Warren Buffet described the phenomenon as 'financial weapons of mass destruction'. *The Economist*, 18 September 2008.

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states,[33] as well as similarly onerous debt obligations in California and Illinois, (xxii) a naive faith in 'divine coincidence', (xxiii) a colossal regulatory blunder in imposing 'mark to market' valuation (Fair Accounting Standard:FAS 157) of illiquid assets from November 15 2007,[34] (xxiv) increased separation of ownership from corporate control enabling top executives to excessively compensate themselves, including golden parachute perks. CEOs were institutionally encouraged to gamble with shareholders' money at negligible personal risk (Bogle 2011: p. 488). The 2008 global financial crisis thus was not just a garden variety White Swan business cyclical event. It was a long time coming, and prospects for a repetition depend on whether underlying structural disequilibria, including political indiscipline are redressed.[35]

5 The Shock Wave

The defining event of the 2008 global financial crisis was a 'hemorrhagic stroke'; a paralytic implosion of the loanable funds market that seemingly

[33] Debt obligations issued by nation states are called sovereign debt. Superficially, it might be supposed that sovereign bonds are more secure than their corporate equivalents, but the reverse often is the case because under the doctrine of sovereign immunity, countries cannot be forced to honor their obligations. Creditors only recourse is to passively accept rescheduling, interest reductions or even repudiation. See Eaton and Fernandez (1995) 'Sovereign Debt', in Grossman and Rogoff, eds., *Handbook of International Economics*, Vol. III.. Sovereign debt initially played a subsidiary role in the 2008 financial crisis. The collapse of Iceland's main banks, and 77% stock plunge in September 2008, prompted rating agencies to drastically cut Iceland's sovereign debt rating from A+ to BBB−. The IMF arranged a rescue package 19 November 2008, but the cat was out of the bag. Suddenly, investors became aware that the global financial crisis's scope might be much wider than earlier supposed, raising the specter of a worldwide financial collapse that was not reversed until March 2009. Nonetheless, sovereign debt fears reemerged in 2010 due to credit rating reductions for Greek, Irish, Portuguese, and Spanish sovereign debt that forced an EU to intervene in defense of these members. The rescue involved loans for conditionality, where credit impaired sovereigns were compelled to pledge the adoption of austerity measures reducing their 'structural deficits'. The problem which could easily expand to include Italy, and others, does not appear to jeopardize the international financial system immediately, but is a bad omen for the future. Additionally, many worry that if rating cuts contingent on budgetary debt reductions do not cease, it could force the European Union to abandon the Euro as a common currency, and even result in the EU's dissolution.

[34] FDIC chairman William Issac places much of the blame for the subprime mortgage crisis on the SEC for its fair-value accounting rules, misapplied in times of crisis. The Emergency Stabilization Act of 2008, signed 7 October suspended mark to market asset pricing during crises. The new regulation is FAS 157-d.

[35] Morici (2010) 'Down Grade US Treasury's to Junk'. Peter Morici contends that Congress and the White House made no comprise whatsoever in extending and expanding the Bush tax cuts, including a temporary 33% cut in poor and middle class social security taxes, ballooning the federal deficit to 1.5 trillion dollars in 2011; to say nothing of off budget deficits ten times as large.

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brought the global monetary and credit system to the brink of Armageddon. The September 2008 emergency was caused by the terrifying realization that major financial institutions, especially those connected with hedge funds could not cover their current obligations either with asset sales or short-term bank credit because confidence had been lost in the value of their assets, and short-term lending suddenly ceased. People everywhere were panicked at the prospect of cascading financial bankruptcies, where the securities of failed companies contaminated the value of other assets, triggering margin calls, shuttered credit access, lost savings, bank runs, stock market crashes, liquidity crises, universal insolvency, economic collapse, and global ruination. All crises are ominous, but this one seemed as if it just might degenerate into a Black Swan debacle, equal to or greater than the Great Depression of 1929. After all, the US Treasury and Federal Reserve Bank had reassured the public that the forced sale of the 'risk management' investment banking firm Bear Stearns to JP Morgan Chase on 24 March 2008 for 5.8% of its prior high value had fully solved the subprime loan, mortgage, and derivative securitization threat, but subsequent events revealed that Bear Stearns was just the tip of a potentially Titanic sinking iceberg, with American and European banking losses 2007–2010 forecast by the International Monetary Fund to reach 1 trillion, and 1.6 trillion dollars respectively.[36] An additional 4 to 5 trillion dollars are expected to be lost through 2011, and although the Dow Jones Industrial Average fully recovered from the September 2008 highs by December 2010, 42% of its value was wiped out at the stock market crash's trough.[37]

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[36] Bear Stearns, founded in 1923 had survived the 1929 Wall Street crash, and achieved celebrity status in the new millennium because of Lewis Ranieri's pioneering innovation of the mortgage backed securitization business. Its problems became public in June 2007 when the company pledged a 3.2 billion dollar collateralized loan (collateralized debt obligation: CDO) to rescue one of its hedge funds. The CDOs were thinly trade, and when Bear Stern encountered liquidity problems, Merrill Lynch seized 850 million dollars worth, but only realized 100 million in forced liquidation. During the week of 16 July 2007 Bear Stearns acknowledged that its two CDO supported hedge funds had lost nearly all their value amid a rapid decline in the subprime mortgages market. On 14 March 2008, the Federal Reserve Bank of New York agreed to grant Bear Stearns a 25 billion dollar loan collateralized by free and clear assets from Bear Stearn in order to provide liquidity for 28 days. The deal, however, was changed two days later into a forced bailout when the Federal Reserve decided that the loan would be given to Bear Stearn's shotgun bride, JP Morgan, enticed into the marriage by a 35 billion non-recourse Federal Reserve loan. The action approved by Ben Bernanke, putting public money at risk, was justified by the necessity of preventing systemic failure, and forestalling the need for further intervention.

[37] The Dow Jones Industrial Average peaked 9 October 2007 at 14 164, and bottomed March 9 at 6470. In early September 2008, it traded around 11 500, just where it stood at the end of 2010.

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The other shoe began dropping on 7 September 2008 when the Federal National Mortgage Association (Fannie Mae), and the Federal Home Loan Mortgage Corporation (Freddie Mac) (specializing in creating a secondary mortgage market) were placed into conservatorship by the Federal Housing Financing Agency after new mark to market accounting regulations (FAS 157) created havoc in the mortgage industry.[38] At the time, Fannie Mae and Freddie Mac held 12 trillion dollars worth of mortgages.[39] Three days later on 10 September 2008, the 'risk management' investment bank Lehman Brothers declared bankruptcy after having failed to find a buyer, or acquire a Federal bailout to cover a 4 billion dollar loss. Merrill Lynch finding itself in similar dire straits was sold to the Bank of America on the same day. Six days later, the Federal Reserve announced an 85 billion dollar rescue loan to the insurance giant American International Group (AIG), also heavily involved in 'risk management' securitization activities. The news ignited a wave of Wall Street short selling, prompting the SEC to suspend short selling immediately thereafter. Then on September 20 and 21, Secretary of the Treasury Henry Paulson and Federal Reserve Chairman Bernanke appealed directly to Congress for an endorsement of their 700 billion dollar emergency loan package designed to purchase massive amounts of sour mortgages from distressed institutions. Forty eight hours later, Warren Buffett bought 9% of Goldman Sachs, another 'risk management' investment bank for 5 billion dollars to prop the company up. On 24 September, Washington Mutual became America's largest bank failure ever, and was acquired by JP Morgan Chase for 1.9 billion.

These cumulating disasters, exacerbated by parallel developments in Europe and many other parts of the globe addicted to structural deficits, Phillips Curve justified inflation, financial deregulation, asset backed mortgages, derivatives, electronic trading, and hard asset speculation sent shock waves through the global financial system, including the withdrawal of hundreds of billions of dollars from money market mutual funds (an aspect of the shadow banking system), depriving corporations of an important source of short-term borrowing. The London Interbank Offered Rate (LIBOR), the reference interest rate at which banks borrow unsecured funds from other banks in the London wholesale money market soared, as did TED spreads (T Bills versus Eurodollar future contracts), spiking to 4.65% on 10 October 2008, both indicating

[38] Lending institutions were abruptly required to write their illiquid mortgage assets down to rapidly falling current values, forcing them to sell securities to raise capital, and generating a vicious downward credit spiral.

[39] Both firms were subsequently delisted from the New York stock exchange, June 2010 because their share prices fell below one dollar.

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that liquidity was being rapidly withdrawn from the world financial system. In what seemed like the blink of an eye, the global financial crisis not only triggered a wave of worldwide bankruptcies, plunging production, curtailed international trade, and mass unemployment, but morphed into a sovereign debt crisis. Countries like Iceland, Ireland, Greece, Portugal, Italy, and Spain found themselves mired in domestic and foreign debt that dampened aggregate effective demand, spawned double digit unemployment and even raised the specter of European Union dissolution (Dallago and Guglielmetti 2011).

These awesome events, together with collapsing global equity, bond and commodity markets unleashed a frenzy of advice and emergency policy intervention aimed at stemming the hemorrhaging, bolstering aggregate effective demand, and repairing regulatory lapses to restore business confidence. FAS 157-d (suspension of mark to mark financial asset pricing) broke the free fall of illiquid, mortgage backed asset valuations, offering some eventual support in resale markets. The Emergency Stabilization Relief Act bailed out system threatening bankruptcy candidates through emergency loans, and toxic asset purchases. FDIC savings deposits insurance was increased from 100 000 to 250 000 dollars per account to forestall bank runs. The SEC temporarily suspended short selling on Wall Street. The government pressured banks to postpone foreclosures invoking a voluntary foreclosure moratorium enacted in July 2008. The Federal Reserve and Treasury resorted to quantitative easing (essentially printing money) to bolster liquidity and drive short-term government interest rates toward zero, effectively subsidizing financial institutions at depositors' expense. The federal government quadrupled its budgetary deficit in accordance with Heller's neo-Keynesian aggregate demand management tactic, concentrating on unemployment and other social transfers, instead of the direct investment stimulation advocated by Keynes.[40] Committees were

[40] Alan Blinder and Mark Zandi (17 July 2010) 'How the Great Recession Was Brought to an End', the breakdown of the American 1 trillion dollar counter crisis fiscal stimulus package is divisible into two baskets: spending increases ($682 billion) and tax cuts ($383 billion). The Economic Stimulus Act of 2008 spent $170 billion. The American Recovery and Reinvestment Act of 2009 disbursed another $582 billion dollars on infrastructure ($147 billion; including $109 billion dollars of 'nontraditional' infrastructure); transfers to state and local governments ($174 billion dollars: Medicaid $87 billion dollars, education $87 billion dollars), transfers to persons ($271 billion dollars: social security $13 billion dollars, unemployment assistance $224 billion dollars, food stamps $10 billion dollars and Cobra payments $24 billion dollars). Tax cuts under the 2009 act totaled $190 billion dollars, allocated to businesses ($40 billion dollars), making work pay ($64 billion dollars), first time homebuyer tax credit ($14 billion dollars), and individuals ($72 billion dollars). Subsequently, the government also provided $55 billion dollars of extended unemployment insurance benefits. See Table 10, p. 15. More than 90% of the stimulus was targeted at bolstering aggregate effective demand through transfers and tax rebates in the post 1960s Heller fashion, rather than in direct investment

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formed to devise bank capital 'stress tests', coordinate global banking reform (Levinson 2010), improve auditing and oversight, prosecute criminal wrong doing including Ponzi schemes (Bernard Madoff),[41] and investigate regulatory reform of derivatives and electronic trading (Dodd-Frank Wall Street Reform and Consumer Protection Act, July 2010).[42] In Europe, many imperiled banks were temporarily nationalized, and a series of intra-EU austerity and rescue programs launched. In the larger global arena, the International Monetary Fund, World Bank and others provided emergency assistance, and the deep problem of Chinese state controlled trading was peckishly broached.

With the advantage of hindsight, it is evident the American government's Troubled Asset Relief Program (TARP), including the 'cash for clunkers' program, other deficit spending and quantitative easing, passive acceptance of Chinese under-importing (dollar reserve hoarding), continued indulgence of destructive speculative practices (program trading, hedge funds, and derivatives), together with regulatory reforms and confidence building initiatives did not cause a Black Swan meltdown and the subsequent hyper-depression many justifiably feared.[43] Some of these same policies may deserve credit for fostering a recovery, tepid as it is, but also can be blamed for persistent, near double digit unemployment, a resurgence of commodity, stock and foreign currency speculation, and the creation of conditions for a sovereign debt crisis of biblical proportions in

assistance (traditional infrastructure, business tax credits and first time home buyer credits) as Keynes himself recommended.

[41] Bernard Madoff, non-executive chairman of NASDAQ and founder of Bernard L. Madoff Investment Securities, LLC was sentenced to 150 years imprisonment and forfeiture of 17 billion dollars for a Ponzi scheme fraud costing investors 10–20 billion dollars, exposed by the 2008 financial crisis. Robert Stanford, Chairman of the Stanford Financial Group was charged with a similar fraud. His trial is scheduled for 2011.

[42] The Dodd–Frank Act contains 16 titles, strewn with prohibitions, rules, and rate fixing. It is difficult to render a summary judgment, but has been criticized for not addressing the too big to fail issue, and indulging political at the expense of regulatory goals.

[43] Carmen Reinhart and Kenneth Rogoff have discovered startling qualitative and quantitative parallels across a number of standard financial crisis indicators in 18 postwar banking crises. They found that banking crises were protracted (output declining on average for two years); asset prices fell steeply, with housing plunging 35% on average, and equity prices declining by 55% over 3.5 years. Unemployment rises by 7% points over four years, while output falls by 9%. Two important common denominators were reduced consumption caused by diminished wealth effects, and impaired balance sheets resistant to monetary expansion (liquidity trap). These regularities indicate that forecasts of a swift V shaped recovery after the 2008 financial crisis were never justified based on historical precedent, although, it appears that this time a double dip recession, and a Black Swan catastrophe have been averted. See Reinhart and Rogoff (2009).

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the years ahead when the globe is eventually confronted with tens of trillions of dollars of unfunded, and un-repayable obligations.[44]

At the end of the day, it should not be surprising that the institutionalized excess demand disequilibrium of the American and European macroeconomic management systems would produce some relief, even though their policies were inefficient and unjust. Financial stability is being gradually restored, and output is increasing, but the adjustment burden has been borne disproportionately by the unemployed, would be job entrants, small businesses, savers, pensioners and a myriad of random victims, while malefactors including politicians and policymakers were bailed out.[45] Moreover, the mentality and institutions which created the crisis in the first place remain firmly in command. Incredibly, the Obama administration under cover of the Frank–Dodd Act already has begun mandating a massive expansion of the very same subprime loans largely responsible for the 2006 housing crisis and the 2008 financial debacle that swiftly ensued.[46] This action and others like it will continue putting the global economy squarely at Black Swan risk until academics and policymakers prioritize financial stability over parochial, partisan, ideological and venal advantage (Wedel 2009).

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[44] The figure includes unfunded social security obligations.

[45] 'The Perfect Bailout: Fannie and Freddie Now Directly to Wall Street', Yahoo! Finance, 2 February 2011. Treasury Secretary Tim Geithner is providing Fannie Mae and Freddie Mac with as much credit as they need to purchase toxic mortgages held by banks at prices that will not produce book losses. This amounts to a stealthy taxpayer payer funded bailout, giving a green light to all parties to repeat the reckless lending that caused the 2008 financial crisis confident that they will reap the gains, and taxpayer will eat the losses.

[46] Wallison and Pinto (27 December 2010), 'How the Government is Creating another Bubble', AEI Articles and Commentary. Wallison and Pinto contend that the Dodd–Frank Act allows the administration to substitute the Federal Housing Administration (FHA) for Fannie Mae and Freddie Mac as the principal and essentially unlimited provider of subprime mortgage, at taxpayers' expense. Since the 2008 government takeover of Fannie Mae and Freddie Mac, the government-sponsored enterprises' regulator has restricted them to purchasing high quality mortgages, with affordable housing requirements mandated in 1992 relaxed. This reduces the future risk, but the good is entirely negated by shunting the old destructive practices to the FHA on the pretext of supporting the soundness of the entire mortgage industry. The gambit in the usual way, allows the administration to present a prudent face with regard to Fannie Mae and Freddie Mac, while diverting attention from the 400 billion dollar loss previously racked up by Fannie Mae and Freddie Mac, and recklessly reprising the Housing and Urban Development Administration's (HUD) prior destructive policies. Wallison, Pollock, and Pinto (20 January 2011) 'Taking the Government Out of Housing Finance: Principles for Reforming the Housing Finance Market, AEI Online. Peter Wallison, Alex Pollock and Edward Pinto report that the US government sponsored 27 million subprime and Alt-policies. To correct the situation they recommend that the government get out of the housing finance business. Government regulation should be restricted to ensuring mortgage credit quality. Assistance to low-income families should be on-budget. Fannie Mae and Freddie Mac should be privatized.

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The 2008 financial crisis also has placed macroeconomic theory in a quandary. The 'divine coincidence' is now seen for the pipedream that it was, but there is no new consensus to replace it other than the pious hope that structural deficits, loose monetary policy and better financial regulation (aggregate demand management) will foster prosperity no matter how irresponsibly politicians, policymakers, businessmen, financial institutions, special interests and speculators behave. (White 2010) Worse still, there seems to be little prospect that a constructive consensus soon will emerge capable of disciplining contemporary societies for the greater good by promoting optimal efficiency, growth and economic stability. The global economy is flying blind, propelled by a disequilibrium mentality (some say herd mentality) that spells trouble ahead with scant hope for learning by doing. Most players seem to believe that contemporary monetary and fiscal management, combined with better financial regulation will work well enough, but they appear to be conflating wishful thinking with economic science.

6 Post-Crisis and Prospects

The EU similarly is suffering from protracted post-crisis adjustment distress, with one important twist. The adjustment burden has fallen asymmetrically on the PIIGS (Portugal, Ireland, Italy, Greece and Spain), threatening the viability of the Euro, and even EU survival. Labor and other factor costs escalated rapidly during the bubble years following the signing of the Maastricht Treaty (1992), accelerating after 1999 due to foreign capital inflows encouraged by the adoption of a common currency in the Eurozone. These speculative increases weren't matched by productivity gains vis-a-vis other member states, particularly Germany, making it extraordinarily difficult for PIIGS to cope with diminished post crisis aggregate effective demand. They cannot rely on the ECB (European Central Bank) to work efficiently as a lender of last recourse to floundering commercial banks. Their only residual instrument is fiscal policy, but decades of excess public spending have placed tight constraints on further debt accumulation forcing them to shoulder the quadruple burdens of high debt service, depression, mass unemployment and vanishing social services. PIIGS cannot depend on yet-to-be-developed EU financial institutions for government facilitated debt restructuring. EU government financial credits could have mitigated the sovereign debt problem. High unemployment likewise could have been ameliorated by stronger EU labor mobility, but none of these options were viable. The PIIGS consequently are compelled to resolve the disequilibrium roundabout restoring competitiveness through a painful process of factor cost reduction and productivity enhancement

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that is slow and risky. They could choose to default on their sovereign debt forcing creditors to share the burden, but might well find themselves ensnared in a vicious contractionary spiral without a fiscal antidote.[47]

Some American states like California and Illinois face similar difficulties, but the depressive effects of reduced government spending are alleviated by superior labor mobility and a more uniform distribution of factor costs and productivity across the nation. Most importantly, America has well functioning federal fiscal institutions which can redistribute income across states. The United States has hardly gotten off scot free, but the greater flexibility of its governance system has forestalled the threat of disunion.

A great deal of water has flowed under the bridge in the past two decades. There were three distinct types of financial crisis: (i) a domestic money and credit implosion, where foreign investment and hot money played no significant role (Japan), (ii) an insolvency and foreign reserves meltdown triggered by foreign hot money flight from frothy economies with fixed exchange rate regimes (developing Asian); where domestic speculative excesses were partly linked with foreign direct investment, and (iii) a worldwide debacle rooted in reckless aggregate demand management and financial deregulation by a 'partnership' of politicians, administrators, businesspersons and activists in significant part for personal gain that started in America, but spread almost instantaneously across the globe, mostly through international financial networks (except Asia where export shocks were primary). The last is the most dangerous, and most likely soon to recur because high rolling losers were compensated out of public funds,[48] self-interested aggregate

[47] The root cause of the EU's problem isn't excessive debt per se, but the ability of less productive members to run EU threatening deficits in a common currency regime, without the option of individual country currency devaluations. See Bruno Dallago and Chiara Guglielmetti, 'The EZ in the Prospect of Global Imbalances: Two Europes?' in Steven Rosefielde, Masaaki Kuboniwa and Satoshi Mizobata, eds., Two Asias: The Emerging Postcrisis Divide, Singapore: World Scientific, 2011. As we know from the theory of optimum currency areas, there are benefits and costs to currency integration. Benefits are the reduced costs of doing business. If they are large, forming currency areas leads to large increases in trade. This is not what happened in the Euro-zone after the monetary union was established. The key problem is building a consensus on how best to restore price equilibrium after asymmetric shocks, booms and slumps that disparately affect individual member states. Labor mobility (Robert Mundell), fiscal integration (Peter Kenen), a strong central bank serving as lender of last recourse, and a fiscal unit to bail out sovereign debts lubricate equilibration, but do not automatically resolve conflicting member interests. The EU sovereign debt issue is tutoring members about the trade-offs that must be made, if the monetary union is to survive.

[48] 'Why Bank of America Must be Thrilled to Pay a 3 Billion Dollar Penalty', The Atlantic, 4 January 2011. The US government provided the Bank of America with a 30 billion dollar 'back door' bailout by relieving it of all but 3 billion dollars of its liability for Fannie Mae's and Freddie Mac's likely cumulative bad mortgage losses. 'The government's restrictions on pay at bailed-out banks had little lasting impact because officials

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demand managers are unrepentant, and publics are dazed by fast talk. The least likely near term recidivists are developing nations like those in Asia which through bitter experience adopted flexible foreign exchange regimes and now maintain adequate foreign currency reserves, but over the longer term remain vulnerable to invasive moral hazard and social turmoil. Countries like China fall in the middle. On one hand, they are insulated against capital flight by stringent state controls, but on the other they are at high risk for destructive rent-seeking and turbulent domestic asset speculation. International financial laissez-faire which accompanied the second wave of globalization after the fall of the Bretton Woods system obviously has played an important part in two of the three financial crises surveyed, but is neither the only, nor the decisive aspect of the speculative equation as some have claimed.[49] The greatest menace lies elsewhere with various 'public–private partnerships' using all means fair and mostly foul to create favorable speculative financial conditions for their personal enrichment, which when combined with under regulated white hot money flows, Chinese dollar reserve hoarding and stealth protectionism in the best scenario will seriously degrade global economic performance, and in the worst culminate a Black Swan catastrophe.

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soft-pedaled some issues and did much of their work out of the public's view, a congressional (Oversight) panel says'. Obama administration pay czar Kenneth Feinberg used 'black-box' processes that provided few lessons for the private sector...The report faults Feinberg for deciding not to seek the return of $1.7 billion in banker pay that he deemed 'ill-advised'. See Daniel Wagner, 'Watchdog: Gov't pay rules had few lasting effects', Associated Press Online, 10 February 2011.

49 Stiglitz (2011) 'Contagion, Liberalization and the Optimal Structure of Globalization'. Students of political economy also may wish to observe that victimization does not adhere to a simple class, or imperial pattern. The Japanese strove to mitigate the pain for the entire nation. Losses were widely dispersed in Asia across domestic and foreign entities. Russian government insiders victimized compatriots and gullible foreigners with malice of forethought. America and Europe have tried to shunt off losses on the unemployed and powerless middle class.

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