A Political Economy of American Hegemony

Buildups, Booms, and Busts

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The Political Economy of Imbalance

> I think everybody wants to get to the bottom of why this happened. What were the failures of regulation? Was it regulatory negligence? Was it regulations were not sufficient?[1]
>
> Steny Hoyer

The fall of 2008 was momentous for the United States. Financial instability that had been simmering just beneath the crust of a deflating property bubble since the summer of 2007 erupted with full force in September. In a short span of time, the U.S. government took over Fannie Mae and Freddie Mac, the two government-sponsored entities that guaranteed half of all outstanding mortgage debt. Lehman Brothers was allowed to enter bankruptcy, Merrill Lynch was acquired by Bank of America, Washington Mutual was rendered insolvent and sold to JP Morgan, and Wells Fargo acquired Wachovia. Many of the banks that survived did so only because the federal government enacted an emergency $750 billion Toxic Asset Relief Program (TARP) that enabled rapid recapitalization, and the Federal Reserve Bank purchased mortgage-backed securities in unlimited amounts. As investors panicked in the face of the apparent meltdown of the American financial system, normally liquid credit markets froze and the crisis expanded into Europe. In all, some twenty-eight countries experienced systemic banking crises in 2008 and 2009. The financial crisis thus clearly marked the end of the credit boom that had driven the housing bubble through much of the previous five years.

[1] Quoted in Phillips (2009).

In mid-November of that same year, the U.S. and Iraqi governments signed a Status of Forces Agreement by which the United States committed to remove its combat troops from Iraqi cities by June 30, 2009 and to withdraw all U.S. forces from Iraq by the end of 2011. The U.S. ambassador to Iraq and the Iraqi foreign minister signed the agreement in mid-November, and then President George W. Bush traveled to Baghdad in December for a formal signing ceremony. The agreement thus brought to an end the largest and costliest military action that the United States had undertaken as part of the Bush administration's broader War on Terror. The occasion was marked by a December 14, 2008 press conference in Baghdad, at which President Bush was forced to duck two shoes thrown at his head by a disgruntled Iraqi. It is not much of an exaggeration to suggest that the financial crisis and the withdrawal from Iraq combined to mark a postwar low in global perceptions of American power.

And although the housing bubble that generated the financial crisis and the War on Terror traced a common trajectory and arrived at the same destination at practically the same moment, we typically assume that they traveled along parallel tracks. The housing bubble was a consequence of poor risk management practices by private financial institutions and bad regulatory policy by government agencies. To the extent that the crisis had a global dimension, it too was financial and lay in the emergence of the global savings glut at the turn of the century. The authoritative Financial Crisis Inquiry Commission (FCIC) final report, for instance, makes no mention of the War on Terror, Iraq, or Osama bin Laden (Financial Crisis Inquiry Commission 2011). Indeed, the report does not even consider whether broader macroeconomic factors could have contributed to the crisis. The causes of the financial crisis, according to the FCIC, were entirely financial. We treat the war in Iraq as well as the broader War on Terror as a national security matter that had no discernible impact on contemporaneous economic and financial developments. And though the increased military spending arising from the War on Terror may have contributed to a federal budget deficit, the primary impact of the deficit is to bequeath a larger debt to future generations and perhaps to constrain America's ability to project military power in the near term. The contemporaneous consequences of the War on Terror are entirely measurable in terms of national security.

This book argues that the War on Terror and the housing bubble ran along the same rail. The housing bubble and the financial crisis to which it gave rise emerged as a consequence of the U.S. government's decision

to pay for the War on Terror by borrowing rather than by raising taxes. The book develops this argument in the context of a broader examination of the political economy of American hegemony. The study's motivating question is straightforward: How has the military dimension of American hegemony shaped the global political economy? The question is clearly important. Military spending has consumed about 6 percent of American income, on average, each year since 1950, an amount equal to 1 to 2 percent of world income. Moreover, the defense budget has been the single largest category of U.S. government expenditures across this period, accounting for between one-quarter and one-half of all government spending. Because military spending is so large a share of total government spending, military buildups have been the single most important source of sudden, large, and persistent changes in U.S. government spending across the postwar period.

Postwar military buildups have constituted large economic events – they have increased government spending on average by roughly 2 percent of gross domestic product (GDP) for four or more consecutive years. To put this in context, consider that the American Recovery and Reinvestment Act (ARRA), enacted in February 2009 as an economic stimulus package to combat the Great Recession, increased government spending by $230 billion, or approximately 1.5 percent of GDP, in 2009 and 2010 (Congressional Budget Office 2013). The entire ARRA stimulus package, including tax cuts and expenditures after 2010, was less than 6 percent of GDP and spread out over a ten-year period. The typical postwar military buildup thus has had a proportionately larger and more sustained impact on government expenditures than the fiscal stimulus enacted to combat America's deepest postwar recession. It is quite reasonable to suppose, therefore, that the military dimension of American hegemony has had powerful economic consequences. And yet, the economic impact of America's military buildups has attracted remarkably limited attention from academics, policymakers, and the media.

The Pattern

The book asserts that the military dimension of American hegemony has repeatedly pushed a distinctive "political economy of imbalance" to the center of the global political economy. The political economy of imbalance is a cycle that has emerged each time the United States has embarked on a deficit-financed military buildup in response to an unexpected military challenge. This repeating cycle is evident in Figure 1.1,

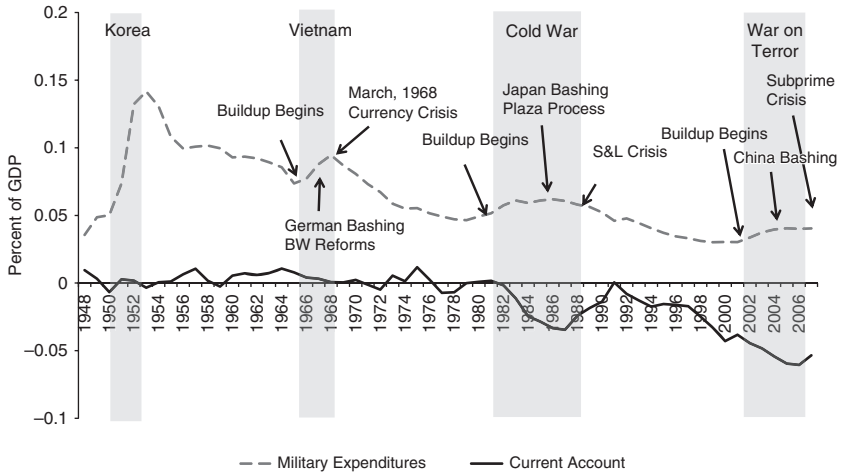

FIGURE 1.1. Military Buildups, Macroeconomic Imbalances, and Financial Crises.

which traces the evolution of the political economy of imbalance between 1950 and 2008.

Notice first that although the military's share of GDP has declined steadily across the postwar period, military spending rose sharply and persistently against this trend on four occasions. Each military buildup was triggered by a foreign event (or a sequence of foreign events in a short time span) that indicated to American policymakers that the international system was significantly more hostile to U.S. interests than policymakers had previously believed. North Korea invaded South Korea; the North Vietnamese were unexpectedly vigorous in their challenge to America's commitment to the South Vietnamese regime; the Soviets invaded Afghanistan; and al Qaeda unexpectedly hijacked commercial aircraft and crashed them into the Twin Towers and the Pentagon. Policymakers increased military spending in response to each of these foreign challenges by about 2 percent of GDP, and each military buildup persisted for three to four years.

Three of the four military buildups generated economic booms characterized by unbalanced growth. In Figure 1.1 the buildup-induced economic booms are shaded in gray and the associated economic imbalances are traced via the evolution of the current account balance. In all buildups except Korea, policymakers elected to pay for the additional military spending by borrowing rather than by raising taxes. And in all three of these deficit-financed military buildups, the resulting fiscal stimulus was

pro-cyclical, adding demand to an economy already in the midst of the expansionary phase of the business cycle. The large and persistent budget deficits thus combined with existing investment and consumption expenditures to push total national expenditures well above national income. The capital inflows that financed the increased expenditures strengthened the dollar, and the stronger dollar eroded the competitiveness of ~~the~~ manufacturing industry.

With manufacturing competitiveness falling but the economy booming, investment and workers shifted into activities that were sheltered from international trade. Real estate construction and financial services, especially mortgage financing, were important, though certainly not the sole beneficiaries of this shift. Over the course of two of the economic booms (the Vietnam War boom was distinctive in ways I describe later in this chapter), activity in real estate construction and finance rose sharply, while manufacturing sector activity declined. And like the military buildups that triggered them, these episodes of unbalanced growth persisted for three to four years.

The economic imbalances drove the politics of economic policy in the United States and in the global arena. In the United States, the over-valued dollar and rising imports generated a surge of protectionism. Manufacturing industries and organized labor pressured Congress and turned to administrative agencies to seek temporary relief from the intensified foreign competition. Congress responded to this growing pressure by becoming increasingly protectionist. Individual legislators and congressional committees threatened to enact legislation that would restrict imports from countries that the United States Trade Representative identified as unfair traders unless their governments removed the offending practices. Congress pressured the Treasury Department to label governments "currency manipulators" and to threaten to restrict their access to the U.S. market in order to compel policy changes.

In the global arena, the administration responded to the rise of protectionism in Congress by engaging America's trade partners in negotiations intended to reduce America's trade deficit. America's creditors have been reluctant participants in these talks, engaging in negotiations primarily because they fear that refusal to do so would lead to congressionally imposed trade sanctions. These talks targeted specific trade barriers believed to restrict U.S. firms' market access, they focused on undervalued exchange rates that undermined American competitiveness, and they sought changes in macroeconomic policies to encourage consumption in the surplus countries. Through these

negotiations, the U.S. government thus sought to push the burden of adjustment necessary to narrow "global imbalances" onto its creditors. America's creditors were generally reluctant to concede in the face of American pressure. They have viewed trade imbalances as a reflection of American fiscal policy rather than a result of specific industrial or exchange rate policies they pursue at home. Creditors have seen little benefit in increasing consumption at home, and most have resisted U.S. efforts to alter currency values. The political struggle over who should bear the cost of reducing global imbalances thus produced very little adjustment. As a result, the large global imbalances were allowed to persist for the length of the boom.

Each episode was brought to a close by a major financial crisis. The Vietnam War buildup led directly to an extended dollar crisis. Foreigners accumulated substantial claims against U.S. gold reserves even as total U.S. gold reserves fell. The currency crisis began once investors recognized that devaluation of the dollar against gold was inevitable, and speculative attacks against the dollar occurred whenever investors believed dollar devaluation was imminent. The two subsequent military buildups produced the savings and loan crisis and the subprime crisis. The shift of investment into real estate generated positive feedback: rising real estate prices attracted investment, and the shift of demand into the real estate sector pushed prices up further and thereby attracted additional investment. Positive feedback fueled the emergence of real estate bubbles, and over the course of the boom the banking system became increasingly exposed to overvalued real estate. The banking system suffered a systemic crisis when the bubbles deflated.

The military dimension of American hegemony has thus repeatedly pushed the political economy of imbalance to the center of the global economy. Buildups have generated economic booms; the resulting economic imbalances have sparked political conflict over trade and exchange rate policies. Over the course of the boom, financial imbalances accumulated and ultimately led to financial instability. This book argues that this political economy of imbalance has been a central characteristic of American hegemony and develops an explanation that helps us understand why it has been so.

The Argument

Why has American hegemony been characterized by this political economy of imbalance? In broad terms, I argue that the political economy

of imbalance has been pushed to the center of the global economy by the interaction between America's domestic political institutions and its international financial power. America's political institutions channel the American policy response to unexpected foreign military challenges – what I call security shocks. These institutions enable policymakers to increase military spending quickly in response to the threat, but they also greatly restrict the ability to raise taxes or reduce spending on social welfare programs. As a consequence, the U.S. government has paid for most postwar military buildups by borrowing. America's financial power enables the United States to borrow from the rest of the world in large volumes, for extended periods, at low interest rates. The willingness of the rest of the world to lend to American borrowers ensures that the budget deficits generated by America's military buildups do not crowd out domestic investment or reduce private consumption. In combination, America's political institutions and financial power transform security shocks into a persistent, pro-cyclical fiscal stimulus that fuels booms and generates economic and financial imbalances.

American Political Institutions

American political institutions divide and decentralize political authority. At the broadest level, this division of authority is a consequence of the constitutionally mandated separation of powers that establishes the executive and legislative branches as independent bodies. The constitutional separation of powers is accentuated by a functional separation of power in the Congress imparted by the members' commitment to the committee system. The decentralization is perhaps further strengthened by relatively weak party discipline in an electoral system that creates strong incentives for each individual legislator to attach greater weight to the specific interests of district residents than to the broader concerns of the party as a whole. The decentralization of authority creates a political process in which policy choices must be negotiated between autonomous actors in Congress and the executive branch, as well as between the two houses of Congress, rather than selected and implemented authoritatively by an executive with an assured legislative majority.

This decentralized political system is prone to gridlock. Because departures from the status quo require the consent of a large number of veto players, the ability to shift policy quickly requires veto players' preferences to be homogeneous (Binder 1999; Binder 2003; Klarner, Phillips, and Muckler 2012; McCubbins 1991). Yet, because veto players represent diverse interests across a large geographic area, hold different views about

the appropriate role of government in society, and adhere to distinct ideological orientations, the probability that all of them will prefer the same policy stance all the time is relatively low. Hence, the institutional structure tends to produce heterogeneous veto player preferences that impart a strong status quo bias to policy outcomes. Once politicians negotiate a policy outcome, subsequent movement away from that outcome requires substantial and convergent change of veto players' preferences.

Of course, policy does not remain locked into a single outcome forever. But when change does occur, it often occurs suddenly and shifts policy significantly. Existing research characterizes these dynamics of policy change in terms of punctuated equilibrium (Baumgartner et al. 2009; Baumgartner and Jones 1993; Jones and Baumgartner 2005; Jones et al. 2009). In a political system characterized by punctuated equilibrium an extended period of policy stability gives way to an abrupt and large policy change and then settles back into an extended period of policy stability. The underlying causal dynamics revolve around competing forces. On the one hand, changes in the social environment produce a steady accumulation of pressure for policy change. On the other hand, institutions impart friction to the policy process that restricts movement away from the status quo. Policy change occurs when the accumulated pressure is sufficient to override the institutional friction that keeps the system stable. When that threshold is crossed, the system lurches from its current state to a new one, which can be far from the status quo ante. Once policy has moved, institutional friction restricts further adjustment, and the system settles back into an extended period of policy stability (Baumgartner et al. 2009: 867).

The stickiness of policy outcomes in the American political system transforms security shocks into large and persistent budget deficits. The multiple veto player nature of the system constrains most year-to-year changes in military spending to small amounts. The need to gain agreement among a large number of actors who hold different assessments of the military threat America faces and the utility of military force as a deterrent against this threat constrain changes in defense spending. Sudden large changes of defense spending in this system are possible only in response to unexpected foreign military challenges, such as the terrorist attack of September 11. Such challenges produce an immediate convergence of veto players' preferences around the need for a substantially larger military. Yet, these security shocks have no impact on veto players' preferences over other dimensions of the budget. Policymakers continue to hold very different preferences over the appropriate tax rate and the

appropriate levels of social welfare spending. In the face of this heterogeneity, veto players disagree sharply about how to pay for the larger military they all agree is necessary. As a result, as previously mentioned, the United States has paid for most postwar military buildups by borrowing rather than by raising taxes.

American Financial Power

The United States can borrow rather than tax to pay for military buildups because it possesses substantial financial power. Financial power is the ability of a national economy to borrow from the rest of the world in large volumes, for an extended period, at low interest rates (Cohen 2006; Krippner 2011; see also Schwartz 2009; Strange 1989, 1998). Financial power as such inheres to the national economy as a whole. That is, financial power does not inhere solely in the ability of the *government* to borrow cheaply from the rest of the world, but lies in the ability of the economy *as a whole* to borrow cheaply from the rest of the world in large volumes and for extended periods. Thus, when we speak of American financial power, we are not speaking narrowly about the U.S. government's ability to finance a budget deficit by selling bonds to China (or Japan). Nor are we restricting our attention to monetary power; the benefits that accrue to the U.S. government from the dollar's role as the world's primary reserve currency. We are talking more broadly about the ability of all U.S. residents to sell financial assets, such as mortgage-backed securities, corporate bonds, stocks, bank deposits, as well as government bonds, to foreigners. Financial power is thus the ability to escape the "crowding out" constraint: when government borrowing increases, foreign capital rushes in to plug the gap between the increased demand for and an unchanged domestic supply of savings.

Financial power derives from the interaction between country-level attributes and the network structure of the international financial system. At the country level, "confidence" is the key factor. Confidence is fundamentally a function of credit risk and liquidity risk. Credit risk is the probability that a borrower will default. The probability of default in turn is a function of the underlying strength of the economy, which shapes the health of the corporate sector and thus the likelihood of default on corporate bonds. Default risk is a function of government reputation that shapes the probability of a sovereign default. Default risk is a function of the stability of the banking system. On all of these dimensions, the U.S. financial system scores high in absolute and relative terms: the risk of default is extremely low, as low as or lower than that of

all other countries. Liquidity risk is largely a function of the size of capital markets. Many countries offer sound investment opportunities; but most markets are relatively small. The United States, in contrast, has the largest and most active capital markets in the world. The liquidity of these markets generally enables holders of dollar-denominated assets of all kinds to liquidate their holdings quickly and at low cost. Country-level characteristics combine to make the U.S. financial system the market in which credit risk and liquidity risk are very low.

Country-level characteristics are reinforced by the network structure of the international financial system. The American financial system stands at the center of the global financial network (Oatley et al. 2013). The United States attracts financial assets in larger amounts and from more countries than any other national financial system in the world. And the difference between the United States and other countries is not linear; the United States is twice as central as the second most central system (the United Kingdom), four times as the third most central (Germany and Luxembourg), and orders of magnitude more central than the tenth most central countries. America's central location in the global financial network generates positive feedback that encourages capital to flow to the United States from the rest of the world. The extent to which the United States attracts foreign capital is a positive function of the amount of foreign capital it has attracted. The willingness of foreign investors to acquire additional dollar-denominated assets is a positive function of the volume of dollar-denominated assets foreigners hold. This dynamic contrasts sharply with the capital market dynamics that apply to other countries, where the volume of capital inflows is typically a negative function of current exposure. In a sense, then, the United States has financial power in part because it already has financial power.

One sees evidence of America's financial power in the evolution of net cross border capital flows between 1970 and 2008. Figure 1.2 traces the evolution of global imbalances, as well as the cross-national distribution of these imbalances, between 1970 and 2008. The measure of global imbalance is the sum of all national current account deficits each year as a share of world GDP. Between 1975 and 2003, global imbalances varied within a relatively narrow range, between 1 and 2 percent of world GDP. After 2003, global imbalances increased sharply, almost doubling the 1975–2003 average. The measure of the cross-national distribution of these imbalances is a Gini coefficient calculated for the ten largest national current account deficits – which account for about 70 percent of the total global imbalance – in each year. This Gini coefficient rises toward

FIGURE 1.2. The Global Distribution of Net Cross-Border Capital Flows, 1970–2007.

unity as net cross-border capital flows become heavily concentrated in a single country and falls toward zero as capital flows are more evenly distributed across the ten largest deficit countries. In contrast to total imbalances, the cross-national distribution of net capital flows has varied substantially over the period, ranging from a low of 0.3 to a high of 0.85. Hence, although total net cross-border capital flows have remained fairly stable across time (at least until 2003), the degree to which these capitals have been distributed evenly across countries or concentrated heavily in a single country has varied substantially.

Variation in the cross-national distribution of net capital flows has been driven by variation in the U.S. demand for foreign capital. Figure 1.3 plots the U.S. current account deficit – the simplest measure of U.S. demand for foreign capital – against the cross-national distribution of net capital flows over the same period. The plot clearly indicates a strong positive relationship between U.S. external imbalances and the concentration of net cross-border capital flows. When the U.S. demand for foreign capital rises, it attracts an increasing share of total net cross-border capital flows. When U.S. demand for foreign capital falls, net capital flows are more evenly distributed across the world's deficit countries. At one extreme, large U.S. current account deficits are associated with a Gini coefficient of 0.82. At the other end, small U.S. current account deficits are associated with Gini coefficients that range between 0.3 and 0.5. The magnitude

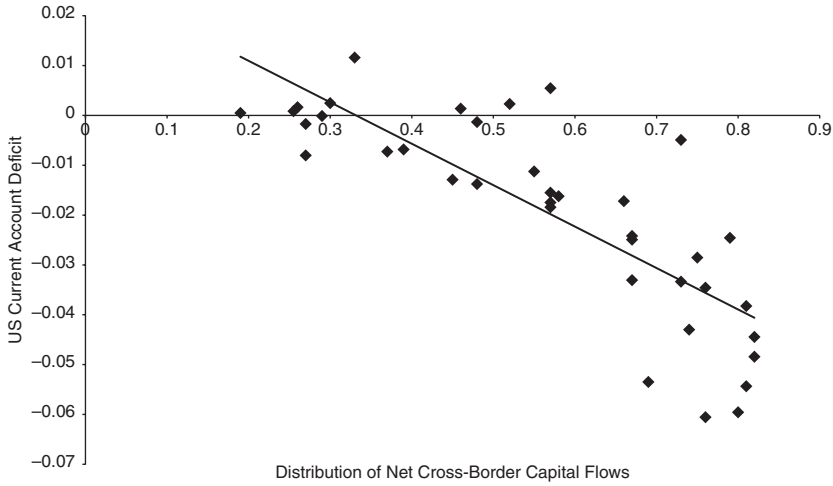

FIGURE 1.3. U.S. Imbalances and the Global Distribution of Net Cross-Border Capital Flows.

of the total global imbalance correlates with the concentration of net cross-border flows, at least since 1980 (see Figure 1.2). Global imbalances widen as net capital flows become more concentrated in the United States, and global imbalances narrow as net capital flows are more widely distributed across the system. Notice also the distinctive global environment within which the 2008 subprime crisis arose. Although the crisis was not America's first postwar banking crisis centered in real estate, it was the largest and it had a much greater global impact than the savings and loan crisis of the 1980s. Figure 1.2 suggests that this greater magnitude was a product of the convergence of two historically unprecedented trends. On the one hand, global imbalances rose to unprecedented magnitude between 1998 and 2005. On the other hand, the capital flows associated with these imbalances became concentrated in a single country, the United States, and on a single sector in that single country to an unprecedented degree as well. Thus, from 2001 to 2007, the global financial system became ever more highly vulnerable to adverse developments in American real estate.

These dynamics reflect America's financial power: when the U.S. demand for foreign capital rises, the U.S. attracts an increasing share of a growing volume of cross-border capital flows. This ensures that an increase in U.S. government borrowing doesn't crowd out investment in the American economy, but instead crowds out investment

(and decreases consumption) in some other part of the world. As Greta Krippner has noted in her research on the financialization of the American economy, American "policymakers discovered … that they lived in a world in which capital was available in a potentially limitless supply. Access to global financial markets would allow the state to defer indefinitely the difficult political choices [as it struggled] to allocate scarce capital between competing social priorities" (Krippner 2011: 101–102).

America's financial power thus allows the U.S. government to increase military spending sharply in response to foreign military challenges without needing to resolve political conflict over how to pay for it. Because the United States can import capital in large volumes at low cost for extended periods, policymakers face little diffuse market pressure to agree on deficit-reduction measures. And the ease with which the United States attracts foreign capital implies that the private sector is not facing higher borrowing costs as a result of government borrowing either. Hence, the corporate sector has little reason to pressure the government to balance the budget and the financial sector profits from intermediating the larger volume of funds flowing into the American economy. Financial power thereby enables the U.S. government to increase military spending without having to cut social welfare programs, without having to reduce private consumption, and without having to reduce private sector investment.

Capital market dynamics transform deficit-financed military buildups into asset bubbles. The classic Kindleberger-Minsky (K&M) model asserts that asset bubbles are triggered by exogenous shocks, that is, by unexpected events that originate outside the financial system (Kindleberger and Aliber 2005; Minsky 1972). Kindleberger (2005: 25–26) argues that asset bubbles "start with a 'displacement,' some exogenous, outside shock to the macroeconomic system." Many events can provide this initial displacement: a perceived productivity shock, a bumper harvest or a crop failure, and an unanticipated change in monetary policy. My focus on security shocks and the resulting fiscal policy shocks as the source of the initial displacement was anticipated by Kindleberger, who suggests that the outbreak or conclusion of wars has also sparked asset bubbles. If the shock is large and pervasive, the economic outlook and profit opportunities improve. Businesses and individuals borrow to take advantage of the heightened opportunities. Optimism in turn creates positive feedback, pulling additional investment using borrowed funds into the favored sector. Positive feedback via the financial system thus amplifies the impact

of the initial fiscal impulse, generating the asset bubble and, eventually, financial instability.

The political economy of imbalance thus emerges from the way America's political institutions and its global financial power channel the policy response to security shocks. Unexpected foreign military challenges prompt American policymakers to increase military spending substantially. America's political institutions transform these military buildups into large and persistent budget deficits by allowing policymakers to increase military spending but constraining their ability to change tax rates or social welfare spending. America's financial power enables the U.S. government to finance the resulting budget deficits without paying high interest rates or crowding out private investment or consumption. As a result, military buildups sparked by unexpected foreign challenges impart a powerful, persistent, and typically pro-cyclical fiscal stimulus to the U.S. economy that gives rise to the political economy of imbalance.

The Political Economy of Imbalance in Broader Context

Because I causally connect events that rarely find themselves connected, it is useful – and perhaps even necessary – to fit my argument into existing explanations of the subprime crisis in particular and asset bubbles and banking crises more generally. The most commonly advanced explanation of the subprime crisis focuses on the growing complexity of the American financial system and the increasingly market-oriented character of American financial regulations (see, e.g., Financial Crisis Inquiry Commission 2011; Helleiner 2011; Helleiner, Pagliari, and Zimmerman 2010; Johnson and Kwak 2010; McCarty, Poole, and Rosenthal 2013; Moschella and Tsingou 2013; Mosley and Singer 2009; Roubini and Mihm 2010; Seabrooke and Tsingou 2010; Thompson 2009; Tsingou 2010). Growing financial complexity is seen to have been a consequence of increased reliance on "new models of securitization," and in particular on the increased importance of mortgaged backed securities (MBS) and collateralized debt obligations (CDOs) (Helleiner 2011: 71).

Securitization is held to have had two pernicious consequences for financial system stability. First, securitization created a substantial gap between the firms that originate mortgages and the firms that ultimately hold them as assets in their portfolios. Because originators did not keep mortgages on their balance sheets for very long, and because they made money from origination fees, they benefited by generating a large number of new mortgages and had relatively little concern with the long-run

creditworthiness of the borrowers. Second, the bundling and re-bundling of mortgages into tradable securities made it increasingly difficult for market participants to fully evaluate the risk attached to the assets they held. Credit rating agencies made it easy to neglect this complexity by rating these securities as low-risk or investment grade securities. These factors combined to diminish the incentive and the ability of financial institutions to manage more effectively the risk that increasingly dominated their balance sheets.

Regulatory structures are viewed to have done too little to discourage these practices and to require the relevant financial institutions to hold sufficient capital to protect them in the event of an adverse shock. Many point to financial deregulation in the United States in the late 1990s as a turning point. The Financial Services Modernization Act of 1999 removed the firewall between commercial and investment banking that the Glass-Steagall Act of 1933 had inserted, thereby enabling commercial banks to participate in the securitization of mortgages and other securities. The enthusiasm for deregulation was accompanied by a belief in self-regulation. Within the banking sector, regulators encouraged banks to employ their internal value-at-risk models to calculate the capital necessary to cover their overall credit risk (Helleiner 2011: 72). Outside of the banking sector, financial institutions were encouraged to work through private associations to develop and apply common standards and practices. And where governments did take the lead to create international financial regulation, such as with the Basel Accords on bank capital, the resulting rules applied only to commercial banks, and not to the shadow banking system where the behaviors that generated the crisis were most common. Overall, therefore, the period is seen as one in which regulators placed too much faith in the ability of the large financial institutions to manage risk effectively and prudently. As former Chairman of the Federal Reserve Board Alan Greenspan told the House Committee on Oversight and Government Reform in October, 2008, "Those of us who have looked to the self-interest of lending institutions to protect shareholders' equity, myself included, are in a state of shocked disbelief" (Andrews 2008: B1).

Conventional wisdom thus holds that deepening financial complexity combined with regulatory laxity to generate the real estate bubble and ensuing banking crisis. As the Obama administration's FCIC concluded, "The captains of finance and the public stewards of our financial system ignored warnings and failed to question, understand, and manage evolving risks … Theirs was a big miss, not a stumble" (Financial Crisis Inquiry

Commission 2011: xvii). The principal shortcoming of this conventional account is that emphasis on specific characteristics of American financial practices and regulatory structures during the 2000s overlooks similarities between the subprime crisis and the larger set of real estate bubbles and banking crises that have occurred since the mid-1970s. Eighteen systemic banking crises occurred in advanced industrialized countries between 1977 and 2007 (Reinhart and Rogoff 2008a). These eighteen crises exhibit two similarities. First, each country experienced a substantial net inflow of foreign capital in the three years preceding the banking crisis; and second, these capital inflows generated a real estate bubble in the three years that preceded each crisis (Bordo and Jeanne 2002; Gerdrup 2003; Reinhart and Reinhart 2009). If we expand the sample to include emerging market countries we find that generally a 1 percent increase in net capital inflows has been associated with a 10 percent increase in real estate prices (Aizenman and Jinjarak 2009). The subprime crisis exhibits identical traits: net capital inflows increased by 3 percent of GDP, and real estate prices increased nationwide by 30 percent. The U.S. subprime crisis is fully consistent with a broader pattern, even if in magnitude it lies in the right tail of the distribution. This suggests that conventional wisdom might weigh the idiosyncratic components of the subprime crisis too heavily and accord too little weight to factors common across a larger sample of postwar banking crises.

I reverse this typical weighting, attaching greater significance to factors common across banking crises and less importance to specific elements evident only in the subprime crisis. And in doing so I attach greatest weight to the macroeconomic imbalances out of which bubbles and banking crises generally have emerged. My focus on macroeconomic imbalances is shared by an increasing number of prominent economists. Global imbalances first received significant attention in a 2005 speech by then Chairman of the Federal Reserve Board Ben Bernanke. Bernanke argued that high savings rates in East Asia (in China especially) and in oil exporting countries were creating large global imbalances (Bernanke 2005; Bernanke et al. 2011; Claessens et al. 2010; Dell'Ariccia et al. 2013; Justiniano, Primiceri, and Tambalotti 2013; Obstfeld and Rogoff 2009). This "global savings glut" hypothesis attaches primary causal importance to the quest for high-quality, low-risk, dollar-denominated assets by the high savings societies. As noted above, however, most postwar banking crises have emerged in the context of rising capital inflows, and all occurred well before the global savings glut emerged. A global savings glut explanation thus shares the same limitation as work that

emphasizes securitization and regulatory laxity – excessive emphasis on what is unique to the subprime crisis and too little attention to how it is similar to other crises. Moreover, though the global savings glut helps us understand the magnitude of the subprime crisis relative to other banking crises, we need to examine the factors that drive variation in the U.S. demand for foreign capital if we wish to explain why these savings were attracted to the United States rather than distributed more evenly across the world.

Political economists have been reluctant to embrace explanations of the subprime crisis rooted in macroeconomic imbalances, preferring instead explanations centered on characteristics of the financial system. *Lost Decade* (2011), co-written by Menzie Chinn and Jeff Frieden, along with Herman Schwartz's *Subprime Nation* (2009), are two prominent exceptions. Chinn and Frieden treat the subprime crisis as a debt-driven consumption boom that we can understand by embedding it in the context of debt-driven booms and busts that have occurred elsewhere. And they attach substantial causal significance to the Bush administration's 2001 tax cut and the resulting government budget deficits. Chinn and Frieden thus offer an explanation that is similar to the argument I develop here, one based firmly on a standard open economy approach to current account deficits, capital flows, and exchange rate movements. My argument differs from theirs in three important ways. First, I attach more importance to sudden large changes in military spending than to tax cuts. Second, whereas Chinn and Frieden stress a continuity that they see in American debt dependence since the 1980s, I argue that America's reliance on foreign debt has been cyclical rather than secular. Third, I am more explicit about how American political institutions shape the fiscal policy response to exogenous shocks.

Herman Schwartz develops an explanation of the American housing bubble centered on the structure of contemporary global trade and financial flows and the position of the American financial system within this structure. He argues that the crisis arose out of the way that American financial institutions recycled China's trade surplus. American financiers borrowed on short term at low interest from China and other high savings societies, transformed these loans into mortgage-backed securities, and then distributed these securities back to savers across the global economy. This arbitrage, as Schwartz calls it, imparted a Keynesian demand stimulus to the American economy as capital inflows fuelled a housing bubble that drove home prices higher, while home equity loans enabled home owners to realize these capital gains in order to finance

an import-intensive consumption boom. My argument shares some characteristics with Schwartz's explanation, especially the focus on the Keynesian stimulus imparted to the American economy by rising capital inflows.

My argument differs from *Subprime Nation*, however, in two important ways. First, Schwartz treats the subprime crisis as a unique event, calling the crisis "a singularity" that actors created "contingently from a specific set of antecedent conditions, tools, and opportunities" (Schwartz 2009: 21). He argues that the unique character of the crisis greatly limits our ability to use the case to develop more general law-like statements about the global political economy. In contrast, I treat the subprime crisis as but one of a larger set of crises. Consequently, I believe that commonalities across America's postwar episodes of financial instability demand a common explanation, even if the explanation constitutes a historically contingent claim about the impact of American military and financial power on the postwar global political economy rather than a "law-like" statement applicable across time and space. Second, for Schwartz the bubble arose endogenously from the global economy given the structure of the system. I argue that the asset bubble was triggered by the fiscal shock imparted by the U.S. response to the attacks of September 11.

Finally, my focus on the macroeconomic dimensions of the subprime crisis links dynamics of the global financial system to the military dimension of American hegemony. A large literature argues that military burdens have weakened the American economy (Calleo 1982, 1992, 2010; Gilpin 1981; Kennedy 1987; Layne 2012; Narizny 2007; Trubowitz 2011). The logic of crowding out stands at the center of this argument: the cost of defending the hegemonic order requires taxes or debt that displace productive investment, thereby weakening economic performance. As the hegemon's economic performance deteriorates, the need to respond to foreign challenges pushes the hegemon to tax more heavily, thus further reducing investment. My argument embeds this imperial overstretch hypothesis in an open economy context, with two important consequences. First, crowding out disappears once we incorporate global finance and American financial power. This helps us understand the lack of relationship between U.S. military spending and growth (Brooks, Ikenberry, and Wohlforth 2013; Calleo 2009, 2010; Heo 2010; see, e.g., Layne 2011; see also Layne 2012). As Brooks et al. (2013: 27) summarize, "there is scant theoretical or empirical reason to link rates of growth to either the distribution of power or the specific policies the United States pursues to sustain its leadership … No scholarly

theory or empirical findings clearly link the 2007–2009 financial collapse, great recession, and consequent ballooning of the U.S. budget deficit to the international system (at least, as scholars of international security construe it). Nor does any established research finding show a connection between any U.S. security commitment and the causes of the economic downturn." But this literature has concluded incorrectly from this research that military spending has no economic consequences. I contest this conclusion by highlighting the large and persistent imbalances that deficit-financed military buildups generate.

In summary, I argue that existing explanations place too much emphasis on idiosyncratic elements of the subprime crisis. Securitization, deregulation and regulatory laxity, and the global savings glut all play important roles in the development of the asset bubble and the resulting banking crisis. Yet, the focus on these specific details obscures the many ways in which the subprime crisis was similar to the booms, bubbles, and episodes of financial instability that the United States has experienced throughout the postwar era, and it obscures the causal dynamics that these American crises share with similar crises throughout the world. By embedding the subprime crisis in the broader political economy of America's postwar hegemony, we come to understand that episodes of financial instability have emerged as a consequence of large and persistent macroeconomic imbalances that originate in the way that American political institutions and global financial power channel the political system's response to unexpected foreign military challenges.

The Approach

My epistemological approach is perhaps best characterized as analytic eclecticism (Sil and Katzenstein 2010). Analytic eclecticism is a problem oriented, integrative, and pragmatic approach to social science. Analytic eclecticism has been developed as a partial remedy for the oft-voiced concern that contemporary political science suffers from a "flight from reality"(Shapiro 2005). In the search for general knowledge, academic research has become increasingly theory driven and methods driven as it has become increasingly specialized and compartmentalized. The result is a set of research programs composed of a relatively small number of scholars who speak to each other with ever greater precision about ever more narrowly framed questions. As modern political science has evolved in this direction, professionals have spent less and less time grappling with complex substantive contemporary problems with

the goal of generating practical as well as scholarly knowledge. Analytic eclecticism seeks to engage such real-world problems by integrating the work generated in separate research programs.

More specifically, Sil and Katzenstein (2010) advance three markers of eclectic scholarship. The first marker concerns problem selection and research purpose: "analytic eclecticism features the articulation or problems that reflect, rather than simplify, the complexity and multidimensionality of social phenomena of interest to both scholars and practitioners" (Sil and Katzenstein 2010: 19). In essence, this marker involves two considerations: first, eclectic research concentrates on important "real-world problems" rather than more narrowly specified dependent variables. This book's focus on the complex relationship between U.S. military spending and American financial crises certainly fits this marker closely. Second, eclectic research tries to deepen our understanding of these problems rather than test hypotheses drawn from or contribute to the development of a specific paradigm or research program. Thus, my purpose in this book is to deepen our understanding of the economic and financial consequences of America's postwar military buildups based on established mid-range theories rather than use this material to develop general or universally valid claims about the economic and financial consequences of military spending.

The second marker of analytical eclecticism concerns how it manages the complexity inherent in these real-world problems: analytic eclecticism pays "attention to the multiplicity, heterogeneity, and interaction of causal mechanisms and processes that generate" the phenomena of interest (Sil and Katzenstein 2010: 21). Thus, in contrast to paradigmatic research, which strives to reduce complexity in order to focus on narrowly specified causal relationships, analytic eclecticism embraces complexity. For Sil and Katzenstein, this approach entails openness to processes that cut across different levels of analysis as well as the interaction between different subsystems that are typically studied in isolation. This book pursues this goal by exploring the interaction between the causal mechanisms that produce outcomes for U.S. national security, fiscal policy, trade policy, and financial system stability. Finally, research conducted in this way is not intended to produce either general laws or ideographic narratives, but instead an explanation that identifies cause–effect relationships "that can, in principle, recur with some degree of frequency within contexts that possess certain conditions or characteristics relevant to the problem of phenomenon under investigation" (Sil and Katzenstein 2010: 22). I thus do suggest that the political economy of

American hegemony has been characterized by a set of cause–effect relationships that have recurred across the postwar era.

The third marker of analytic eclecticism is that research findings should speak to important contemporary social and/or policy problems. Policy relevance need not be the primary purpose of such work, but rather the research should construct "theories or narratives that generate 'pragmatic engagement' with the social conditions within which prevailing ideas about world politics have emerged" (Sil and Katzenstein 2010: 22). And as they elaborate, "even when it is not offering explicit policy prescriptions, eclectic scholarship should have some clear implications for some set of policy debates or salient normative concerns that enmesh leaders, public intellectuals, and other actors in a given political setting" (Ibid). On this dimension, my focus on the complex interaction between causal mechanisms that we typically study in isolation produces findings with relevance to how we conceptualize the causes of and thereby solutions to financial instability. The findings also encourage us to conceptualize the economic consequences of deficit-financed military buildups differently than we do typically.

Though this book hews to the principles of analytic eclecticism, my precise approach differs a bit from that which Sil and Katzenstein advocate. Sil and Katzenstein encourage the integration of causal mechanisms from different research paradigms which, in the context of international relations they define as realism, liberalism, and constructivism. Others, such as David Lake (2011, 2013), have encouraged scholars to replace these "isms" with a focus on the interests of actors interacting within institutions. Lake (2011: 473) argues that any complete theory of politics must specify these three elements, and moreover, that organizing our research around these concepts provides a common language that will enable us to combine or selectively integrate mid-range theories. My eclecticism shares much with Lake's; I focus on mid-range theories based on actors' interests, interactions, and institutions. And I integrate causal mechanisms across research programs that share a focus on these three components rather than across paradigms.

Though the external validity of my empirical findings is not my foremost consideration, the internal validity of these results work is. I thus employ a two-stage empirical strategy. First, although my explanation stresses the complex interaction between the politics of defense spending, fiscal policy, and capital market reactions, I test the causal mechanisms that I hypothesize are operative at each step of the causal sequence. Each chapter thus focuses on one stage of the causal process, such as the

impact of security shock on military spending, the relationship between military spending and budget deficits, and so forth. Each chapter develops the central causal mechanism from existing theoretical and empirical research and then tests the resulting causal mechanism against the record of American postwar history.

Second, I employ a mixed methods approach to test the posited relationships. A mixed methods research approach is one in which the "investigator collects and analyzes data, integrates the findings, and draws inferences using both qualitative and quantitative approaches or methods in a single study or a program of inquiry. Its central premise is that the use of quantitative and qualitative approaches in combination provides a better understanding of research problems than either approach alone" (Creswell and Clark 2010: 5). A mixed methods approach benefits from large-*n* statistical analysis, especially the ability to evaluate the magnitude, significance, robustness, and generality of a hypothesized relationship. The approach then benefits from small-*n* qualitative analysis of individual cases to evaluate more closely the causal mechanisms hypothesized to produce the relationship. Employing this approach thus permits me to have greater confidence about the internal validity of my theoretical argument than I could achieve by relying solely on either a quantitative or a qualitative approach.

I apply this to each stage in the posited causal chain. Every chapter thus provides quantitative and qualitative evidence on the central relationships of interest. I perform a variety of statistical tests to gain confidence that my hypothesized empirical relationships are both systematic – characterized the entire postwar period rather than just parts of it – and robust to the inclusion of relevant control variables. I further enhance confidence in this correlational analysis by comparing the American experience with correlational studies conducted on a larger sample. I then turn to qualitative analysis to evaluate my hypothesized causal mechanisms. Where possible and appropriate, I rely on primary documents to examine decision-making processes. Where such evidence is lacking, I rely on secondary sources and contemporary accounts. This approach provides substantial confidence that the argument I advance is a compelling characterization of the political economy of American hegemony.

A Roadmap

I develop the political economy of imbalance over the next five chapters. I organize the book around the causal mechanisms that characterize each

stage of the cycle. Each chapter articulates the theoretical logic relevant to a single stage of the political economy of imbalance and evaluates the empirical validity of the posited causal mechanism using quantitative and qualitative evidence.

Chapter 2 establishes the relationship between exogenous security shocks and changes in military spending. The chapter demonstrates first that military spending exhibits a powerful status quo bias. The overwhelming majority of year-to-year changes in military spending are very small – on the order of 1 percent or less. But on a few occasions, military spending has increased substantially – by 10 percent or more. The chapter then develops a spatial model to account for this pattern. The model asserts that uncertainty about the true military threat to American interests allows veto players to have the same objective – secure American interests – but to disagree about how much military spending is required to achieve this goal. Disagreement limits changes in military spending. Veto players' military spending preferences shift in response to security shocks. Security shocks indicate unambiguously that the threat to U.S. interests is substantially greater than previously believed, and veto players update their beliefs to incorporate this new information. As a consequence, the preferences of all veto players converge around a much larger military budget in the wake of the shock. The chapter then evaluates the theoretical model. It demonstrates first that large changes in military spending have been highly correlated with security shocks. It then presents qualitative evidence to demonstrate the validity of the hypothesized causal mechanism. In combination, the evidence strongly suggests that all postwar military buildups have occurred as reactions to exogenous security shocks. Chapter 3 establishes the budgetary consequences of postwar military buildups. The chapter first demonstrates empirically that military buildups have been the single most important cause of America's large and persistent budget deficits. The chapter then develops a spatial model to explain why military buildups generate large and persistent budget deficits. The model suggests that the budgetary impact of military buildups is a function of the heterogeneity of veto players' preferences over tax rates and social welfare spending. When preferences are homogeneous, veto players quickly increase taxes or cut social welfare spending to accommodate the increased military burden and no deficit results. When preferences are heterogeneous, political conflict makes budget adjustment difficult. The model also suggests that given heterogeneous preferences, budget deficits persist because bargaining over deficit reduction becomes fused to deeply rooted differences about the role of

the state in the economy. The chapter evaluates these expectations by reconstructing congressional–executive budget bargaining in the wake of each security shock. It demonstrates that when veto players' preferences were homogeneous, policymakers paid for military buildup with higher taxes. When preferences have been heterogeneous, conflict over how to adjust yielded a large deficit that persisted as negotiations devolved into a struggle over the appropriate role of the state in the American economy.

Chapter 4 examines the macroeconomic impact of the budget deficits caused by military buildups. Drawing on a standard two-sector open economy model, the chapter first delineates the macroeconomic impact of expansionary fiscal policy in a large open economy. The model indicates that a fiscal expansion should increase output, strengthen the currency, weaken the current account, and increase net capital inflows. In addition, the model suggests that currency appreciation should cause investment and employment to flow into the non-traded sector. The chapter then evaluates these expectations against America's postwar macroeconomic record. The empirical analysis highlights a three-stage sequence through which deficit-financed military buildups have generated unbalanced growth. In stage 1, deficit-financed military buildups impart persistent pro-cyclical stimulus to the economy, and thereby transform an ongoing economic expansion into an economic boom. In stage 2, the current account worsens and net capital inflows increase. Developments in stage 3 depend upon the exchange rate regime. Under the floating exchange rate regime in place since 1973, capital inflows have strengthened the dollar and these relative price movements have encouraged investment and employment to shift out of manufacturing and into real estate, construction, financial services, and other activities sheltered from international trade. When the dollar was pegged to gold, as it was prior to 1973, the fiscal expansion forces the central bank to intervene to support the fixed exchange rate, thereby preventing a change in relative prices but reinforcing the fiscal expansion.

Chapter 5 explores the domestic political response to the macroeconomic imbalances generated by deficit-financed military buildups. The chapter argues that these imbalances spark a rise of protectionism centered in Congress and bargaining over adjustment with surplus economies. Protectionism arises because of the impact of the over-valued dollar on the international competitiveness of American manufacturing. Manufactured goods producers react to their declining fortunes by pressuring Congress for higher tariffs, administrative barriers, and exchange rate changes. The congressional response to private industry pressure

eventually prompts the White House to embark on negotiations with the large surplus economies. Through these negotiations, American policymakers leverage foreign dependence on American economic and military power to push some of the costs of current account adjustment onto the surplus states via changes in their trade barriers, currency values, and macroeconomic policies.

Chapter 6 examines the financial consequences of large and persistent imbalances. The chapter argues that the precise form of the financial consequences have been conditioned by the exchange rate regime in place during the buildup. Under the floating rate regime in place since 1973, sustained imbalances have generated real estate bubbles and banking crises: the savings and loan crisis of 1988 and the subprime crisis of 2008. Under a fixed exchange rate, imbalances produced an extended dollar crisis. In addition, the chapter presents evidence to demonstrate that these American crises traced the paths of banking and currency crises elsewhere in the global economy, and that the United States has experienced these crises only in the context of buildup-induced booms.

Chapter 7 considers what the research reported here implies for post-crisis and postwar American policy. I argue that current policy relies too narrowly on new financial regulations to try to prevent future crises, and relies too heavily on retrenchment to rejuvenate American power. Instead, reducing the likelihood of future crises and restoring American global influence requires transition to a strategy of "responsible global engagement" – an engagement that relies less on military power, and pays for the military power it does use out of current income.

Conclusion

The military dimension of American hegemony has pushed the political economy of imbalance to the center of the global economy. Military buildups have triggered economic booms. Booms have given rise to large and persistent macroeconomic imbalances and price distortions. Financing this unbalanced growth for extended periods has led to accumulating financial fragilities that ultimately produced major episodes of financial instability. This dynamic has been a product of how America's political institutions and its financial power have shaped the policy response to security shocks. The War on Terror, the housing bubble, and the subprime crisis were the most recent manifestations of this broader pattern of America's postwar hegemony.

These buildups, booms, imbalances, and busts have structured the evolution of global political economy in ways that are not widely appreciated. The economic booms generated by U.S. efforts to extend and defend the liberal international order have provided (and quite unintentionally so) the macroeconomic foundation upon which emerging market governments have built their export-oriented strategies. Large trade surpluses must be offset by large deficits, and U.S. trade deficits have always been largest in the midst of buildup-induced booms. But by providing this foundation, the United States has unintentionally created an international economy in which global prosperity has become dependent on developments in the American economy. As a result, the global imbalances that emerge within this system generate the political dynamics that constitute the greatest threat to the liberal economic order: a nibbling protectionism in the United States as global imbalances develop, more fundamental challenges to the liberal economic order in the wake of financial crises, and political rancor among America's allies and creditors as they battle to distribute the costs of stabilizing the system.

6

The Financial Consequences of America's Postwar Booms

> The tendency to transform doing well into a speculative investment boom is the basic instability in a capitalist economy.
>
> Hyman Minsky[1]

Postwar economic booms triggered by military buildups have been the underlying cause of every major episode of financial and monetary instability the United States has experienced since World War II. The United States has suffered two major system-wide banking crises since 1945. The first struck hardest in 1988. Yet, the crisis, which was centered in savings and loan (S&L) institutions, evolved over a longer period. Between 1985 and 1992 approximately half of the existing S&Ls – more than 1,500 in number – were closed due to insolvency. At the time, the S&L crisis was the largest systemic banking crisis to occur in the American economy since the Great Depression. The second systemic banking crisis occurred in 2008. In this episode, five of the largest U.S. investment banks were closed or restructured, commercial banks that collectively held more than 15 percent of all commercial bank assets failed, and the major U.S. banking groups that didn't fail survived only by virtue of a massive injection of public funds. The United States has also suffered one episode of monetary instability. Beginning in early 1968, the United States experienced a run on the dollar, characterized by speculative attacks on the dollar's peg to gold of varying intensity, that persisted through early 1973 and forced the U.S. government to end the convertibility of the dollar into gold and

[1] Minsky (1977: 24).

destroyed the international monetary system as a consequence. As is evident, each of these three episodes occurred late in the economic boom, triggered by a major military buildup.

These episodes of financial and monetary instability arose from the booms generated by deficit-financed military buildups. The two banking crises occurred as the last step in a three-stage process. In the first stage, pro-cyclical fiscal policy imparted by the military buildup and the resulting economic boom combined with extremely large capital inflows to spark a credit boom. In the second stage, the credit boom interacted with a real exchange rate appreciation to generate an asset bubble centered in real estate. Housing prices rose, investment shifted into real estate, and bank balance sheets became increasingly concentrated on assets whose values were tied directly to real estate. In the third stage, the real estate bubble deflated, weakening bank balance sheets throughout the mortgage finance industry and thereby generating a systemic banking crisis.

The speculative attack on the dollar was the product of a two-stage sequence. In the first stage, the military buildup yielded an expansionary macroeconomic policy mix that was inconsistent with the government's commitment to the dollar's fixed exchange rate. In the second stage, speculators recognized the inevitability of a devaluation given the inconsistency between policy and the peg, and liquidated their dollar-denominated holdings to avoid the anticipated loss. In short, America's postwar banking and currency crises have emerged as the financial and monetary consequences of the large and persistent macroeconomic imbalances generated by deficit-financed military buildups.

I develop this argument in the following way. I focus first on the causal link between military buildups and banking crises. To do so, I draw on existing research that has explored the causes of postwar banking crises in other industrial and emerging market economies to identify those conditions that have generated banking crises elsewhere. I then demonstrate that the conditions that generated America's two postwar banking crises match the conditions that have generated banking crises elsewhere almost exactly. The only difference is in the source of the initial shock. In the U.S. case, the initial shock comes in both instances from military buildups. I then turn my attention to currency crises. I employ first-generation models of speculative attacks to generate theoretical expectations about why the expansionary macroeconomic policy generated by the military buildup was inconsistent with the dollar's peg to gold. I then demonstrate how in practice the expansionary macroeconomic policy triggered

speculative attacks against the dollar that forced American policymakers to suspend convertibility and abandon the fixed exchange rate.

The conclusion summarizes the evidence and explains why a similar policy choice – the decision to deficit finance a military buildup rather than pay for the power from current income – generated a currency crisis in one instance and real estate bubbles and banking crises in two others. The different consequences, I argue, were a result of the different international monetary systems within which the imbalances emerged. The Vietnam War boom emerged in the context of the Bretton Woods System's fixed exchange rates and limited capital mobility, while the two subsequent booms occurred in the context of floating exchange rates and internationally mobile capital.

Banking Crises: Theoretical Considerations

Economists have embraced an event study approach to banking crises. Researchers working within this tradition first identify events – banking crises, currency crises – and then examine the behavior of macroeconomic and financial aggregates in the window that surrounds them (Claessens et al. 2013; Claessens and Kose 2013; Dell'Ariccia et al. 2013; Kaminsky and Reinhart 1999; Reinhart and Rogoff 2008a, 2008b). Although this inductive approach has yet to generate strong theory, it has produced consensus about the macroeconomic and financial conditions from which postwar banking crises across the globe have emerged. What is perhaps most striking about this work is how similar the processes are across time and space. In broad terms, this research finds that banking crises have occurred as the last of a three-stage dynamic. We look at each stage in turn.

In the first stage, large and sustained macroeconomic imbalances generate credit booms. A credit boom is a period during which credit extended to the private sector grows above its trend rate (Claessens and Kose 2013; Dell'Ariccia et al. 2013, 13; Mendoza and Terrones 2008; Terrones 2004). In the postwar era, credit booms have emerged in the context of macroeconomic environments with three dominant characteristics (see, e.g., Alesina, Campante, and Tabellini 2008; Gavin and Perrotti 1997; Kaminsky, Reinhart, and Végh 2005; Talvi and Vegh 2005). First, credit booms have emerged in the midst of ongoing and fairly robust economic expansions (Dell'Arricia et al. 2013: 13). A sustained economic expansion likely contributes to credit booms by shaping investor expectations;

a record of strong growth across multiple years encourages investors to become more optimistic about the future. Optimism about the future increases the willingness to invest in new projects, thereby increasing the demand for credit.

Second, credit booms have emerged in the context of "capital flow bonanzas." A capital flow bonanza is a sustained period of above-trend capital inflows. Researchers have identified the correlation between capital flow bonanzas and credit booms from two directions. One line of research identifies capital flow bonanzas using a threshold approach (capital inflows exceeding the 20th percentile for a given country) and then correlate these episodes with credit booms (Kaminsky and Reinhart 1999; Reinhart and Reinhart 2009). Other research has identified credit booms and then explored the behavior of capital flows in these episodes (Dell'Ariccia et al. 2013; Mendoza and Terrones 2008). Jointly, this work finds that during the typical capital flow bonanza capital inflows increase from 2.3 to 3.1 percent of gross domestic product (GDP). Bonanzas persist for between two and four years on average, with a few lasting as long as six years. Capital flow bonanzas trigger credit booms by providing funds that relax local constraints on credit growth. As a result, the capital inflows allow increasingly optimistic investors to borrow at low interest rates.

Finally, credit booms have emerged in the context of strongly pro-cyclical fiscal policy. Scholars have found that large budget deficits emerge in the context of ongoing economic expansions two or more years before the onset of a credit boom (see, e.g., Alesina, Campante, and Tabellini 2008; Gavin and Perrotti 1997; Kaminsky, Reinhart, and Végh 2005; Talvi and Vegh 2005). Rather than treat these three macroeconomic factors as independent variables, economists view them as a configuration of mutually reinforcing conditions. Under this "when it rains it pours" logic, positive feedback between growth, capital flow bonanzas, and fiscal policy accelerates and extends the economic expansion as well as the growth of credit. Robust growth attracts foreign capital that further stimulates GDP growth, while pro-cyclical fiscal policy further stimulates demand, which attracts additional capital inflows. As this positive feedback evolves over time, a credit boom emerges as increasingly optimistic investors draw on abundant capital inflows to invest, and the apparent high returns on investment induce additional capital inflows. And though this research finds that fiscal policy in industrialized countries is generally counter-cyclical, we have seen here that the specific case of U.S. fiscal policy has exhibited powerful pro-cyclical tendencies.

In the second stage, credit booms generate asset price bubbles. Asset price bubbles arise in real estate markets in particular (Bordo and Jeanne 2002; Gerdrup 2003; Reinhart and Reinhart 2009). In the eighteen industrialized countries that experienced a systemic banking crisis between 1970 and 2007, real estate prices rose by an average of 13 percent in the three years that preceded the crisis. In the five most severe crises that occurred in the industrialized world before 2008, housing prices rose by almost 20 percent in the three years before the onset of crisis. The Nordic country banking crises of the late 1980s and early 1990s followed this pattern. The Japanese banking crisis of the early 1990s followed this pattern. Research on a larger sample that incorporates middle-income countries as well as the industrialized countries suggests that a 1 percent increase of capital inflows is associated with a 10 percent increase in real estate prices (Aizenman and Jinjarak 2009). Overall, then, one sees a very strong correlation between capital inflow bonanzas, credit booms, and real estate bubbles.

Although the correlation between credit booms and real estate bubbles is robust, uncertainty surrounds the underlying causal mechanism. One mechanism that has received substantial attention is a shift in relative prices caused by real exchange rate appreciation. Reinhart and Reinhart (2009: 39) explain the logic as follows: "the pressures for the exchange rate to appreciate stem both from an increased demand for the local assets (which may or may not lead to an asset price boom or bubble) as well as from an increase in aggregate demand for both traded and non-traded goods. As long as the supply of the non-traded good is not perfectly elastic, the relative price of non-traded goods increase (i.e., a real exchange rate appreciation)" (see also, Calvo, Leiderman, and Reinhart 1993). The initial rise in real estate prices induced by the real exchange rate appreciation thus increases the supply of credit available for real estate investment, and this increased supply of credit to real estate further increases demand in that sector, pushing prices up still further (Herring and Wachter 2003). The secondary increase in real estate prices attracts additional investment, and so the cycle gathers momentum as it feeds back on itself. As the credit boom evolves, therefore, the banking system allocates an increasing share of credit to real estate and associated activities. In somewhat broader terms, investment shifts away from the less internationally competitive traded goods and toward activities in the sheltered sector where returns are rising (Terrones 2004: 154; Tornell and Westermann 2002).

In the third and final stage of the cycle, systemic banking crises occur. This trigger for banking crises differs substantially from conventional wisdom. Conventional wisdom holds that banking crises occur as a consequence of problems on the liability side of the balance sheet. In the standard bank run model, panics trigger bank runs that exhaust the bank's liquidity. Runs on individual banks have system-wide consequences as a result of interbank relationships. Thus, failure in one bank can ripple through the system and bring other banks down too. Most postwar systemic banking crises do not conform to this bank run model. Instead, postwar systemic banking crises have originated on the asset side of the balance sheet. In particular, problems have arisen when assets lose value rapidly as bubbles deflate. Such dynamics characterized the Nordic banking crises of the late 1980s, the Japanese crisis in the 1990s, as well as the crises in European banking systems in 2008 (Ireland, Iceland, Belgium, so forth). None of these episodes gave rise to widespread bank runs; instead in all instances banks experienced large-scale problems caused by their exposure to real estate loans collateralized by homes whose values were falling sharply (Claessens et al. 2013: 20).

In summary, systemic banking crises since the early 1970s, in the Organisation for Economic Co-operation and Development (OECD) and emerging markets alike, have developed out of, and dramatically amplified large and persistent macroeconomic imbalances. In the first stage, a configuration of macroeconomic conditions generates a credit boom. In particular, a credit boom emerges from the positive feedback between sustained economic growth, pro-cyclical fiscal policy, and capital flow bonanzas. In the second stage, credit booms combine with overvalued currencies to spark asset price bubbles in the real estate sector. Over the course of the boom, the banking system allocates an increasing share of credit to real estate, and bank balance sheets thus become ever more exposed to developments within property markets. In the third stage, banking crises result when real estate bubbles deflate. Falling asset prices weaken bank balance sheets generally, push many banks into insolvency, and thus give rise to a systemic banking crisis.

Postwar Credit Booms, Bubbles, and Banking Crises

America's postwar experience conforms quite closely to this more general pattern. America's macroeconomic imbalances, characterized by the configuration of robust economic growth, pro-cyclical fiscal policy imparted by military buildups, and capital flow bonanzas have generated credit

booms. Each credit boom generated an asset bubble; two centered on real estate and a third in equity markets. In the two real estate bubbles, asset price deflation precipitated a systemic banking crisis. Moreover, we see no credit booms, or real estate bubbles, or banking crises in the absence of a military buildup induced expansion. We look first at the correlation between pro-cyclical fiscal policy, growth, and capital flow bonanzas on the one hand and postwar credit booms on the other. Attention then turns to the impact of credit booms on asset prices, bank balance sheets, and banking system crises.

Macroeconomic Imbalances and Postwar Credit Booms

Like credit booms elsewhere in the world, America's postwar credit booms have emerged in the context of robust growth, pro-cyclical fiscal policy, and capital flow bonanzas. We have seen in previous chapters that postwar military buildups have imparted a persistent pro-cyclical stimulus that transformed what would likely have been typical expansions into extended economic booms. Indeed, we found that three of four postwar booms have been sustained by pro-cyclical stimulus provided by military buildups and that a deficit-financed military buildup never failed to stimulate a boom. Thus, we know already that two of the three factors that have combined to trigger credit booms elsewhere in the global economy have been jointly present in the American economy during the 1960s, 1980s, and 2000s.

The only variable lacking for the American experience is the frequency of capital flow bonanzas. The most common operational definition of a capital flow bonanza is a period in which capital inflows rise into the 20th percentile of recent country-specific history (Reinhart and Reinhart 2009). Applied to America's postwar experience, this threshold identifies two capital flow bonanzas: one that began in 1984 and ended in 1988; a second that began in 1998 and ended in 2006. In each bonanza, capital inflows increased by more than 100 percent. Capital inflows rose from almost 2 percent to almost 4 percent of GDP after 1983 and from 3 percent to almost 6 percent between 1998 and 2006. The Vietnam War boom did not generate a capital flow bonanza. This is not particularly surprising, given the tight restrictions most governments applied to cross-border capital flows in this period.

We can thus formulate expectations about when we are more and less likely to observe credit booms in the American economy. We are most likely to observe credit booms during the mid-1980s and mid-2000s. Both periods were characterized by configuration of all three

factors: pro-cyclical fiscal stimulus, robust growth, and a capital flow bonanza. We are less likely to observe a credit boom in the economic booms of the 1960s and 1990s. Both periods exhibit two of the three relevant factors: the late 1960s were characterized by robust growth and a pro-cyclical fiscal policy, but lacked the capital flow bonanza; the late 1990s combined sustained economic expansion and a large capital flow bonanza, but lacked pro-cyclical fiscal stimulus. Finally, we are unlikely to observe a credit boom in any other period of America's postwar history: there are no other extended expansions nor did the United States experience other capital flow bonanzas. We thus expect credit booms only in the mid-1980s and mid-2000s.

To evaluate these expectations, I identified postwar credit booms and plotted them against these configurations. To identify credit booms, I employed the threshold approach that has emerged as the dominant methodology (Gourinchas, Valdes, and Landerretche 2001; Mendoza and Terrones 2008). This method identifies credit booms as periods in which credit rises substantially above normal levels. Normal level is defined in terms of historical variation, with the threshold typically set at 1.75 times the standard deviation of the detrended credit cycle. To identify American credit cycles, therefore, I detrended real credit per capita using a Hodrick Prescott filter. Because the data are quarterly I followed the standard approach and set the smoothing parameter to 1600. I then calculated the standard deviation of the detrended series, using time-varying standard deviations generated across a rolling window. I used a constant base year and quarter and expanded the window over time. I then calculated the threshold for a credit boom as 1.75 times the standard deviation (Mendoza and Terrones 2008).

The results suggest quite clearly that credit booms are highly likely given the configuration of pro-cyclical fiscal policy, economic expansions, and capital flow bonanzas and less likely in the absence of this configuration. Figure 6.1 plots the cyclical component of real credit per capita between 1955 and 2008. The two shaded areas of the figure enclose the time periods characterized by the configuration of pro-cyclical stimulus, ongoing expansion, and capital flow bonanza. Two of three postwar credit booms fall inside these time periods. The largest occurred in the mid-2000s, with credit rising sharply above the threshold in 2006 and 2007. The second largest postwar credit boom occurred in the mid-1980s, with credit again rising sharply above the full sample threshold value beginning in 1985 and persisting until the end of 1986. Thus, the economic expansions and capital flow bonanzas resulting from the two military buildups that have

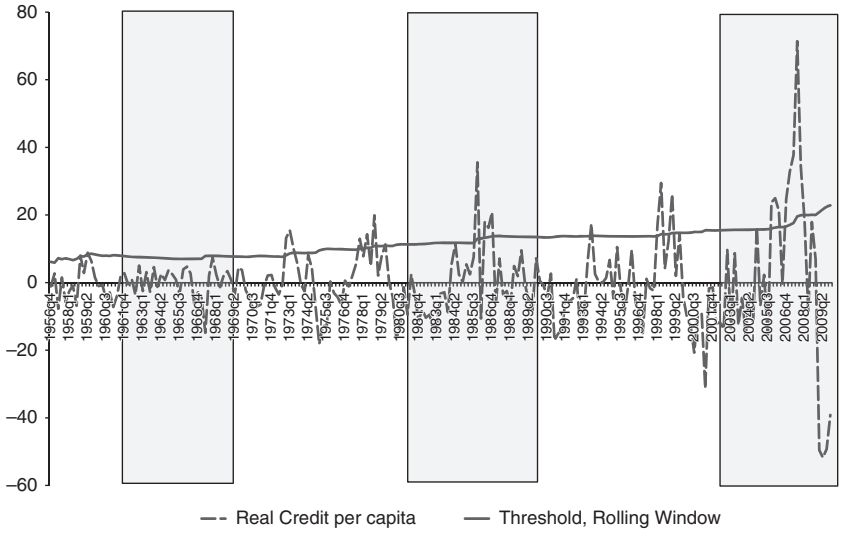

FIGURE 6.1. Postwar Credit Booms.

occurred since 1973 gave rise to large credit booms. And consistent with our expectations, the credit boom emerges in both instances in the middle rather than at the beginning of the expansions.

Credit booms rarely occur in the absence of this particular configuration of macroeconomic conditions. The economic expansion fuelled by the budget deficit resulting from the Vietnam War buildup did not generate a credit boom. Credit did expand sharply in 1967, peaking in the fourth quarter of 1967, but it fell just as sharply in the second quarter of 1968. Our framework suggests that the absence of a credit boom in this episode probably reflects the absence of a capital flow bonanza, which itself probably reflects the underdeveloped state of global capital mobility at the time. Nor does a credit boom emerge during any of the "normal" postwar expansions. Credit spiked twice during the 1970s, but in neither instance did it breach the threshold. Thus, the configuration of economic expansion, capital flow bonanza, and pro-cyclical fiscal policy correctly classifies the vast majority of America's postwar economic expansions.

Only one expansion is incorrectly classified. The economic boom of the 1990s exhibits two of the three factors typically associated with credit booms. This expansion was the longest of America's postwar booms and was accompanied by a large capital flow bonanza. Indeed, until the 2000s, the capital inflows registered in the last two years of the twentieth century were the largest of the postwar era. The episode fails

to exhibit the third condition: pro-cyclical fiscal stimulus. Indeed, during this period the U.S. government budget steadily improved and recorded a surplus at the turn of the century. In this instance, however, a perceived productivity shock substituted for pro-cyclical fiscal policy by providing the initial burst of activity that generated widely shared optimism about the economic environment. However, one must also note that this is the smallest of the three postwar credit booms. Credit rose above the threshold in two quarters but averaged just slightly above the standard deviation for the seven quarters surrounding these peaks.

We observe a strong correlation between economic expansion, capital flow bonanzas, and pro-cyclical fiscal policy on the one hand and credit booms on the other. The presence and absence of this macroeconomic environment correctly classifies ten of eleven of postwar economic expansions into credit boom and non–credit boom categories. When all three are present, credit booms emerge and credit booms rarely emerge when one or more of these conditions are absent.

Credit Booms and Asset Price Bubbles

Each of America's three postwar credit booms generated an asset price bubble. The credit boom of the late 1990s generated an equity market bubble. Centered predominantly in the high-tech sector, this stock market bubble was driven by investor perceptions of the large productivity gains generated by the Internet revolution. The technology-heavy NASDAQ index rose from 1,000 to just above 5,000 between early 1997 and March of 2000. Enthusiasm for the tech sector pulled other indices up as well; the S&P 500 rose by 94 percent in the same period. Capital inflows fueled this bubble, with foreigners responsible for as much as half of total equity purchases in this period.

In contrast, the credit booms of the 1980s and 2000 generated real estate bubbles. Between 1983 and 1989, residential real estate values rose nationally by 20 percent. Real estate bubbles in this period were regional rather than national phenomena, however. In the Northeast, for instance, residential real estate appreciated by 15.5 percent per year between 1983 and 1987. In Boston, home prices rose by 115 percent between 1983 and 1987 (Case 1991, 1994; Federal Deposit Insurance Corporation 1997). In the New York metropolitan area, housing prices nearly tripled between 1981 and 1988 (Case 1994; Federal Deposit Insurance Corporation 1997). The appreciation was less steep in the West, where it averaged between 6.5 and 7.5 percent per year (Federal Deposit Insurance Corporation 1997). Home price appreciation of the mid-1980s

pales in comparison to the magnitude and breadth of the appreciation that occurred in the 2000s. According to the Case-Shiller real home price index, housing values rose by 60 percent nationally between 2000 and 2006. Certain regions experienced even larger gains. Home prices more than doubled in Phoenix, Los Angeles, and Las Vegas between late 2001 and the middle of 2006.

And although each credit boom generated an asset bubble, no asset bubble emerged in the absence of a credit boom. We see no real estate bubbles in any other period of postwar history. According to the Case-Shiller real home price index, real estate values declined steadily between 1955 and 1970. And when real home prices rose during the second half of the 1970s, these gains were fully reversed by 1981. Nor did equity market bubbles arise outside of these eras. In the S&P 500 index, we see no persistent tendency toward atypically large year-to-year gains, which I define as three and a half times the average annual increase, outside of the three credit booms. In addition to the tech boom of the late 1990s, equity prices rose sharply between 1985 and late 1987, and again between 2003 and 2006. Thus, neither real estate nor equity market bubbles have emerged in the absence of a credit boom in America's postwar history.

America's postwar real estate bubbles emerged in a context of changing relative prices caused by an overvalued dollar. We have seen that the dollar appreciated sharply in the early 1980s and again in the late 1990s. In both instances, this relative price change caused private investment to shift into the non-traded sector. During the 1980s, residential real estate investment as a share of total investment rose from 20 percent in 1981 to 30 percent of total investment in 1986, 1987, and 1988. The real estate investment boom drove a sharp increase in new housing starts, which rose from 131,000 in 1983 to an average of 225,000 in 1986 and 1987 (Federal Deposit Insurance Corporation 1997: 340). The shift of investment into real estate was even more pronounced after 2001. Residential real estate investment rose from 25 percent of total private investment in 1997 to 37 percent of the total in 2005. Housing starts climbed from an average of 1.5 million per year during the 1990s to 2.3 million at the peak in early 2006 (U.S. Department of Commerce Census Bureau 2010). In both booms, therefore, investors responded to an over-valued dollar by shifting their attention to residential and commercial real estate.

Time series models indicate that the correlation between relative prices and investment in real estate is systematic and robust. I regressed five measures of year-to-year changes in sector-specific economic activity – manufacturing jobs, construction jobs, service jobs, finance jobs, and

TABLE 6.1. *The Real Exchange Rate and Activity in Manufacturing and Real Estate*

	Change in Manufacturing Jobs	Change in Service Jobs	Change in Finance Jobs	Change in Construction Jobs	Change in Residential Investment
Real Exchange Rate $_{t-1}$	−0.0001*** (0.00004)	0.0001** (0.00003)	0.00004*** (0.00001)	0.00002 (0.00002)	0.001*** (0.0004)
Real GDP Growth $_{t-1}$	0.11*** (0.02)	−0.04** (0.01)	−0.014** (0.01)	0.06*** (0.01)	−0.32** (0.18)
Change in Imports	−2.14e−11 (2.34e−09)				
Observations	34	34	34	34	34
Durbin–Watson	1.94		1.94	2.06	1.95
R^2	0.50	0.49	0.31	0.49	0.27
F Statistic	9.52 (0.0001)	11.68 (0.0001)	6.31 (0.02)	11.52 (0.0001)	5.05 (0.01)

real estate investment – against lagged values of the real exchange rate, real GDP growth, and a year counter to control for any possible time trend. I employed the level of the real exchange rate because my primary hypothesis is that resources shift out of manufacturing activities and into real estate when the currency is overvalued rather than in response to a positive change in the exchange rate. The results of the analysis are presented in Table 6.1.

The models suggest that an over-valued dollar has economic activity to shift out of the traded goods sector and into real estate. On the one hand, we see substantial evidence that the dollar's real exchange rate affects employment in manufacturing and services. The negative and significant coefficient in model one indicates that in periods of a strong dollar manufacturing's share of total employment falls. The positive coefficient on the real exchange rate in model two indicates that in periods of a strong dollar, the service sector's share of employment rises. The magnitude of the relationship is substantial. A one standard deviation appreciation of the dollar reduces manufacturing's share of total employment and increases the service sector's share by 1 percent of the total workforce. During the two buildup-induced booms, the dollar appreciated by roughly 30 percent, or three standard deviations, thereby shifting as much as 3 percent of the total labor force, between

three and four million workers, from manufacturing into services. We see similarly that a strong dollar increases the number of jobs in the financial sector. In addition, the analysis reveals a positive and significant relationship between the dollar and residential real estate investment's share of total fixed investment. The magnitude of the estimated effect is plausible; a 10 percent dollar appreciation is associated with a one-point increase in residential real estate's share of total investment. Finally, we fail to identify a significant direct relationship between the real exchange rate and construction jobs.

Overall, then, we find substantial evidence to support the proposition that during the 1980s and again in the 2000s, an over-valued dollar encouraged structural change of the American economy. As the dollar strengthened, jobs and investment in manufacturing declined. Rather than remaining idle, however, labor and capital that are shed by manufacturing are redeployed in service sector activities and, a significant share is drawn into real estate activity. The number of housing starts increases, the amount of investment in residential investment increases, and the number of people employed in construction and finance expand. The number of people directly affected is significant. During the 1980s, the manufacturing sector shed about two million jobs while construction and finance gained slightly more than two million jobs. During the 2000s, the manufacturing sector shed three and a half million jobs while construction and finance added just under two million jobs.

Asset Price Deflation and Banking Crises

America's postwar real estate bubbles have produced systemic banking crises. They have done so because over the course of the boom the banking system becomes increasingly exposed to developments in real estate markets. During the 1980s, residential and commercial property mortgages became an increasingly important share of the assets held by thrifts and commercial banks' total assets (Boyd and Gertler 1994). Nationally, the ratio of real estate lending to total assets rose from 18 to 27 percent between 1980 and 1990 – a 50 percent increase. In the Northeast, where the bubble was most pronounced, real estate lending increased from 25 percent of total bank assets to 51 percent of total assets in the same period (Federal Deposit Insurance Corporation 1997: 151). The same trend is evident during the 2000s. Outstanding mortgage debt more than doubled over the boom, peaking at $14.5 trillion in 2007 (Federal Reserve System 2007). Of this, a little more than half ($7.5 trillion) was held in the form of mortgage-backed securities and collateralized debt

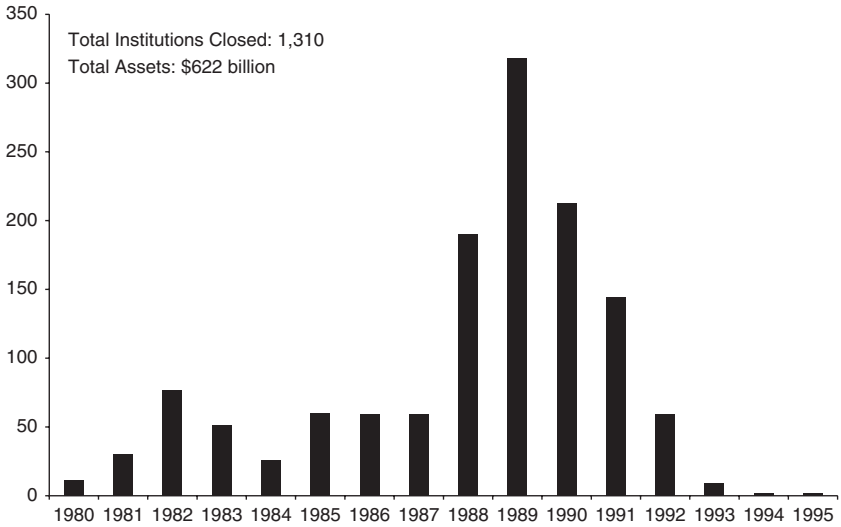

FIGURE 6.2. Failed Savings and Loan Associations.

obligations. Government agencies held about $4 trillion of this, and private institutions, especially special purpose vehicles (SPVs) held the balance. Over time, SPV balance sheets became increasingly concentrated on mortgages. In 2001, mortgages accounted for just less than half of the yearly net increase of SPV financial assets; by 2005 mortgages accounted for 99 percent of the net increase of SPV financial assets (Board of Governors of the Federal Reserve System 2012). As a result, by 2007 mortgages constituted 67 percent of total SPV financial assets – up from 40 percent in 2001.

As housing prices fell as the bubble deflated the balance sheets of financial institutions deteriorated sharply. Thrifts and commercial banks failed in record numbers between 1988 and 1992. The savings and loan industry had been struggling since the late 1970s, but failures in the early 1980s didn't approach the number of insolvencies after 1988 (Figure 6.2). Indeed, approximately half of all savings and loans institutions, with combined assets totaling $568 billion, failed between 1984 and 1997, with the largest number of failures occurring between 1988 and 1993. Commercial banks also failed in record numbers; 1,394 FDIC insured commercial banks with combined assets totaling $214 billion (about 7.5 percent of total commercial bank assets) failed or needed assistance between 1984 and 1992 (Figure 6.3).

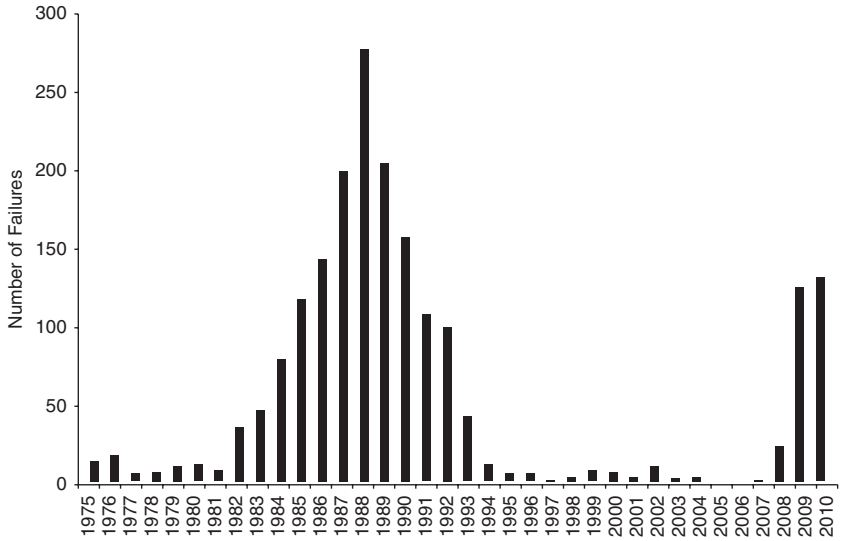

FIGURE 6.3. Failed Commercial Banks.

A wider variety of financial institutions failed in 2008–2010 as a consequence of differences in mortgage financing. Fewer commercial banks – only 181 by the end of 2010 – failed after 2008 than in the late 1980s. On average, however, each failed bank was substantially larger than its counterpart in the 1980s; consequently, the commercial banks that did fail accounted for 16 percent of all commercial bank assets – more than twice the share of the late 1980s. In addition, many non-bank mortgage lenders failed, such as American Home Mortgage, Countrywide (purchased by Bank of America), and NovaStar (no longer in mortgage lending). The five largest investment banks in the United States either failed or were merged as a consequence of their direct or indirect exposure to mortgage-backed securities. Finally, the two major government sponsored entities, Fannie Mae and Freddie Mac, were placed in conservatorship and recapitalized by the U.S. government. Thus, highly correlated overexposure to a collapsing real estate bubble triggered systemic banking crises in the United States.

No systemic banking crisis occurred outside of these two episodes. On average, five FDIC-insured banks failed each year between 1950 and 1980. In only two years did the number of bank failures exceed twice the standard deviation: thirteen banks failed in 1975 and seventeen banks failed in 1976. Combined, the assets of these failed banks amounted to only

one-quarter of 1 percent of total commercial bank assets. And although one large and systemically important bank (Continental Illinois) failed in the early 1980s as a consequence of its indirect exposure to the Texas oil boom, financial regulators managed to prevent this failure from sparking a wider crisis (Federal Deposit Insurance Corporation 1997). Nor did the collective default of Latin American debtors in the early 1980s spark a systemic banking crisis. As one FDIC study summarized: "no large U.S. banks failed [during the 1980s] because of delinquent or nonperforming LDC loans" (Federal Deposit Insurance Corporation 1997: 208).

America's postwar banking history thus conforms to the empirical model that has generated banking crises in other countries since 1973. Large and persistent macroeconomic imbalances characterized by robust growth, capital flow bonanzas, and pro-cyclical fiscal policy generated credit booms. Credit booms generated asset price bubbles centered on real estate. The sustained shift in the share of investment allocated to real estate substantially increased the banking system's correlated exposure to developments in the real estate sector. Once the bubble popped, bank balance sheets deteriorated as the value of a substantial share of their assets fell sharply.

The Vietnam War Boom and the Dollar Crisis

The Vietnam War boom would appear to be an exception to the pattern we see in the 1980s and 2000s. For in contrast to the buildups sparked by the Soviet invasion of Afghanistan and the War on Terror, the Vietnam War buildup did not spark a credit boom, an asset bubble, or a banking crisis. The Vietnam War boom isn't an exception, however, for it did generate financial instability, but this instability manifested in a different form. Rather than generate an asset bubble and a systemic banking crisis, the Vietnam War boom generated a currency crisis in which markets attacked the dollar in anticipation of an inevitable devaluation.

First generation models of balance of payments crises help us understand why the Vietnam War boom generated a dollar crisis (Flood and Garber 1984; Krugman 1979). These models argue that currency crises emerge from market reactions to government policies that are inconsistent with a pegged exchange rate. In general, an inconsistent policy is one in which the central bank finances a fiscal deficit. This policy mix is inconsistent with an exchange rate peg because of its impact on the government's foreign exchange reserves. The logic is the following. An

expansionary policy mix reduces net exports, and this external deficit is paid for with foreign exchange reserves. These transactions occur in the foreign exchange market as the monetary authority supports the peg by selling reserves and buying its currency. Government reserves are finite, however, and when they run out the government must either tighten macroeconomic policy to remove the inconsistency or allow the currency to depreciate.

Market participants remain willing to hold the currency only if they believe the government will remove the inconsistency before exhausting its reserves. If they believe the government will not remove the inconsistency, they will dump the currency. And once markets begin to lose confidence, currency sales accelerate the rate at which the government depletes its foreign exchange reserves, thereby making it more likely that the government will run out of reserves and increasing the incentive for markets to dump the currency.

This model of currency crisis thus suggests that the expansionary policy mix produced by Johnson's Vietnam War escalation widened the U.S. balance of payments deficit. Currency markets responded to the deteriorating U.S. external balance by selling the dollar whenever new information indicated that the United States would not alter fiscal and monetary policy. Indeed, this is precisely the dynamic that unfolded between 1965 and 1968.

The U.S. balance of payments position deteriorated fairly sharply between 1965 and 1968, with the deficit more than doubling from $1.5 billion to $3.5 billion. Developments in the current and capital accounts drove this evolution. The current account surplus that the United States had run throughout the postwar era (and indeed since World War I) narrowed steadily after 1965. In part this reflected rising imports in response to buoyant domestic demand and in part this reflected increased government military expenditures abroad. The capital account improved by less than the deterioration of the current account. Net long-term investment remained negative, as American firms invested in recently liberalized and increasingly integrated Europe. The United States offset net long-term capital outflows by attracting short-term capital inflows from private and public agents in Europe and Japan. The United States financed the remaining deficit with its gold reserves. Rather than settle by shipping gold or by transferring gold from U.S. official reserves to foreign countries' official reserves, the United States preferred to issue claims to its gold reserves in the form of U.S. dollars pegged to gold at $35 an ounce.

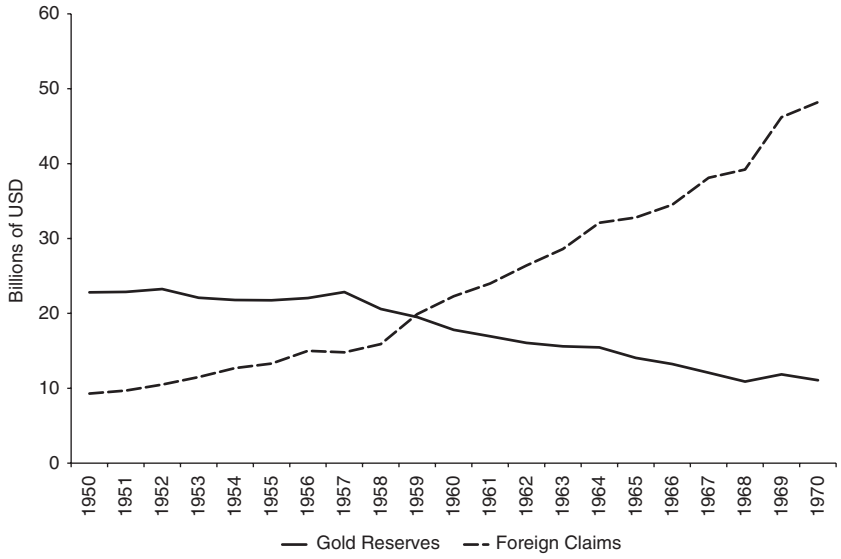

FIGURE 6.4. U.S. Foreign Liabilities and Gold Reserves.

The impact that these widening balance of payments deficits had on the relationship between U.S. gold reserves and foreign claims on this gold is clearly evident in Figure 6.4. The stock of foreign liabilities constitutes accumulated foreign claims on America's official gold reserves. The private sector held some of these claims and central banks held the rest. The stock of monetary gold constitutes the ability of the United States to satisfy these claims at the existing exchange rate. As Figure 6.4 illustrates, the gap between accumulated claims and available gold reserves grew larger as the 1960s progressed. By 1967, the United States held $12 billion of official gold reserves against $38 billion of accumulated foreign claims. Moreover, almost the entire official gold reserve was legally required as backing for the domestic currency and thus unavailable to settle foreign claims. Thus, the Johnson administration's expansionary policy mix was inconsistent with America's commitment to peg the dollar to gold at $35 an ounce.

The dollar's continued peg to gold thus came to depend on willingness of foreigners to continue to accumulate and hold dollars in spite of the obvious inconsistency between U.S. macroeconomic policy and the exchange rate peg. And as we saw in Chapter 5, much of U.S. domestic economic policy and international diplomacy in 1966 and 1967 revolved around encouraging foreigners to hold on to dollars. U.S. officials

pressured foreign governments to refrain from exchanging their accumulated dollars for gold. American policymakers sought to defend the British pound's peg to keep the dollar out of the firing line. And American policymakers promised to alter macroeconomic policy to remove or at least lessen the inconsistency.

Such measures failed to prevent a massive speculative attack in early 1968. The timing of the attack is well explained by reference to unexpected developments in Vietnam and Congress that in combination suggested the inconsistent policies would persist and perhaps even worsen. First, the Tet offensive of January and February 1968 signaled that an American victory in Vietnam remained far in the future. Second, leaks revealed that the Chairman of the Joint Chiefs of Staff had requested on February 28 that the administration mobilize as many as 205,000 additional troops. This signaled that the cost of Vietnam would increase substantially – by as much as 40 percent in terms of its budgetary impact (Beecher 1968; Collins 1996; *New York Times* 1968b). Finally, these war-related news items came in the context of the refusal by the House Ways and Means Committee to pass the tax on tourism that Johnson had requested in his package of balance of payments measures that he announced on New Year's Day. This indicated that Congress was unlikely to enact the more important 10 percent war surtax that Johnson also requested. In combination, these events created the belief that the inconsistency between macroeconomic policy and the dollar's peg to gold would worsen rather than improve in the near term (Eichengreen 2000: 27). The administration's post-crisis investigation into the crisis concluded that these leaks about unexpected difficulties in Vietnam played a key role in triggering the market's attack against the dollar. Newly appointed Secretary of Defense Clark Clifford's investigation of the leaks led to a broad perception in "high Administration circles" that they "contribut[ed] to the recent gold crisis" – a crisis that was characterized at the time as the most severe episode of financial instability since the early 1930s (*New York Times* 1968a).

The Vietnam War boom thus generated financial instability of a different kind through the identical set of macroeconomic imbalances. The expansionary macroeconomic policy mix resulting from the buildup was inconsistent with the dollar's exchange rate peg. As foreign claims against America's gold reserves rose, market participants launched a speculative attack in March of 1968 that threatened to deplete America's gold reserves. U.S. efforts to sustain the system by refusing to sell monetary gold in the private market and by pressuring surplus governments to hold

dollars merely delayed the system's inevitable collapse. Hence, when the run on the dollar resumed in 1970, American policymakers abandoned the remaining official commitment to gold convertibility.

Conclusion

Every postwar boom has generated a crisis. The specific nature of each crisis – whether they manifested as a currency or a banking crisis – varied as a function of institutional arrangements. At the broadest level, exchange rate arrangements determined whether an imbalance generated a currency or a banking crisis. The pegged exchange rate regime of the Bretton Woods system transformed imbalances into dollar overhang and a currency crisis. Under Bretton Woods' rules, the Federal Reserve was required to maintain the dollar's peg to gold. After 1965, maintaining this peg required the Fed to expand the money supply as the Vietnam War buildup produced budget deficits. However, by accommodating fiscal policy, the money supply expanded, the balance of payments deficit widened, and foreign central banks and market participants accumulated dollars. As the boom progressed, foreign claims rose relative to gold reserves, and the growing dollar overhang created the widespread expectation that the U.S. government would eventually devalue the dollar against gold. These beliefs generated speculative attacks whenever participants feared that devaluation was imminent.

With a floating currency, persistent macroeconomic imbalances have generated banking crises. Because the Federal Reserve has not been obligated to defend a particular peg the dollar, budget deficits have pushed interest rates up, attracted foreign capital, and strengthened the dollar. Investment shifted into the non-traded sector and the banking system steadily accumulated claims against real estate. Over time, and as a consequence, banking system stability became progressively more concentrated on developments in real estate markets. As market participants realized that real estate was overvalued and the mortgages they collateralized would soon trade at a steep discount from face value the bubble popped and the price correction weakened bank balance sheets.

The structural and regulatory environment influenced how banking crises unfolded as well as its global magnitude. The savings and loan crisis emerged in the context of a restrictive regulatory environment. This regulatory environment separated commercial and investment banking, thereby preventing commercial banks from underwriting and trading in securities, and tightly restricted branch and interstate banking. This

regulatory environment yielded a traditional mortgage financing system in which thrifts extended long-term mortgages that they held on their balance sheets financed largely by federally insured deposits from a large number of small savers. Within this structure, foreign exposure to the impact of the deflating real estate bubble on the balance sheets of the thrifts was quite limited. As the real estate bubble popped, bank balance sheets deteriorated sharply, but in the context of the traditional model there was limited counterparty exposure. Moreover, because deposits were insured, there were few bank runs. Indeed, the crisis was more a chronic bleeding than a rapid collapse. As Robert Litan, a Brookings Institution specialist in banking and finance, observed at the time, "we have had headline after headline on the thrift crisis, but no erosion of confidence" (Nash 1988). The S&L crisis had limited global magnitude because few foreign investors held U.S. mortgages as assets, and few foreigners had entrusted significant deposits to or made large capital investments in thrifts. Japanese institutions, for instance, invested heavily in the U.S. during the decade, but preferred securities and direct investment to bank assets (Hung, Pigott, and Rodrigues 1989; Kawai 1995).

The subprime crisis developed within a different regulatory environment. The Riegle–Neal Act of 1994 removed barriers to interstate and branch banking. Perhaps ironically, this reform reflected in part the belief that geographic diversification would allow banks to avoid the regional concentration of mortgage exposures believed to have been responsible for the savings and loan crisis. The subsequent Financial Modernization Act of 1999 removed the last vestiges of the Glass–Steagall wall separating commercial from investment banking. These regulatory changes, along with financial innovation, accelerated the transformation of mortgage financing from a geographically limited and bank-based and deposit-based model to one based on debt finance, securitization, and geographic diversification. Because the large financial institutions borrowed to purchase and hold mortgage-backed securities, declining asset prices generated substantial counterparty risk. Problems that had their origins in mortgage finance thus spread rapidly through the financial system. And because only a small portion of these bank liabilities were federally insured, falling asset values led to a dramatic and sustained run on the shadow banking system. The crisis had a large global impact because American financial institutions funded their activities in part by borrowing abroad and sold the mortgage-backed securities they created to foreign institutions. As a result, foreign institutions became highly exposed to the developments in the American real estate market. Problems that

originated in the United States thus spread quickly to foreign financial institutions.

Why didn't the imbalances of the 1980s and 2000s generate currency crises as well as banking crises? Such so-called twin crises have been quite common in the postwar era. Twenty-eight percent of banking crises since 1975 have been accompanied by currency crises (Laeven and Valencia; see also Kaminsky and Reinhart 1999). The absence of dollar crises in these episodes is all the more surprising given that so many very prominent observers feared that American imbalances during the 1980s and 2000s would produce dollar crises rather than banking crises. As Paul Krugman (2007b) noted, a broad consensus held that the U.S. current account deficit between 2002 and 2006 was unsustainable, and that adjustment would require dollar devaluation. The open question concerned whether adjustment would feature a soft or hard landing. Nouriel Roubini and Brad Setser predicted a hard landing, involving a large dollar depreciation, a sharp increase of interest rates, and a decline of U.S. and world growth (Roubini and Setser 2005a). Identical concerns prevailed during the mid-1980s (Krugman 1985; Marris 1985). Marris (1985: 240), for instance, predicted a hard landing: "What few seem to realize is that at some point in the near future, people's *ex ante* willingness to increase their exposure in dollars is going to fall to zero and, indeed, turn negative," generating an abrupt decline of the dollar.

American imbalances did not generate twin crises for two connected reasons. First, markets (and central banks) were not financing the U.S. "current account deficit" per se; they were purchasing a variety of dollar-denominated assets. Hence, the sustainability of the U.S. imbalance revolved around the value of the assets that investors purchased. This was quite different from the situation that prevailed during the late 1960s, when the official promise to convert dollars to gold at $35 an ounce provided a single focal point for investor decisions. Second, investors distinguished between different dollar-denominated assets even as the crisis broke. Here the U.S. experience differed sharply from that of other countries. When investors discovered widespread insolvencies in the Thai banking system in 1997 or the Icelandic banking system in 2008, for instance, they sold as many local currency denominated assets as they could. This economy-wide flight to safety exhausted foreign exchange reserves and thereby forced large devaluations. In contrast, market concern about the solvency of American investment banks and uncertainty about the value of mortgage-backed securities triggered a selloff and froze interbank lending. Yet, rather than dump all dollar denominated assets,

investors bought U.S. government debt securities. As a result, the dollar strengthened and U.S. interest rates fell. The role of U.S. government debt as the benchmark global safe asset thus stabilized the dollar even in the midst of a system-wide crisis of American finance. The absence of a currency crisis was thus in large part a consequence of American structural power – the central role played by U.S. government debt and American bond markets in the contemporary global financial system.

Finally, although one might argue that the correlation between buildups and bubbles that I highlight here is coincidental rather than causal, the fact that the American experience fits squarely within the more general pattern of banking and currency crises that have occurred elsewhere in the postwar era suggests otherwise. In this general pattern, capital inflow bonanzas spark a credit boom. The credit boom generates an asset bubble as new investment chases capital gains from rapid asset price appreciation. When asset prices deflate, financial institutions whose balance sheets are overly concentrated in the deflating assets are rendered insolvent. Currency crises have emerged whenever markets have perceived an inconsistency between a government's macroeconomic policy mix and its pledge to maintain a pegged exchange rate. America's postwar crises depart from these general patterns only in the specific sparks that ignite the bubbles and generate the policy inconsistencies. America's financial and monetary crises have been indirect consequences of the booms generated by America's deficit-financed military buildups.