

Flexible Exchange Rates,
Fed Behavior, and Demand Constrained
Growth in the USA

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Abstract

This paper examines Chairman Greenspan's recent claim that central bankers around the world have been operating "as if" monetary policy were constrained by gold that backs up reserves. The paper argues, instead, that central banks in flexible exchange rate regimes operate with an overnight interest rate target, which eliminates the possibility of discretionary control over bank reserves. In other words, central banks *cannot* behave as if reserves are constrained by gold. The paper will argue that fiscal policy, on the other hand, has been operated as if it faced financing constraints. For this reason, growth has been demand-constrained by austere fiscal policy. However, the perceived constraints on fiscal policy are not appropriate to a sovereign government operating with a floating currency. The paper concludes by arguing that adoption of a floating rate system from the mid 1970s (what Greenspan disparagingly calls a fiat money standard) has made it possible to operate fiscal policy without these constraints—that is, to take advantage of the possibilities offered to the issuer of a floating currency. This would include maintenance of full employment at home while enjoying the benefits of a trade deficit.

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FLEXIBLE EXCHANGE RATES, FED BEHAVIOR, AND DEMAND

CONSTRAINED GROWTH IN THE USA

The following response from Alan Greenspan's final testimony before Congress to a question about why the Fed holds gold is worth quoting at length:

Why do we hold gold? [T]he answer is ... that, over the generations, when fiat monies arose and, indeed, created the type of problems ... of the 1970s ... central bankers began to realize ... how deleterious a factor the inflation was. And, indeed, since the late '70s, central bankers generally have behaved as though we were on the gold standard. And, indeed, the extent of liquidity contraction that has occurred as a consequence of the various different efforts on the part of monetary authorities is a clear indication that we recognize that excessive creation of liquidity creates inflation which, in turn, undermines economic growth. ... So I think central banking, I believe, has learned the dangers of fiat money, and I think, as a consequence of that, we've behaved as though there are, indeed, real reserves underneath the system.

While his answer is rather convoluted, the key point is that the fiat money system tended to lead to "inadvertent" excessive liquidity creation by central banks, and so they have been behaving as if they were constrained by a gold standard. A case could be made that theories of "crowding out", of "government budget constraints", and of current account constrained growth are all based on a presumption of fixed exchange rates. However, this paper will focus a bit more narrowly on Greenspan's claim that with a "fiat money", central banks create too much liquidity, and on his claim that central banks have been fighting inflation by "contracting liquidity" as if they were on a gold standard.

I will also provide an alternative interpretation of the constraints that have been in operation in the US since the 1970s. I will make two main points:

1. the US economy suffers from chronic inadequate demand, and has rarely been subject to any significant supply constraints—whether of productive capacity or of labor;
2. and leakages have been the cause of the demand constraints.

In this light, Fed policy can be seen as a string of mistakes guided by a fundamentally flawed view. Inflation in the US does not result from excessive aggregate demand and, indeed, our worst bouts with inflation have come during periods of above-normal slack. However, Fed policy does not normally have a huge impact on the economy, and for that we should be eternally grateful given how misguided it has been. This is the major disagreement I have with many critics of the Fed. I could go even further and argue that we really do not know whether restrictive policy by the Fed actually reduces aggregate demand—and whether lower interest rates stimulate demand—but that would take us too far afield. Hence, my argument is that while monetary policy has been poorly formulated, it is fiscal policy that is primarily responsible for chronically slack demand. I will conclude that fiscal policy has been constrained “as if” it were operating in the context of fixed exchange rates.

1. Growth Constraints

Very briefly, let us examine the conventional wisdom regarding constraints on growth.

There is a general consensus among respectable economists that in the long run, only the

supply side matters. In the short run, both supply side and demand side variables matter (there was of course a flirtation with new classical economics that denied a role for demand even in the short run, but that view has lost favor). Unlike the 1960s version of Keynesian economics, fiscal policy is given a small role to play on the demand side (although government can influence the supply side, for example through its tax policy) while monetary policy is the main lever used to impact demand and hence growth. In the long run, money is neutral, but a variety of transmission avenues have been posited to allow money to influence demand in the short run. The new consensus rejects a simple monetarist transmission mechanism (from reserves to monetary aggregates to spending). Rather, it is recognized that central banks operate mostly with interest rate targets, but these are supposed to affect demand directly and indirectly. Direct effects would include most prominently supposed interest elasticity of investment and some types of consumption spending (notably, on new housing). Indirect effects would include complex portfolio effects; for example, interest rate impacts on equity markets that could generate wealth effects on consumption as well as affecting investment through revisions to Tobin's "Q". Further, the central bank affects "liquidity" through purchases/sales of assets, including foreign exchange, which also affects demand.

Together, this array of tools gives the central bank a strong, albeit short run, impact on demand. When the economy grows too fast, threatening to set off inflation, the central bank is to dampen demand by raising interest rates; when it grows too slowly (causing unemployment and raising the specter of deflation), the central bank lowers rates to stimulate demand. Japan would seem to pose a conundrum for policy makers because its interest rate was pushed essentially to zero many years ago—how can policy

provide further stimulus? Happily, theorists (including several Fed officials) have argued that the Bank of Japan can still “pump liquidity” by refusing to sterilize capital flows that result from its trade surplus, and by portfolio transformations (the central bank could buy longer maturity bonds, or private debt). (Meyer 2001; Bernanke 2005) While there is much more to policy formation that follows the new monetary consensus—including Taylor Rules and Wickesellian real rates—this is not essential to our analysis here.

In sum, when Greenspan says that central bankers have been behaving as if they operated on a gold standard, and when he refers to “liquidity contraction” to fight inflationary pressures, he appears to mean that the central bank is operating to regulate demand so that it grows at a pace consistent with growth of supply. Greenspan has openly rejected both money growth rate rules and inflation targeting, opting for greater policy flexibility. When productive capacity grows rapidly—as it supposedly did in the Clinton boom—the chairman is willing to adopt “loose” policy, allowing “liquidity” and demand to grow commensurately. However, when the Fed believes that demand is outstripping supply, it raises rates to “reduce liquidity”. These short run manipulations are supposed to maintain stable growth at capacity and without inflation. Note that because monetary policy is supposed to have no impact on the supply side, all attention is focused on demand management. That the US and other countries generally have enjoyed disinflation over the past quarter century is taken as evidence that the Fed and other central bankers have successfully managed demand to keep it within more-or-less naturally given supply constraints.

2. Empirical Evidence of US Demand Constrained Growth

Let us move on to an alternative argument that the US economy has suffered from chronic demand-constrained growth that really never threatened to exceed supply constraints. Rather than taking supply side capacity as given, it will be argued that both the supply of labor as well as its productivity are variables that are highly responsive to demand. To the extent that policy operates to constrain demand, it also operates to maintain slack in labor markets and simultaneously limits productivity growth. Further, slower economic growth also attenuates the incentive to invest and to implement more productive operational procedures—although there can be countervailing pressures, such as foreign competition. The notion of demand constrained growth is certainly not novel for Post Keynesians. Verdoon's Law proposes a positive relation between the rate of growth of output and labor productivity. (See Thirlwall 1983 and Verdoon 1980.) If demand constraints reduce investment incentives, a cumulative causation process develops in which low productivity growth affects growth, which generates continued low productivity growth. What I will argue is that growth of demand in the US has generally been too low to allow for adequate growth of both the labor force and labor productivity. I will not pursue the more difficult cumulative causation argument, nor offer direct evidence that investment in productivity-enhancing equipment has been hindered. For my purposes, it will be sufficient to decompose growth into constituent elements and examine their trends.

Per capita (inflation adjusted) GDP growth can be attributed by identity to growth of the employment rate (workers divided by population) plus growth of productivity per worker. Figure 1 shows the allocation of per capita GDP growth in the US between these two variables. In previous work, following the insights of Robert Gregory, I showed that

while per capita GDP growth was similar across OECD countries, the contributions of each of these varied considerably. (Pigeon and Wray 2002) Only the US and Canada had much growth of the employment rate—in large part due to more women coming into the labor force. Employment rates actually fell in France on a long-term trend, while they were more or less stable in all the other nations. By contrast, and as is necessarily the case, productivity growth in all these nations was very much higher than that experienced in the US and Canada from 1970 to 1995. I attributed the low growth of employment rates in the rest of the OECD on the one hand, and slow productivity growth during those years in the US and Canada on the other, to slow growth of aggregate demand. That is, if aggregate demand does not grow at a clip sufficiently above productivity growth, then employment rate growth must (identically) suffer; and vice versa.

****Insert Figure 1 Here****

As Figure 1 shows, productivity's contribution to US per capita GDP growth changed dramatically during the 1990s. Suddenly, a "new economy" was created that supposedly removed supply constraints and allowed GDP to grow more quickly. Even when that new economy crashed and burned in the Bush recession, productivity growth still accounted for a European-like majority of economic growth as employment rates stagnated and even fell. Over the Bush recovery since 2001, job creation still has been far too anemic to allow employment growth to recover to Clinton-era rates. In short, between 1970 and 1995, growth of employment and growth of productivity each contributed about equally to US economic growth, however, with the relatively stagnant employment rate we've had in recent years all the growth of output has been due to rising productivity.

****Insert Figure 2 Here****

Given a growth rate, there is a tradeoff between employment growth and productivity growth: if the US grows at only 3% and if our employment rate grows at 2% it is mathematically impossible for productivity to grow at anything other than 1%.

Figure 2 shows a hypothetical trade-off for the US, Europe and Japan, based on historical data from 1970-97. For the US to have productivity growth as high as that of Japan or Europe—or as high as we had during the so-called new economy boom under Clinton—we had to grow above 4 or 5% per year (in inflation-adjusted terms). This is something we rarely achieved for very long—for reasons explored in the remainder of this section. During the 1990s, it was argued that labor market flexibility in the US contributes to higher employment rates (and lower unemployment rates), and that is probably true to some degree. However, this means that the US “suffered” from low productivity growth, except when aggregate demand growth was very much more rapid than in the other OECD nations (excluding Canada). By contrast, the other OECD nations “suffer” from low employment rates, so they have come up with various schemes to increase vacations, lower retirement ages, and share work (France’s experiment with mandated work week reductions is the most glaring example). These schemes have not increased employment, but rather have mostly raised productivity—evidence that the true constraint has been insufficient demand. I interpret the US results since the mid 1990s as further evidence that demand has constrained growth, and, indeed, if demand were to begin to grow faster, our employment rate would resume growth--the stagnation of employment in the Bush years is due to insufficient growth of demand, not due to a sudden epidemic of laziness.

****Insert Figure 3 Here****

This brings us to the second main point—that leakages constrain demand, resulting in chronic underperformance. This follows from the usual Keynesian theory according to which spending determines income. The autonomous components of spending determine and are equal to the leakages—that is, the portion of income received but not consumed. In the typical presentation, investment plus government spending plus exports are the injections, equal to the sum of the leakages that are comprised of saving plus taxes plus imports. (See also Powers 1996.) However, I prefer a more instructive formulation that follows the work of Wynne Godley. We can think of the economy as being composed of 3 sectors: a domestic private sector, a government sector, and a foreign sector. If one of these spends more than its income, at least one of the others must spend less than its income because for the economy as a whole, total spending must equal total receipts or income. While there is no reason why any one sector has to run a balanced budget, the system as a whole must. Figure 3 shows the three sectoral financial balances as a percent of GDP from 1960 through the second quarter of 2005. Note the sign on the government balance is reversed, so that a deficit is shown as positive. As constructed, the private sector balance equals the sum of the government balance plus the foreign balance. In terms of the leakage/injection terminology, a sector that spends less than its income represents a leakage, while a sector that spends more than its income generates an injection. The following three points can be made:

*Historically, the private sector usually runs a surplus—spending less than its income. This is how it “saves” or accumulates net financial wealth. For the US

this has averaged about 2-3% of GDP, but it does vary considerably over the cycle. It is a leakage that must be matched by an injection.

*Before Reagan the foreign sector was essentially balanced—the US ran trade surpluses or deficits, but they were small. After Reagan, the US ran growing current account deficits, so that today they reach about 6% of GDP. That is another leakage.

*Finally, the US government sector taken as a whole almost always runs a budget deficit. This has reached to around 5% under Reagan and both Bushes. It is the injection that usually offsets the private and foreign sector leakages.

With a traditional private sector surplus that averaged about 2% and a more or less balanced trade account, the “normal” budget deficit needed to be about 2% during the early Reagan years to offset that leakage—with cyclical peaks and troughs that varied from about 3.5% of GDP to nearly zero. In robust expansions, before the Clinton years, the domestic private sector balance would fall close to zero, which allowed the budget deficit to fall while a current account deficit would open. The budget deficits were so large during the Reagan recession that the private sector retained a surplus equal to 1% of GDP even as the current account deficit rose above 3%. Still, what is important to note about this chart is that the private sector always generated a leakage as it accumulated net financial assets. However, since 1997 the private sector has been in deficit every year but one, and that deficit climbed to more than 5.6% of GDP at the peak of the boom. This

actually drove the federal budget into surplus of about 2.5% of GDP (the overall government balance reached 1.65% in the beginning of 2000) and the current account deficit to about 4% of GDP. At that time nearly everyone thought the Clinton budget surplus was a great achievement, never realizing that by identity it meant that the private sector had to spend more than its income, so that rather than accumulating financial wealth it was running up net debt.

What has been truly amazing is that after a short-lived surplus during the Bush recession, the private sector balance returned sharply to negative territory. In spite of a relatively lack-luster recovery, there was no significant private sector retrenchment of spending—while previous recessions had led the private sector to run surpluses of about 6% of GDP (and nearly 9% of GDP after the 1974-75 recession) as balance sheets were strengthened, the present “recovery” has occurred as balance sheets have deteriorated.

Much more could be said to document the growing private sector indebtedness and the financial precariousness of the recovery, but let us return to the argument that leakages constrain aggregate demand. The trade deficit represents a leakage of demand from the US economy to foreign production. There is nothing necessarily bad about this, so long as another source of demand exists for US output, such as a federal budget that is biased to run an equal and offsetting deficit. Indeed, as elementary trade theory teaches, in real terms, exports are a cost and imports are a benefit for the nation as a whole. A trade deficit generates net real benefits, with real costs resulting only if the nation refuses to put resources made redundant by trade back to work. Private sector net saving (that is, running a surplus) is also a leakage. As discussed above, the private sector surplus was typically 2-3% of GDP in the past. Adding today’s current account deficit (over 6% of

GDP), that gives a total “normal” leakage of aggregate demand of at least 8% of GDP. This leakage would have to be made up by an injection from the third sector, the government. In other words, the only way to sustain a combined domestic private sector and foreign sector leakage of 8% of GDP is for the overall government to run a deficit of that size. Since state and local governments have to balance their budgets, and on average actually run surpluses, it is up to the federal government to run these deficits. (And, indeed, only the federal government as issuer of the currency can run deficits on a sustained basis—as will be discussed below.)

The federal budget deficit is largely non-discretionary over a business cycle, and at least over the shorter run we can take the trade balance as also largely outside the scope of policy. The driving force of the cycle, then, is normally the private sector leakages. When the private sector has a strong desire to save, it tries to reduce its spending below its income. Domestic firms cut production, and imports might fall too. The economy cycles downward into a recession as demand falls and unemployment rises (if imports do fall, there are global knock-on effects). Tax revenues fall and some kinds of social spending (such as unemployment compensation) rise, causing the budget deficit to increase more-or-less automatically. That is what happened early in this decade, with Bush budget deficits rising to 5% of GDP to cover the current account leakage while the private sector retrenched slightly. Federal deficits have fallen over the recovery as the private sector resumed its deficit spending. However, federal budget deficits would almost certainly need to reach above 6 or 7% before we obtain a sustained recovery that would push up employment rates and create a positive private sector balance that would allow balance sheets to strengthen.

It isn't possible to state with certainty what the long-term trend private sector balance ought to look like. As we have seen, until 1997 it was always positive, averaging between 2 and 3 percent of GDP. A positive balance allows domestic households and firms to accumulate net financial wealth. Over the years, the US has put in place numerous policies, including most prominently favorable tax treatment, to try to encourage private sector savings. Orthodox prescriptions for dealing with an aging society in general, and for dealing with a supposed looming Social Security crisis in particular, almost exclusively rely on encouraging more saving. If these programs are to be successful, then one or more of the following must simultaneously occur: a) the federal government budget must be relaxed so as to run larger trend deficits; b) the rest of the world must increase its spending so as to reduce the US current account; and/or c) domestic firms must run larger deficits. Of these, the most feasible and the most preferable from the point of view of Americans is for the federal government to relax its budget. Reducing the US current account deficit means that Americans would forego the real benefits of a trade deficit (obviously, the view is different from the perspective of the rest of the world, however, this is mostly because they view exports as a benefit and imports as a cost—what J.K. Galbraith would call an innocent fraud). Increasing US business deficits carries with it the risks of greater financial fragility and the possibility of financial crises. We are left with the conclusion that if the US household sector is to improve its balance sheet and increase its saving, the federal budget must be biased toward larger deficits.

3. Monetary Policy, Savings, and Portfolio Preferences on a Flexible Exchange Rate

Before we turn to Greenspan's claim that central banks have been behaving as if they were operating on a gold standard, let us review how central banks actually operate. (See Bell 2000; Bell and Wray 2003; and Wray 1998 for detailed treatments.) Central banks today operate with an intermediate overnight interest rate target; it could be argued that in practice they actually targeted interest rates even during the late 1970s experiment with monetary aggregates, but that is not necessary for our analysis. To hit a non-zero overnight rate target, the central bank needs to add or drain reserves to ensure that the banking system has just the amount of reserves desired (or required in those nations with official reserve requirements). Reserves are added through discount window loans, through open market purchases of government bonds, and through purchases of gold, foreign currencies, or even private sector financial assets. (Increasing float is also possible.) The central bank reverses these actions in the case of excess reserves. While a central bank employs a fairly large staff to estimate and predict reserve supplies and demands, it is actually quite easy to determine whether the banking system faces excess or deficient reserves: the overnight rate will move away from target, triggering a nearly automatic offsetting reserve add or drain by the central bank. Central banks also supervise banks and other financial institutions, engage in lender of last resort activities (a bank in financial difficulty may not be able to borrow reserves in the interbank lending market even if excess reserves exist at the aggregate level), and occasionally adopt credit controls, usually on a temporary basis. We will leave all of these types of activities to the side as of secondary interest. The primary tool used to implement monetary policy is the setting of the overnight interest rate target.

When the fundamental operating procedure is laid bare, it becomes obvious that conventional views about central bank “pumping” of “excess liquidity” are incorrect. The quantity of reserves left in the private banking system is never discretionary from the point of view of the central bank if it wishes to hit a non-zero interest rate target. Similarly, conventional views on discretionary sterilization or central bank “financing” of treasury budget deficits by “printing money” have to be incorrect for precisely the same reason. If international payments flows, or domestic fiscal actions leave banks with excess reserves, the central bank has no choice but to drain the excess unless it is willing to allow the overnight rate to fall towards zero. Draining reserves is accomplished through open market bond sales, unwinding discount window lending, or sales of foreign currency reserves. On the other hand, if international payments flows or domestic fiscal actions leave banks with insufficient reserves, overnight rates would rise above target—triggering the opposite interventions.

For this reason, “sterilization” is not a discretionary operation. For example, China currently runs a large trade surplus with the US. Chinese importers want to convert their dollar-denominated receipts to yuan, an operation that is facilitated by the central bank when it buys dollars and creates yuan reserves. If this leads to excess reserves in the Chinese banking system, the central bank then drains the excess through, for example, a sale of Chinese government debt. It cannot choose, however, to leave excess reserves in the banking system—unless it is prepared to see the overnight interest rate fall toward zero. Any “sterilization” of yuan reserves is automatic, a result of interest rate targeting procedure.

Likewise, the view that a central bank might “choose” to “print money” to “finance a budget deficit” is flawed. In practice, modern sovereign governments spend by crediting bank accounts and tax by debiting them. Clearing with the government takes place using reserves, that is, on the accounts of the central banks. Deficit spending then leads to net credits of banking system reserves; again, if these are excessive, they are drained by the central bank through bond sales in the open market. These activities are coordinated with the Treasury, which will usually issue new bonds more or less in step (whether before or after is not important) with its deficit spending. This is because the central bank would run out of bonds to sell. (In countries in which the central bank pays interest on reserves, bond sales are unnecessary because interest-paying reserves can serve the same purpose—that is, to ensure the overnight interest rate cannot fall below the target (support) rate.) The important point, however, is that such central bank operations are not discretionary, but rather are required to hit interest rate targets. The quantity of “liquidity”, reserves, is not discretionary.

It is sometimes claimed that a government’s deficit spending as well as a nation’s external position are constrained by the portfolio preferences of savers. (Aspromourgos 2000) For example, many believe that government faces a “government budget constraint”, according to which its spending must be financed by a combination of tax revenues, bond sales (“borrowing”), or money creation. The form that financing of budget deficits takes is thus supposed to depend on the portfolio preferences of savers. Once they have accepted all the new money desired, government must sell bonds—and the interest rate required to get the public to hold the bonds will be determined by their

preferences. This supposedly applies even more forcefully to external constraints on US federal budget deficits: the foreign sector is said to be financing the US budget deficit by lending dollars. It is feared that once the ROW has all the US treasuries desired, the government won't be able to finance its deficit except at rising interest rates. Finally, it is argued that the ROW might even turn against the dollar, refusing to hold dollars or government debt—resulting in a financing crisis for the US and its government.

This thinking reflects several different types of confusion. First, it conflates saving with portfolio allocation decisions; second, it inappropriately equates the position of the issuer of the currency (the sovereign government) with the user of a currency; and third it applies an analysis that might be appropriate for a nation on a fixed exchange rate regime to a nation operating with a floating currency.

A sovereign government on a floating rate regime spends by crediting bank accounts, so the “government budget constraint” is nothing more than an ex post identity. If a deficit results, government drains any excess reserves through bond sales as part of its interest rate targeting procedure. (Again, a nation that pays interest on reserves never needs to sell bonds—the interest earning reserves serve the same purpose as interest-paying bonds.) The public makes its portfolio preferences apparent as excess reserves drive the overnight interest rate below the target rate, and will accept government bonds until all undesired reserves are drained. The demand for reserves is highly interest inelastic, but even if it were not, government can set the overnight rate at any positive level desired simply by ensuring that the banking system has no more reserves than it wants. (Bell and Wray 2003)

Whether the *ex post* budget identity will record a budget deficit after government increases its spending depends largely on the reaction of the other sectors. In other words, the government can decide how much it will increase spending and after the fact we will observe some combination of increased tax revenue, increased bonds held by the non-government sector, and increased high powered money holdings (reserves held by banks and cash held by the nonbanking private sector). The degree to which taxes rise will depend on the responsiveness of tax revenue to rising aggregate spending and income; the additions of bonds and high powered money to nongovernment portfolios will equal (by identity) the budget deficit, and the split between the two will depend on preferences for interest-earning assets, given the overnight interest rate set by central bank policy.

The saving propensities of both the domestic and external sector go into determining the financial balances of all three sectors, as discussed above: the domestic private sector, the foreign sector, and the government sector. Higher domestic private sector saving represents a leakage that is matched by some combination of a bigger government deficit and a smaller current account deficit. Higher ROW saving is matched by a combination of a larger US government deficit and greater US current account deficit. Of course, we do not observe propensities and our “three balances” identity cannot tell us the complex causalities that lie behind the resulting balances. However, current budgeting procedure ensures that the US federal government budget deficit is mostly a residual, rising when private domestic and foreign demand shrink and falling when demand is rising. By the same token, the US current account deficit is largely a function of the ROW desire to spend.

Unfortunately, most analysts incorrectly interpret the causal forces involved, adopting a loanable funds approach according to which saving “finances” investment, budget deficits, and current account deficits. Actually the causation is the reverse: it is the investment spending, the government spending, and the export spending that together create the domestic saving of the private sector and the foreign saving in the form of dollars. A moment’s reflection about bank balance sheets will confirm that this must be true. A saver cannot simply ask her bank to credit her savings account with more dollars, but an investor can approach a bank for a loan, in which case the investor’s deposit account is credited (offset on the bank’s balance sheet by the loan, which is the bank’s asset). As the investor purchases plant and equipment, that deposit account is drawn down and a saver’s account is credited. Similarly, a foreigner cannot save more dollars until an American importer has purchased foreign output (or purchased foreign assets, including direct investment). Again, it is the importer’s willingness to take out a loan to finance this purchase that results in a new dollar credit to the account of the foreign saver. Hence, the notion that Americans are borrowing dollars from abroad to finance government and trade deficits is erroneous. Rather, it is more revealing to think of the US budget deficit and the current account deficit as “financing” the ROW dollar saving.

The decision to save is a decision to “not spend”. When the Japanese domestic sector taken as a whole produces more than its government and nongovernment sectors wish to purchase, it can save in financial form—but only if it can find external buyers. (Otherwise, saving takes the form of undesired inventory accumulation—which would then probably depress production, employment, and income.) Let us assume Japan sells the excess production to Americans, in which case the savings are initially in dollars.

Portfolio decisions then come into play when savers decide how to hold the savings.

Most of the dollars will be exchanged for yen, used to purchase yen assets. The Bank of Japan will usually facilitate this process as domestic banks offer dollar reserves for yen reserves. As discussed above, if excess yen reserves result, these can be drained so as to maintain a positive overnight interest rate. (However, as Japan currently operates with a zero interest rate target, it leaves some excess reserves in the banking system.)

The portfolio decisions of foreigners (including, importantly, those decisions of ROW central banks) place no direct pressure on the US overnight interest rate. However, they can affect the exchange rate of the dollar. It is commonly believed that a US trade deficit must (eventually?) place downward pressure on the dollar, although it is well-recognized that empirical studies have not been able to systematically link exchange rates to the usual set of variables thought to be important determinants of exchange rates, including the trade balance. (As Greenspan 2004 laments, “forecasting exchange rates has a success rate no better than that of forecasting the outcome of a coin toss”.) In any case, this is a separate issue from the concerns with interest rate setting by the central bank or “financing” of external and budget deficits. A country with a sovereign currency on a floating exchange rate can set its policy interest rate at any level desired, and can run budget deficits at any level desired, without worrying about impacts of foreign saving propensities or portfolio preferences on “financing”. The country might, if desired, adjust interest rates or fiscal policy in response to actual or supposed pressure on exchange rates, but that is, again, a separate issue from “financing”.

4. Greenspan’s “Gold Standard” Revisited

Greenspan's statement that central banks have been, and should have been, acting "as if" they were operating on a gold standard then reflects two important errors. First, as we have seen, today's central bank operates with an interest rate target, which means that it has no discretion regarding the quantity of "liquidity" (reserves) it supplies, in spite of Greenspan's suggestion that it has been engaged in "liquidity contraction". Indeed, "liquidity contraction" has no operational meaning aside from the recognition that central banks automatically remove excess reserves so that they can hit overnight rate targets. This also means that a central bank cannot behave as Greenspan put it "as though there are, indeed, real reserves underneath the system"—for that would mean that the central bank would be constrained in its ability to provide reserves as necessary to prevent the overnight rate from rising above target. Second, his belief that "excess liquidity" that is encouraged by "fiat money" systems leads to inflation is also confused. Excess liquidity in the form of excess reserves causes the overnight rate to fall below the target—it cannot directly cause inflation. Rather, it leads to an automatic reserve drain (normally, an open market sale of treasuries). It is conceivable that setting a lower overnight interest rate might be inflationary (by stimulating demand through one of the conventional transmission mechanisms), however, that is a different matter entirely (and one with very little empirical support). If Greenspan's claim is merely that central banks had previously set interest rates too low, he should clearly state so rather than obfuscating issues by speaking of excess liquidity.

We are left with only one possible interpretation of Greenspan's statement regarding gold standard behavior by the central bank, and that is that they have been more willing to raise interest rates in the face of inflationary pressures over the past three

decades. Ironically, however, they can set the overnight interest rate target with discretion only in floating rate regimes—what he calls fiat money systems. On a gold standard, the central bank’s interest rate target is substantially beyond discretion, determined by international pressures on the value of the currency: to stem an outflow of gold, the central bank raises interest rates. Whether this works is, again, irrelevant to our analysis. The important point is that the countercyclical interest rate adjustments that have been a common feature of the major OECD nations since the 1970s *require* that central banks do not behave as if they operated on a gold standard. The behavior that we observe is possible only on a floating rate (fiat money) standard that *does not* act as if there are gold reserves underlying the system.

We conclude that Greenspan is in error: central banks have not been operating as if on a gold standard, but rather their behavior requires that they recognize that they are operating with a flexible exchange rate regime.

There has been much speculation regarding the possibility that the incoming chairman, Ben Bernanke, will follow in the footsteps of the outgoing chairman. We can be sure that the Fed will continue to operate with an overnight interest rate target and that it will remove or add reserves as necessary to hit its target. Whether Bernanke adopts explicit inflation targets rather than Greenspan’s more “intuitive” approach remains to be seen, but will not change operating procedure in any significant way. It is fairly clear that the Fed realizes it has no direct control over inflation, rather, hopes to influence price-setting behavior by firms and by labor through development of consistent inflation expectations. (See Wray 2005 for an examination of Fed policy formation.) Some believe that explicit inflation targets help to focus expectations around a specific inflation rate.

The downside is that an explicit inflation target reduces Fed flexibility in choosing the set of expectations it wishes to form a consensus around: if actual inflation exceeds the target inflation rate, it becomes more difficult for the Fed to create expectations that inflation is falling. At this time, it is difficult to provide a firm prediction, but I suspect that Bernanke will avoid explicit inflation targets. Further, I suspect that the current fashionable focus on expectations manipulation will lose favor in coming months because of an inherent contradiction: if the Fed fears that inflation is heating up, and believes that rising expectations of inflation will make matter worse, it should try to develop a consensus that inflation will fall—an expectation that is contrary to the Fed’s own fears.

5. What “Gold Standard” Constraints *Are* Imposed?

While the central bank is not operating on a gold standard, it could be argued that in some respects fiscal policy is behaving as if spending were constrained by a gold standard or other fixed exchange rate regime. We have already discussed the common belief that federal spending is subject to a budget constraint imposed by the willingness of domestic and foreign residents to lend to the government. On this view, there is a limited amount of saving around the world (a position Greenspan has adopted time and again) for which our government competes with alternative borrowers. If the US were on a gold standard such that government had to have gold reserves to back up its IOUs, such an analogy would hold some validity. The savings around the world represented by stockpiles of gold would form the available reserves for which our Treasury would compete to finance its deficits. On a fixed exchange rate system (without gold backing), the constraint would be somewhat relaxed, but the US would have to stockpile foreign currency reserves sufficient to prevent dollar depreciation. Much as many Asian countries today use fiscal

policy to depress domestic demand in order to ensure a positive dollar flow, the US would need to maintain slack demand to turn the current account deficit around to surplus.

In fact, fiscal policy in the US has indeed been used to keep demand slack—a policy that is required by a fixed exchange rate system, but one that is counterproductive in a floating rate regime. Given the fiscal stance that has been normal in the US since the 1970s, robust growth relies increasingly on high domestic private sector demand. In the context of a growing current account deficit (resulting, in part, from deflationary fiscal policy around the globe), the domestic private sector must deficit spend on a heretofore unprecedented scale in order to lower unemployment rates to levels that were common in the early postwar era. Ironically, the abandonment of the Bretton Woods fixed exchange rate system freed US fiscal policy from international constraints (that had only begun to take hold at the end of the 1960s) to pursue full employment. However, policy since the early 1970s has increasingly acted as if it faced the constraints that had been lifted by the switch to a floating rate regime. If Greenspan's statement about the gold standard carries any validity, it is with respect to fiscal policy, and not monetary policy.

6. Conclusion: Demand Constrained Growth

In sum, we experienced something highly unusual during the Clinton expansion because the private sector was willing to spend far more than its income; the normal private sector leakages turned into very large injections. The economy grew quickly and tax revenues literally exploded. State governments and the federal government experienced record surpluses. These surpluses represented a leakage that brought the expansion to a relatively sudden halt. What we have now is a federal budget that is designed (and

mandated) to balance except when growth is far below potential, in which case a budget deficit opens. This means that the “normal” private sector balance now must be a large deficit in order for the economy to grow robustly. Rather than the government sector being a source of injections that allow the leakages that represent private sector savings, we now have the private sector dissaving in order to allow a foreign sector leakage in the context of fiscal restraint.

This sets up a highly unstable situation because private debt ratios rise quickly and a greater percentage of income goes to service those debts. While Fed policy normally doesn't matter much, in a highly indebted economy, rising interest rates can increase debt problems very quickly—setting off bankruptcies that can snowball into a 1930s-style debt deflation. A far more sensible policy would be to reverse course and lower interest rates, then keep them low. At the same time, the federal government should take advantage of slack demand and abundant labor by increasing its spending on domestic programs. Robust economic growth fueled by federal deficits is the best way to reduce private sector over-indebtedness.

In conclusion, it appears that growth in the postwar period has mostly been demand constrained, due to leakages. If demand were to grow at 7%, I see no reason to believe that supply could not keep pace. This is all the more true in today's global economy with massive quantities of underutilized resources all over the world, and with high ROW desires to save and to accumulate dollar-denominated financial assets. This requires that foreigners sell output to the US—which is just the counterpart to the US trade deficit leakage. In real terms, a trade deficit means the US can enjoy higher living standards without placing pressure on the nation's productive capacity. While it is hard to

project maximum sustainable growth rates, there can be little doubt that the US economy chronically operates far below feasible rates. The best policy would be to push up demand, allow growth rates to rise, and try to test those frontiers.

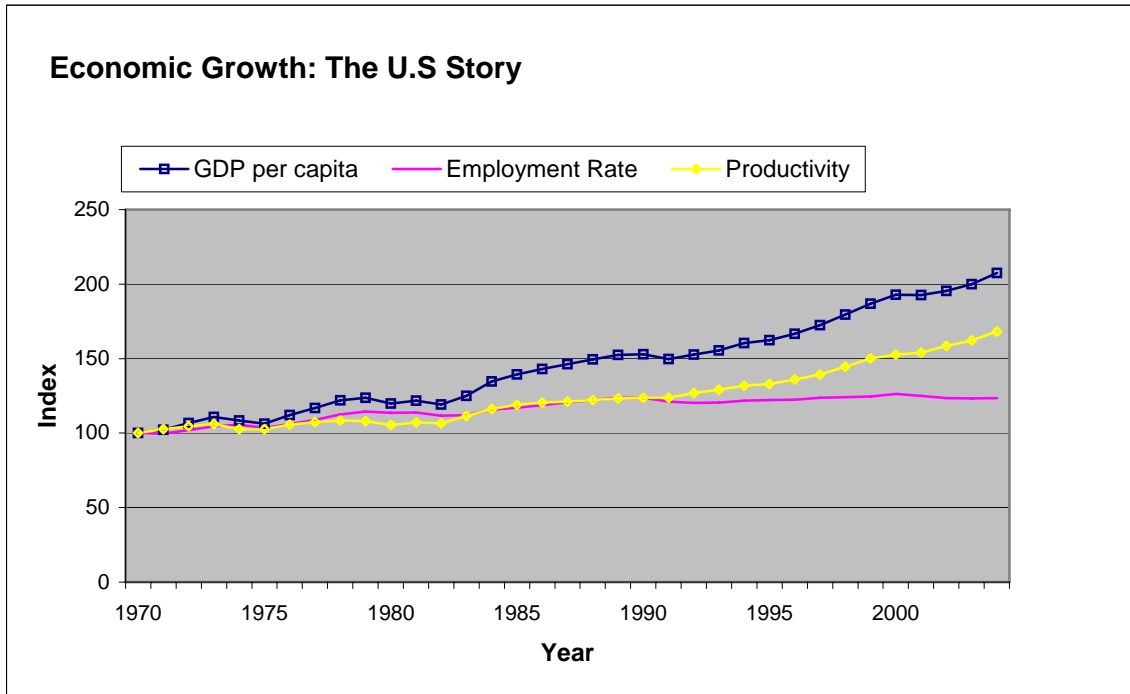
Greenspan's analysis appears to be precisely wrong, and in insightful ways. Monetary policy has not behaved as if the US were on a gold standard, but fiscal policy has tried to impose constraints that would be more appropriate to a fixed exchange rate system. The adoption of a floating rate system from the mid 1970s (what Greenspan disparagingly calls a fiat money standard) has made it possible to operate fiscal policy without these constraints—that is, to take advantage of the possibilities offered to the issuer of a floating currency. This would include maintenance of full employment at home while enjoying the benefits of a trade deficit.

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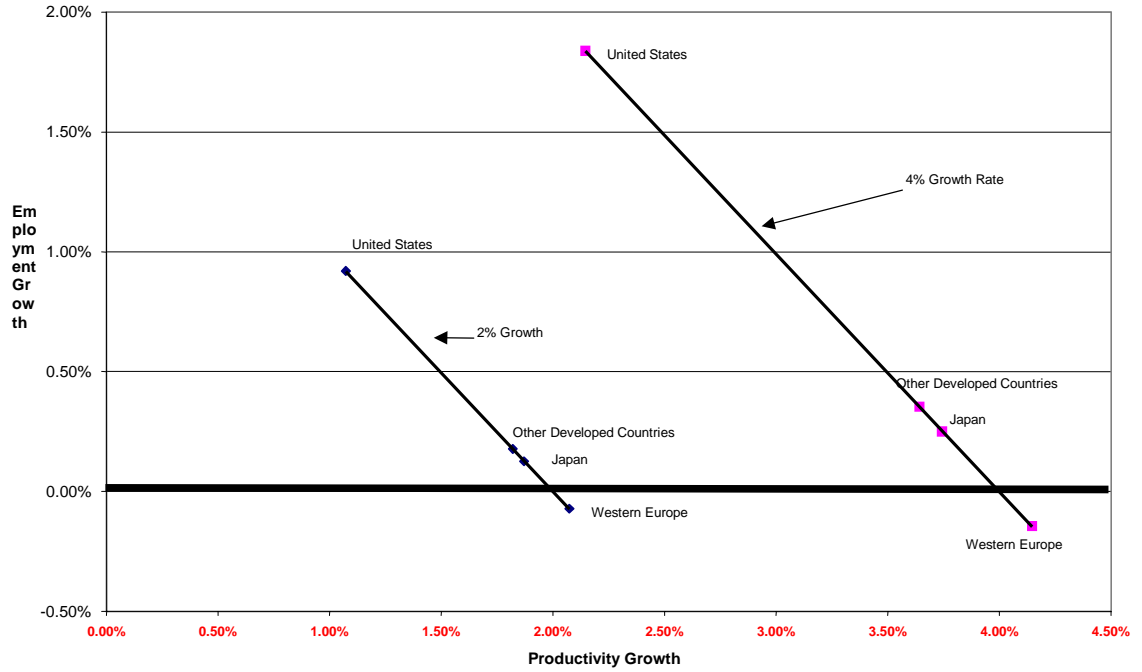
Figure 1: USA Growth Decomposition



Notes: Figure created by Marc-Andre Pigeon and updated by Ergun Meric; see Pigeon and Wray 2002 for sources.

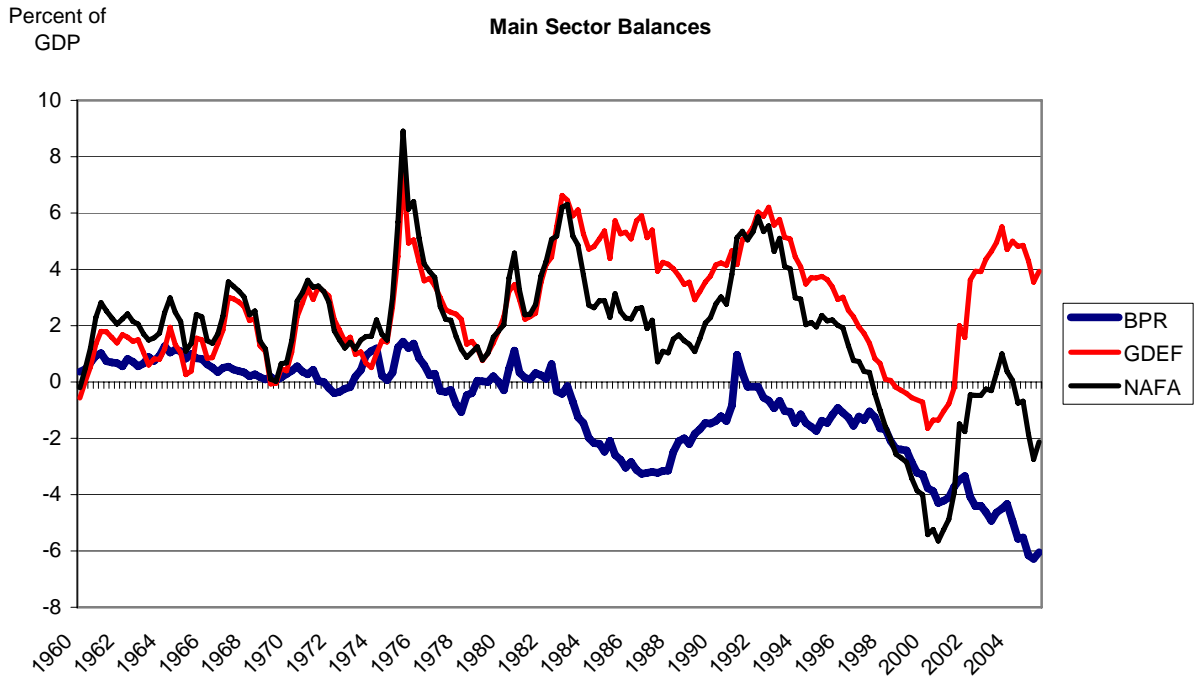
Figure 2: EPT Schedule

Figure 2: EPT Schedule for Western Europe, Japan, Other Developed Countries and the U.S. : 1970--1997



Note: Figure created by Marc-Andre Pigeon; see Pigeon and Wray 2002 for sources.

Figure 3: The Three Financial Balances



Notes: BPR = Balance of Payments; GDEF= Government Deficit, Sign Reversed; NAFA= Private Sector Balance (net acquisition of financial assets). Figure created and supplied by Wynne Godley.