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L. Randall Wray  
Research Director, CFEPS

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a Floating Rate Regime

by  
L. Randall Wray\*

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\* Professor of Economics and Research Director, Center for Full Employment and Price Stability,  
University of Missouri-Kansas City

## **Understanding Policy in a Floating Rate Regime**

L. Randall Wray, Center for Full Employment and Price Stability,  
University of Missouri—Kansas City<sup>1</sup>

This paper will examine policy appropriate for an open economy operating with a floating exchange rate—whether the economy in question is a large country that issues the currency used as the international reserve (the USA), or the economy is a smaller country that *uses* the international reserve currency (Mexico). What is important is that the country uses its own currency *domestically* (dollar or peso) and that it does not promise to convert its currency to international reserves (gold, another country’s currency) at a fixed exchange rate. Finally, it is recognized that exchange rates do not “freely” float because “official” intervention by governments is common, and many countries react when their currencies move outside a desired range. This is treated as discretionary policy (much as central banks also react to inflation) that does constrain domestic policy—however, as it is discretionary, the central bank can pursue alternative policy if it so chooses. We first examine how monetary policy operates in such a system, and then turn to implications for fiscal policy. It will be argued that a country that issues a sovereign currency in a floating rate regime can pursue full employment with price stability.

Let us first summarize the argument. Briefly, the central bank sets the overnight interest rate target and then supplies or drains reserves to ensure banks have the quantity desired and/or required. The central bank can always “pump” excess reserves into the system, but this will simply result in a zero-bid condition in the overnight market, causing overnight rates to fall to zero (or to the support rate if the central bank pays interest on reserves). There is something of an asymmetry: the central bank cannot leave banks short of reserves, as the overnight rate would rise conceivably without limit so we never observe central banks refusing to supply reserves; on the other hand, if the central bank leaves

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<sup>1</sup> Parts of the first half of this paper draw on “International aspects of current monetary policy”, Center for Full Employment and Price Stability Working Paper No. 31, March 2004; the final section draws on “The Employer of Last Resort Approach to Full Employment”, Center for Full Employment and Price Stability Working Paper No. 9, July 2000. The author thanks Guadalupe Mantey de Anguiano, Arturo Huerta, Alicia Giron, and Warren Mosler for comments. Many of the arguments were presented at seminars held at UNAM over the past several years, and the author thanks participants for discussion of these issues.

excess reserves in the system, the overnight rate falls to zero—something the Bank of Japan has been willing to do for much of the past decade. Next, we argue that the treasury spends by crediting bank accounts and taxes by debiting them—deficits simply mean that bank accounts have been net-credited, hence, reserves have increased. If this creates excess reserves, the central bank or treasury must sell bonds to prevent the overnight rate from falling. By contrast, a budget surplus drains reserves (as taxes exceed spending), causing the overnight rate to rise and triggering an open market purchase by the central bank, or retirement of government debt by the treasury.

These central bank operations are always defensive, and if international payments cause actual domestic currency reserves to deviate from desired/required reserve positions, the central bank has no choice but to “sterilize” (accommodate) by supplying or draining reserves to hit its overnight interest rate target. While it is supposed that budget deficits raise interest rates and could cause currency appreciation (and thereby cause a “twin” trade deficit), in reality budget deficits create excess reserve positions that would lower overnight interest rates if bond sales were not undertaken. Hence, any correlation between budget deficits and trade deficits is more likely to arise from the stimulative effect of budget deficits on non-government sector spending rather than from pressure on interest rates. In truth, all else equal, budget deficits would force interest rates *down* if not for offsetting bond sales by the central bank and/or the treasury.

Finally, it is commonly believed that the government should take actions to affect exchange rates to manipulate trade balances in order to achieve a trade surplus. We will argue this results mostly from a misunderstanding of the costs and benefits of trade and of the process of “financing” trade deficits. Our analysis will support floating rates and offer an alternative view of the finance process. Further, we will see that as exports are a cost while imports are a benefit, a trade deficit means that a country can enjoy net benefits. Hence, trade deficits should not be feared—unless policy reacts inappropriately to them, for example by adopting austerity measures. We will conclude that the combination of the sovereign power to issue a domestic currency, plus the willingness to

let that currency float in international exchange markets, provides domestic policy makers with the necessary tools to achieve price stability with full employment.

Throughout the following exposition, it will be necessary to keep in mind that all of the arguments are predicated on the assumption that we are analyzing a country with a sovereign currency on a floating exchange rate—that is, a country like the UK, Japan, Mexico, Canada, or the USA. Some of the arguments would have to be revised for the case of a European nation operating with the Euro (which is in some respects a “foreign” currency from the perspective of the individual member states); the modifications would likely be even greater for a nation operating with a fixed exchange rate or currency board based on another country’s currency (such as Argentina before its crisis). We will not pursue such cases here.

#### INTEREST RATE TARGETING BY THE CENTRAL BANK

A few years ago, textbooks had traditionally presented monetary policy as a choice between targeting the quantity of money or the interest rate. The central bank supposedly could control the monetary supply through control over the quantity of reserves, given a relatively stable “money multiplier”. (Brunner 1968; Balbach 1981) This even led to some real world attempts to hit monetary growth targets—particularly in the US and the UK during the early 1980s. However, almost all economists have come to the conclusion that at least in practice, it is not possible to hit money targets. (B. Friedman 1988) These real world results appear to have validated the arguments of those like Goodhart (1989) in the UK and Moore (1988) in the US that central banks have no choice but to set an interest rate target and then accommodate the demand for reserves at that target. (See also Wray 1990 and 1998.) This view has been called “horizontalism” in the sense that the supply of reserves is “horizontal” (non-discretionary) at the interest rate target. Hence, *if* the central bank can indeed hit a reserve target, it does so only through its decision to raise or lower the interest rate to lower or raise the demand for reserves. However, this is quite unlikely (that is to say, hitting reserve targets would result from a coincidence) because the demand for reserves is highly inelastic—for reasons discussed next. Thus, the

supply of reserves is best thought of as wholly accommodating the demand, but at the central bank's interest rate target.

Why does the central bank necessarily accommodate the demand for reserves? There are at least three different reasons. In some countries, such as the USA, banks are required to hold reserves as a ratio against deposits, according to a fairly complex calculation that results in a backward looking reserve requirement: the reserves that must be held today depend on deposits held about six weeks previously. Even if a short settlement period is provided to meet reserve requirements, the required portfolio adjustment could be too great—especially when one considers that many bank assets are not liquid. Hence, in practice, the central bank automatically provides an overdraft—the only question is over the “price”, that is, the discount rate charged on reserves. In many nations, such as Canada and Australia, the promise of an overdraft is explicitly given, hence, there can be no question about central bank accommodation because banks can borrow reserves on demand at the central bank's target interest rate.

A second explanation is that the central bank accommodates reserve demand in order to ensure an orderly payments system. Par clearing among banks, and more importantly par clearing with the government, requires that banks have access to reserves for clearing. (Note that deposit insurance ultimately makes the government responsible for check clearing, in any event.) The final argument is that because the demand for reserves is highly inelastic, and because the private sector cannot easily increase the supply (by attracting deposits of cash), the overnight interest rate would be highly unstable without central bank accommodation. Hence, relative stability of overnight rates requires “horizontal” accommodation by the central bank. In practice, empirical evidence of relatively stable overnight interest rates over even very short periods of time supports the belief that the central bank *is* accommodating *horizontally*.

Even orthodox economists agree now that central banks *do* operate with an overnight interest rate target, indeed, this is the foundation of what is called the new monetary consensus. We can conclude that the overnight rate is currently exogenously administered

by the central bank—even without necessarily accepting that it *must* operate in this manner. Short-term sovereign government debt is a very good substitute asset for overnight reserve lending, hence, its interest rate will closely track the overnight interbank rate. Longer-term sovereign rates will depend on expectations of future short-term rates, largely determined by expectations of future monetary policy targets. Thus, we can take those to be potentially controlled by the central bank as well, as it could announce targets far into future and thereby affect the spectrum of rates on sovereign debt of different maturities. Still, the central bank cannot determine all interest rates—market forces will play some role in determining all rates except for the overnight rate set by the central bank.

Japan presents a somewhat different case, because it operates with a zero overnight rate target. This is maintained by keeping some excess reserves in the banking system. The Bank of Japan can always add more excess reserves to the system by purchasing government bonds, since it is satisfied with a zero rate. However, from the perspective of banks, all that means is that they hold more non-earning reserves and fewer low-earning sovereign bills and bonds. In a country like Canada, which has a zero reserve target, banks earn interest on positive reserve holdings, and pay interest on borrowed reserves to bring them up to a zero net reserve position. In this case, the interest rate paid on excess reserves or charged on borrowed reserves (in practice, there is a small differential between these two interest rates) is the interest rate administered by the central bank. This eliminates the need to engage in open market purchases or sales of sovereign debt. Indeed, it eliminates altogether the need for the sovereign government to issue debt (bills or bonds) because deficit spending by the federal government leads to net credits to banking system reserves and banks earn the overnight interest rate on positive reserve holdings, which is functionally equivalent to buying a government bill and earning interest on that. The *function* of either paying interest on reserve holdings or paying interest on sovereign bills is to maintain a positive overnight interest rate—as we will see in the next section.

## FINANCING GOVERNMENT SPENDING

It is commonly believed that government faces a budget constraint according to which its spending must be “financed” by taxes, borrowing (bond sales), or “money creation”. Since many countries prohibit direct “money creation” by the government’s treasury, it is argued that “printing money” is possible only through complicity of the central bank—which could buy the government’s bonds while issuing bank reserves—effectively “printing money”. Such a practice is nearly universally derided as bad policy that would almost certainly cause inflation, and, in fact, is illegal in some nations.

Actually, in a floating rate regime, the government that issues the currency spends by issuing checks or by directly crediting bank accounts. Tax payments result in debits to bank accounts. Deficit spending by government leads to net credits to bank accounts. In practice, those receiving payments from government hold banking system liabilities while their banks hold reserves in the form of central bank liabilities. (We can ignore leakages from deposits—and reserves—into cash held by the non-bank public as a simple complication that changes nothing of substance. These are always accommodated by the central bank—which provides reserves to banks to meet the cash drain.) In short, government spending takes the form of net credits to banks, which increases their reserves.

Many economists misunderstand the nature of the internal accounting procedures followed by the central bank and treasury—procedures that vary by nation, but are self-imposed. For example, in the USA, the Treasury spends by drawing on an account it holds at the Fed, relying on the Fed to debit its account and credit a bank’s reserves. It would be easier to understand the process if the Treasury simply spent by crediting a private bank account directly—but this is what the procedure effectively allows. Similarly, taxpayers send checks to the Treasury, which deposits them at the Fed, leading to a credit to the Treasury’s account and a debit to the taxpayer’s private bank’s reserves. Again, it would amount to the same thing if the payment of taxes led to a direct debit of bank reserves by the Treasury. Things are more complicated because the Treasury maintains accounts at private banks, depositing its tax receipts, then moving the deposits



to the Fed before spending. Obviously, so long as Treasury deposits are held within the banking system, there is no impact on banking system reserves, and, hence, Treasury deposits at private banks can be ignored—because the bank simply debits the taxpayer’s account and credits the Treasury’s account. When the Treasury moves its account to the Fed for spending, the banking system first loses reserves, but those are restored when the Treasury spends.

It is not necessary to pursue all of this accounting in more detail as it has already been examined in detail in Wray (1998), Bell (2000), and Bell and Wray (2003) for the case of the US—and other countries adopt their own idiosyncratic procedures. The only logic that is necessary to grasp is that the government “spends” by emitting its own liability (mostly taking the form of a credit to banking system reserves). A tax payment has the opposite effect: the government “taxes” by reducing its own liability (mostly taking the form of a debit to banking system reserves). In reality, government cannot really “spend” tax receipts which are just reductions of its outstanding liabilities. In sum, the sovereign government spends by crediting bank accounts and taxes by debiting them. All of this works only because the state has first exerted its sovereignty by imposing a tax liability on the private sector—which, ultimately, is the reason that the non-government sector will accept government liabilities as payment for the goods and services government buys.

Procedures followed for its issues of interest-paying bills and bonds adds another layer of complication. Economists have long believed that the government must either “print money” or “borrow” whenever it deficit spends. However, sovereign governments like that in the USA or Mexico always spend by crediting reserves to the banking system. Taxes drain those reserves, but a government deficit means that some of the created reserves are not drained. Some of these net reserves are absorbed as households draw down deposits (taking out cash), resulting in a clearing drain from the banking system. Banks, in turn, use reserves for clearing of accounts among one another—and for clearing with the government. The banking system usually wants to hold a small net reserve position to deal with anticipated clearing drains (with the public, with other banks, and

with the government). In systems like that of the USA, in which reserves do not earn interest, profit seeking behavior of banks will lead to minimization of net reserve holdings. When an individual bank holds more reserves than desired, it lends the excess in interbank markets—the fed funds market in the USA. For this reason, aggregate excess reserves above what is legally required or desired will cause overnight rates to fall, while insufficient reserves cause overnight rates to rise—in either case, automatic central bank action is taken to offset this so that the central bank can hit its overnight rate.

However, the central bank's interventions are limited. Continuous open market sales to drain excess reserves would cause the central bank to run out of treasury debt to sell. Informal procedural rules also limit central bank purchases, although because the central bank buys assets by crediting banks with reserves, there is no theoretical limit to its ability to do this. In any case, there is a division of responsibilities such that the central bank is responsible for draining/adding reserves on a day-to-day basis (often referred to as offsetting operating factors), while the treasury is responsible for draining/adding reserves over a longer run. It does this by selling/retiring sovereign debt.

Whenever it runs a sustained deficit, the treasury will be adding reserves to the system, which can generate excess reserves. Treasury sales of new sovereign debt then drain the excess (in the US complicated procedures are followed, often involving specially designated private banks, but this changes nothing of substance—see Bell 2000). Banks prefer interest-earning treasury debt over non-interest earning excess (undesired and/or nonrequired) reserves, hence there is no problem selling the treasury debt. Note, also, that if banks did not prefer to buy government bonds, the treasury (and central bank) would simply avoid selling them, and, indeed, would not *need* to sell the debt as the banks preferred to hold non-interest earning reserves. In other words, far from requiring the treasury to “borrow” by selling new issues, government deficits only require the central bank and treasury to drain excess reserves to avoid downward pressure on overnight interest rates. This means that the wide-spread fear that “markets” might decide *not* to buy treasury debt if budget deficits are deemed to be too large is erroneous: bonds are not sold to “borrow” but rather to drain excess reserves. If “markets” prefer excess reserves,

then bonds need not be sold—and won't be because there will not be pressure on the overnight rate to be relieved.

On the other hand, sustained budget surpluses drain reserves and can eventually cause bank reserve positions to fall short of what is desired and/or required. Over the short run, the central bank provides needed reserves through open market purchases; over the longer run, the treasury rectifies the reserve drain by retiring outstanding debt. In effect the public surrenders its interest-earning sovereign debt in order to pay “excessive” taxes that result from budget surpluses and that would otherwise drain required and/or desired reserves from the banking system. Treasury debt can be eliminated entirely if the central bank pays interest on reserves (as in Canada), or if it were to adopt zero as its overnight interest rate target (as in Japan). In either case, the central bank would be able to hit its target regardless of the size of the treasury's deficit, hence, there would be no need for sales of sovereign debt. (See Bell 2000, Bell and Wray 2003, and Wray 2003/4.)

Bond sales (or purchases) by the treasury and central bank are, then, ultimately triggered by deviation of reserves from the position desired (or required) by the banking system, which causes the overnight rate to move away from target (if the target is above zero). Bond sales by either the central bank or the treasury are properly seen as part of monetary policy designed to allow the central bank to hit its target. This target is exogenously “administered” by the central bank. Obviously, the central bank sets its target as a result of its belief about the impact of this rate on a range of economic variables that are included in its policy objectives. In other words, setting of this rate “exogenously” does not imply that the central bank is oblivious to economic and political constraints it believes to reign (whether these constraints and relationships actually exist is a different matter).

In conclusion, the notion of a “government budget constraint” only applies ex post, as a statement of an identity rather than as an economic constraint. When all is said and done, it is certainly true that any increase of government spending will be matched by an increase of taxes, an increase of high powered money (reserves and cash), and/or an increase of sovereign debt held. But this does not mean that taxes or bonds actually

“finance” the government spending. Government might enact provisions that dictate relations between changes to spending and changes to taxes revenues (a legislated balanced budget, for example); it might require that bonds are issued before deficit spending actually takes place; it might require that the treasury have deposits at the central bank before it can cut a check; and so on. These provisions might constrain government’s ability to spend at the desired level. Belief that these provisions are “right” and “just” and even “necessary” can make them politically popular. However, economic analysis shows that they are self-imposed—that is, discretionary, not economically necessary—although they may well be politically necessary. Ultimately, when all is said and done, complex procedures are adopted to ensure that treasury can spend by cutting checks; that treasury checks never “bounce”; that deficit spending by treasury leads to net credits to banking system reserves; and that excess reserves are drained through new issues by treasury and open market sales by the central bank. That this all operates exceedingly smoothly is evidenced by a relatively stable overnight interbank interest rate—even with rather wild fluctuations of the treasury’s budget positions. If there were significant hitches in these operations, the overnight rate would be unstable.

## INTERNATIONAL “FLOWS” AND EXCHANGE RATES

There is a great deal of confusion over international “flows” of currency, reserves, and finance, much of which results from failure to distinguish between a floating versus a fixed exchange rate. For example, it is often claimed that the USA or Mexico needs “foreign savings” in order to “finance” its persistent trade deficit. Such a statement makes no sense for a sovereign nation operating on a flexible exchange rate. For such a country, when viewed from the vantage point of the economy as a whole, a trade deficit results when the rest of the world (ROW) wishes to net save in the form of domestic-denominated (dollars or pesos) assets. The ROW exports to the country reflect the “cost” imposed on citizens of the ROW (say, the exports they send to the USA or Mexico) to obtain the perceived “benefit” of accumulating dollar or peso denominated assets. From the perspective of the importer, the “net benefit” of the trade deficit consists of the net imports that are enjoyed. In contrast to the conventional view, it is better to think of the

USA or Mexican trade deficit as “financing” the net dollar or peso saving of the ROW (including other central banks)—rather than thinking of the ROW as “financing” the USA or Mexican trade deficit. If and when the ROW (including central banks) decides it has a sufficient stock of dollar or peso assets, the US or Mexican trade deficit will disappear (by definition).

It is often believed that a government budget deficit causes a trade deficit—the “twin deficit” argument. The transmission mechanism from budget deficit to trade deficit is supposed to operate through interest rates and currency appreciation. First, borrowing by government supposedly raises domestic interest rates as the budget deficit “soaks up” domestic saving. Rising interest rates increase the foreign demand for the currency, causing currency appreciation, thus generating a trade deficit. Further, maintenance of high interest rates is claimed to be necessary to maintain the “capital flow” required to finance the trade deficit and the budget deficit, depressing long-term economic growth. The country is said to be a “prisoner of international capital markets”—that “force” high interest rates and low growth on the country. However, the understanding developed above allows us to critically examine such claims.

First, budget deficits do not “absorb” private saving and do not put upward pressure on interest rates (thereby crowding out private spending). Indeed, in the absence of central bank intervention (to drain excess reserves), a budget deficit places downward pressure on overnight rates because it leads to a net credit of banking system reserves. As already discussed, a sovereign government on a floating rate does not really “borrow”, hence, cannot absorb private saving when it deficit spends. Rather, budget deficits allow for positive net saving of government liabilities denominated in the domestic currency by the non-government sector. This is initially in the form of net credits to banking system reserves, but sovereign debt will be sold to drain excess reserves (either sold by the central bank in open market operations or by the treasury in the new issue market). If a budget deficit is associated with rising overnight rates, this is only because the central bank has decided to raise its overnight interest rate target (called the equilibrium interbank rate in Mexico)—a not infrequent, but discretionary, response to budget

deficits. The central bank could instead choose a lower interest rate target no matter how large the budget deficit.

Second, the effect of budget deficits on the foreign exchange value of the domestic currency is ambiguous. If budget deficits allow the domestic economy to grow faster than the ROW, it is possible that a trade deficit will result and this could lower exchange rates. However, this depends on the relative foreign demand for domestic currency-denominated assets. This in turn can depend on expectations: if it is believed that a budget deficit will induce the central bank to raise interest rates, then the currency *could* appreciate in anticipation of future central bank action—although evidence for this effect is not at all conclusive.

The most likely transmission mechanism from a budget deficit to a trade deficit operates through the positive impact fiscal stimulation can have on economic growth. Hence, even if one believed that a trade deficit is “bad”, this does not necessarily indicate that a budget deficit and economic growth should be foregone to avoid a trade deficit. Further, if one sees a trade deficit as a net benefit to the domestic economy (in the sense that residents get to enjoy the net imports), it becomes even harder to argue that policy should be geared toward avoiding a trade deficit. Finally, if one understands that a trade deficit results from a ROW desire to accumulate net savings in the form of assets denominated in the currency of the net importer, one has a different view of the “financing” of the trade deficit. In this case, it is not necessary to avoid budget deficits or to keep domestic interest rates high, or to keep the exchange rate up, all in order to attract “foreign financing” of the trade deficit. Rather, a trade deficit should be seen as the mechanism that “finances” the ROW desire to net save in assets denominated in the net importer’s currency.

There *is* a symmetry to the “twin deficits”, although it is not the connection usually made between the budget deficit and trade deficit. A government budget deficit occurs when the nongovernment sector desires to net save in the form of sovereign debt (broadly defined to include both interest-paying bills and bonds as well as non-interest earning

currency and reserves). A current account deficit occurs when the ROW wants to net save assets denominated in the currency of the net importer, including the liabilities of the nation's sovereign government. The common view that this net saving of the non-government and ROW sectors, respectively, "finances" the government and trade deficits, respectively, has confused an identity with causation.

## MONETARY AND FISCAL POLICY FOR SMALL OPEN ECONOMIES

The argument so far may not be too controversial for many economists if it is applied to the USA. The USA dollar is seen as a "special case", with a handful of other hard currencies in a similar situation. Perhaps these hard currency nations do not need to worry about "financing" budget and trade deficits, but what about the world's other floating currencies? Surely small open economies like Australia, Mexico and Canada must manage their government budgets and trade accounts to keep up the value of their currencies? I have even heard Mexican economists claim that the analysis above cannot apply to Mexico because there is *no* foreign demand for net saving in peso-denominated assets—and, indeed, even claim that Mexican residents prefer to hold dollar assets over peso assets. Hence, the claim is that Mexico really must borrow in the form of dollars in order to import. It is also claimed that peso-denominated Mexican federal government debt will not be held unless it promises high interest rates; this is part of the justification for borrowing in dollars, so that Mexican government interest costs can be lower. Symmetrically, it is argued that peso exchange rates must be kept up—largely through tight fiscal and monetary policy—to maintain external demand for peso assets. For this reason, it is "impossible" to achieve full employment by stimulating domestic demand. Mexico's hands are tied by the necessity to maintain inflows of "capital" that are in turn required to "finance" its borrowing for government spending (including servicing of debt) and net imports.

First we should admit that it is probably true that trade deficits and budget deficits can have impacts on currency values; it is less certain that the interest rate targets of monetary authorities have predictable effects on exchange rates. Assuming that budget and trade

deficits do lead to devaluation of a currency, the first question is whether policy ought to try to avoid currency devaluation. The second question is whether a country like Mexico can pursue full employment policy without worrying about “financing”—given that pursuit of the policy *might* impact exchange rates.

I readily admit that I am not an expert on Mexican institutional arrangements and politics. In what follows, I will present only an outline of an alternative approach to these issues, following the theoretical considerations laid out above. Mexican economists more familiar with the specific conditions in their country will have to adapt these theoretical arguments. It must also be kept in mind that the following analysis assumes a floating exchange rate with a convertible currency—a currency that can be converted in international exchange markets, albeit at a rate that can fluctuate.

Recall from above that a trade deficit means the ROW wants to net save domestic currency assets, and that the real national cost of enjoying imports consists of the exports that must be delivered. A trade deficit thus means that the country enjoys real net benefits because the benefits (imports) exceed the costs (exports). As a trade deficit increases, the per unit real cost of imports is declining in the sense that relatively fewer exports have been demanded by the ROW per unit of import. The orthodox view is that a trade deficit will then cause currency depreciation. However, even if a trade deficit is accompanied by depreciation of the currency, net real benefits have increased. To the extent that the currency depreciation lowers imports, the net real benefits decline. However, because the depreciation is supposed to result from the trade deficit, the depreciation cannot eliminate the trade deficit entirely. We conclude that a trade deficit does generate real net benefits.

This is not to deny that depreciation of the currency might impose real and financial costs on individuals and sectors of the economy. Domestic policy can and probably should be used to relieve these individual and sectoral costs. However, using policy to prevent (or minimize) trade deficits in order to forestall currency depreciation means foregoing the net real benefits. The orthodox reaction to a trade deficit is to recommend austerity (tight fiscal and monetary policy) that slows economic growth and raises unemployment. This



prevents the nation from enjoying the benefits of a trade deficit. A more sensible policy would be to react to a trade deficit by stimulating the economy—to put people to work, especially any workers who lost jobs due to competition by imports. Further, the government might need to offset undesired distributional effects that arise from larger imports and currency depreciation. However, trying to prevent a trade deficit in the first place merely means that the country loses the possibility of realizing net real benefits that result from trade deficits.

Let us take the worst case—a small open economy subject to Thirlwall Law constraints and where Marshall-Lerner conditions do not hold. In other words, this country's price elasticity of demand for imports is quite low, such that its sum with the price elasticity of demand by the ROW for its exports is less than unity. (Davidson 1994) In addition, we assume the country's income elasticity of demand for imports is high so that unless it grows substantially slower than the ROW a trade deficit results. Further, as a small nation, it is a price taker in international markets and its scale of production and demand are so low that it has no impact on international prices. Finally, let us assume that a trade deficit causes its currency to depreciate—but price elasticities are such that depreciation will not wipe out the deficit. Hence, depreciation can have a “pass through” impact on domestic currency prices. All of these conditions may well approximate Mexico's situation.

When the country begins to grow, a trade imbalance results. Before its currency depreciates, it clearly enjoys an improvement in its real terms of trade—as its exports have not changed but its imports have risen. As its currency depreciates, import prices rise in terms of its currency. (This will have an additional impact on the home-currency denominated trade deficit, which, by assumption, can cause additional depreciation.) In addition, assuming competitive markets, the home currency prices of all the commodities it exports also rise. The foreign currency prices of import and export commodities, however, are not affected. By assumption, rising domestic currency prices of imports do not affect purchases of imports, and exports are not affected because foreign currency prices have not changed. So depreciation does not directly affect the improved (real)

terms of trade. If rising prices of the types of commodities exported do reduce domestic purchases of these, more are available for export—which could reduce the trade deficit and worsen the terms of trade somewhat. Still, depreciation of the currency cannot completely reverse the improved real terms of trade (for otherwise there would be no increase of the trade deficit—which is presumed to cause the currency depreciation). We conclude that even if the currency depreciates and even if this causes domestic currency prices to rise, the country benefits from better terms of trade.

As mentioned above, a depreciating peso will increase the peso price of imports, with a pass-through effect on some domestic prices. Indeed, some estimate that in Mexico (as well as Brazil and Argentina) the elasticity of the inflation rate with respect to the exchange rate is greater than unity, even though the share of imports in GDP is less than a third. This magnified exchange rate effect on inflation has been labeled “structural inflation”. (See Pinto 1973.) Notwithstanding the arguments raised previously about the advantages of improved real terms of trade, many argue that the costs of inflation overwhelm these benefits.

In response, we should first recognize that the “direct” effect of a currency depreciation is to raise the relative price of output with above average import content. There is no reason for policy to fight such a relative price increase. Much as a rise of energy prices will affect relative prices in a manner that will exert pressure on consumers and producers to substitute commodities and production processes with greater energy efficiency, a depreciating currency will favor production with high domestic content. In any event, any price rise due to this direct effect should not be labeled “inflation”—any more than we would call a shift of consumer tastes toward higher priced “luxury” goods an “inflation” of consumer prices. The direct effect is a relative price effect, not inflation.

More relevantly to the case of Mexico and other Latin American countries, there does seem to be an exaggerated effect on prices and wages, generally, after a currency devaluation. The cause of this is controversial and apparently only partially understood. We cannot provide a definitive statement on this, but will make three observations that

warrant further evaluation. First, this exaggerated “pass-through” or “structural” inflation has almost certainly diminished in recent years as these economies have become more open and subjected to international competition. Most importantly, the tremendous growth of the Chinese economy has already, and will increasingly, put downward pressure on wages and prices all over the world. Second, structural inflation appears to largely result from indexation processes, at least in some Latin American countries. When currency depreciation raises the price of goods with high import content, indexing of wages, prices, and retirement benefits multiplies the effect. This is especially the case for government expenditures (wages and salaries paid to government employees, benefits paid to retirees, and prices paid by government for its purchases)—which are not subject to competitive pressures from international markets. Hence, even an open economy like that of Mexico can experience structural inflation to the extent that the government indexes its expenditures. This then generates quite undesirable secondary effects: the relative price system will not work well to shift demand away from imports; and the domestic private sector will have to compete with the higher wages and prices paid by government—becoming less competitive with foreign producers—or simply cut back production.

Third, the orthodox solution to structural inflation—austerity—only makes matters worse by depressing employment and demand for domestic output. A better alternative would be to directly fight the underlying causes of structural inflation (such as indexation) while raising employment and demand. In the final section of this chapter, we will explore this alternative policy. Not only would this alternative allow Mexico to move toward full employment with enhanced price stability, but it would also allow the nation to enjoy the benefits of trade deficits. Only if Mexico were operating beyond full capacity of labor and other resources would it make sense to react to a trade deficit, depreciating currency, and structural inflation by imposing austerity. Obviously Mexico never operates its economy even remotely close to the “true inflation” barrier of full employment of resources.

Hence, we return to the fear that economic growth will increase a trade deficit and possibly lead to currency devaluation, rising prices of imports, and perhaps even to structural inflation. However, when all is said and done, the country has experienced economic growth and improved terms of trade (if not, there would be no currency depreciation). The “cost” of the trade deficit, economic growth, and improved terms of trade is, perhaps, inflation as well as some redistribution. Whether this “trade-off” is worth it depends on political considerations—an economist cannot answer this question, although it seems unlikely that the population as a whole would be willing to give up economic growth and better terms of trade in order to avoid some price increases and distributional effects. In any case, as we have suggested, other policy can be used to deal with these undesired effects.

Of course, many would also point to the “financing” costs of the trade deficit, itself, and the “burden” of rising external indebtedness—an argument covered above to which we now return. First, to the extent that a trade deficit coincides with an increase of foreign holdings of peso-denominated financial assets, this is believed to create a debt burden that commits Mexico to delivering future output to foreigners. Hence, the net benefits of a trade deficit are only temporary—the nation is committed to running a trade surplus in the future, even repaying with interest. Actually, a trade deficit results in foreigners holding peso-denominated assets that must be serviced in pesos. It is true that one way to service and retire debt is to sell output in international markets. However, recall that Mexico’s trade deficit results from the ROW desire to hold financial and real assets that promise peso returns—not from a desire to consume Mexican output of goods and services. Indeed, it appears unlikely that a significant proportion of Mexico’s external peso debt will ever be serviced or retired through Mexican exports of goods and services—nor is this something that the external holders of this debt would desire. To the extent that future exports *are* used to service or pay down debt, it is correct that this represents a real burden (exports are a cost) that to some degree offsets the advantage of running a trade deficit today. But, to repeat, this is only one way to service or pay down debt.

One of the primary arguments against running “twin deficits” is the belief that this burdens the nation by increasing indebtedness. In large part, this belief results from a confusion of a fixed exchange rate system with a floating rate system. If Mexico were to operate with a gold standard or a dollar standard, a Mexican government deficit would commit the government to delivery of gold—a true “debt burden”. However, with a floating rate “fiat” money, government only promises to service its peso debts by delivering its own “fiat” peso money. This does not mean that a government deficit can never be too big—inflationary—but it does mean that deficits do not “burden” government in the usual sense of the term. Nor do deficits “burden” current or future taxpayers; rather, as discussed above, deficits allow the nongovernment sector (including foreigners) to net save assets denominated in that country’s currency—in Mexico’s case, pesos.

If a sovereign government chooses to import a Toyota automobile from Japan, it truly can “get something for nothing”—issuing domestic currency reserves that eventually find their way to the Bank of Japan. Is this limited to the USA government, which issues dollar liabilities that are demanded by the ROW due to “dollar hegemony”? No. Any sovereign government that issues its own currency obtains “something for nothing” by imposing a tax liability and then issuing the currency used by those with tax liabilities to meet the obligation. The only difference in our example is that the government has obtained output produced outside the country, by those who are not subject to its sovereign power—in other words, by those not subject to its taxes. Can Mexico’s national government enjoy such “seigniorage”? Certainly, it has no power to tax residents of Japan—so why would there be any demand for pesos outside Mexico?

Even within any nation there can be individuals who avoid and evade taxes imposed by the sovereign power, but who are still willing to offer their output to obtain the sovereign’s currency. Why? Because those who are not able to avoid and evade taxes need the currency, hence, are willing to offer their own output to obtain the currency. The USA dollar has value outside the USA because USA taxpayers need the currency. By this I do not mean to imply that USA currency is only used to pay taxes, or that those who

hold USA currency or reserve deposits at the Fed do so on the knowledge that USA taxpayers want high powered money to pay taxes. Analytically, however, it is the taxing power of the USA government that allows it to issue currency and reserves that are demanded domestically *and* abroad.

Similarly, the Mexican peso is demanded by residents of Mexico who need pesos to pay taxes. By extrapolation, even those who do not need to pay peso taxes (whether residents or not) will accept pesos because others do need them to pay taxes. Again, I do not mean to imply that one accepting pesos is thinking about the tax liability—but the peso tax liability is the foundation that underlies the “fiat” peso monetary system and ensures that there will always be some demand for the peso. In a monetary economy such as that existing in Mexico, most peso-denominated transactions take place in private (but peso denominated) liabilities (such as bank liabilities) and have nothing to do with taxes. Still, the Mexican government can take advantage of its sovereign ability to impose taxes in pesos to ensure that pesos will be demanded, and then can purchase output from the private sector (or hire labor) by emitting its peso liabilities. Some of these peso liabilities (both those issued by government as well as those issued by the private sector) will be held by foreigners. Those who argue that there is no ROW demand for peso-denominated assets are mistaken, as a current account deficit is proof that there is an offsetting capital account surplus—taking the form of foreign holdings of financial and real peso-valued assets. While foreign holders do not think about the peso taxes imposed on residents of Mexico, these taxes really underlie the demand for peso-denominated federal government issues of currency and bank reserves.

It is possible that the ROW demand for peso denominated assets is affected by Mexico’s overnight interest rate. Perhaps the demand is higher when Mexican interest rates are higher. Similarly, it is possible that a high peso exchange rate builds ROW confidence in Mexican assets and hence maintains high ROW demand for pesos. (One could also come up with a counter argument that low peso exchange rates would encourage foreign purchases of Mexican assets. Further, there are many examples of the failure of high interest rates—even above 100%!--to prevent currency devaluation.) However, this does

not necessarily justify high Mexican interest rates and exchange rates. Typically, monetary policy and fiscal policy are tightened to keep interest rates up and to maintain slack domestic demand in an attempt to balance the government budget and the trade account. The impact on domestic employment is all too familiar: unemployment plus underemployment reaches to perhaps fifty percent of the labor force. Mexican growth remains low, which has a negative impact on investment and productivity, and hence on development more generally. The “costs” of trying to maintain the exchange value of the peso is, again, high unemployment and low growth.

While it is true that a trade deficit generates net real benefits for a developed nation like the USA, most of the benefits of trade deficits cannot be realized in developing nations that are depressing domestic demand to keep exchange rates high. While imports are cheaper in terms of a strong domestic currency, this is not much consolation for households that cannot find steady, formal sector work. Further, domestic firms find it difficult to compete, thus, investment is neither affordable nor promoted because demand for domestic output is too low. Finally, workers displaced by imports are simply left unemployed—they are not “freed up” to do other work because aggregate demand is too low to create alternative employment for them. In other words, if a country maintains strong exchange rates through tight fiscal and monetary policy, many of the potential net benefits of a current account deficit are not likely to be realized.

The belief that Mexico *needs* “capital flows” to finance its trade and budget deficits is in large part responsible for its slow growth and high unemployment. In truth, a country with a sovereign floating currency has other options. Its government can spend by crediting bank accounts, purchasing anything that is for sale in pesos. If government wants to buy some goods and services that are *not* sold in exchange for pesos--for example, imports--then it must offer pesos in international exchange markets. If there were no demand for pesos in these markets, then the government would not be able to purchase such goods, meaning that a trade deficit could not result. In fact, of course, there is no problem exchanging pesos for dollars or practically any other currency. It is possible that if the government offers pesos to international exchange markets, this can

have a negative impact on exchange rates, but the notion that there is “no demand” for pesos externally is incorrect. Hence, Mexico’s government can indeed buy both domestic and foreign output by issuing pesos.

If, instead, the Mexican government issues dollar-denominated debt it avoids any possible direct impacts on exchange rates. However, this puts the government into the position of a *borrower* committed to making payments in the currency of another nation. In effect it is no longer a sovereign, and its debt now carries default risk. If international markets come to doubt Mexico’s ability to service dollar-denominated debt, this can cause an exchange rate crisis. Hence, the belief that issuing dollar debt allows Mexico to avoid possible pressure on the exchange rate that could result from government spending in pesos is at best short-sighted. Bond rating agencies recognize that sovereign governments cannot be forced into involuntary default on liabilities denominated in their own currency; on the other hand, governments can and do default on liabilities denominated in foreign currencies—a risk that gets priced into such instruments. This is why countries that issue debt in foreign currency do not generally obtain lower interest rates. International markets recognize that any reduction of exchange rate risk is offset (or more than offset) by default risk, based on ability to obtain the foreign currency to service the debt. If the ROW really prefers to net save in the form of dollar-denominated assets, why would they purchase dollar-denominated liabilities issued by Mexicans unless a premium were paid over the yield paid by USA issuers of dollar-denominated liabilities?

Of course, Mexico has already issued a large volume of dollar-denominated debt. In the case of private issuers, they will default when they cannot service their dollar debt—which will subject them and the holders of their debt to the laws of bankruptcy. In the case of the Mexican government, there is no simple analogy to private sector bankruptcy. The external dollar-denominated government debt becomes a complex political issue, in addition to the economic issues it raises. It is easy for the academic analyst to recommend that the Mexican government should never have issued this debt; it is much harder to provide a solution to the current problem. While peso-denominated government debt cannot “burden” Mexico, dollar-denominated government debt *does* burden Mexico and



will continue to do so until Mexico either defaults, or pays it down. One form of default that would eliminate Mexico's burden while allowing holders of the debt to recoup some losses would be to convert the dollar debt to peso debt (at a negotiated exchange rate). A novel proposal would be to convert some or all of the debt to claims on Mexico's labor force at a negotiated exchange rate and peso wage. This could be used to help resolve Mexico's unemployment problem even as it resolved its foreign currency debt problem. Economists associated with CFEPS have proposed such a plan for Argentina.

Finally, let us conclude this section with an examination of the erroneous belief that Mexican peso interest rates must be kept high to enable the government to "finance" its peso deficit and to attract international capital flows to "finance" Mexico's current account deficit. As we have seen above, sovereign debt denominated in the domestic currency is issued to drain excess reserves, not to "finance" government spending. In other words, this is not a borrowing operation but rather is undertaken to prevent the overnight rate (called the "equilibrium interbank rate", or EIR, in Mexico) from falling below target. The central bank determines that rate—and it can be set anywhere the central bank chooses. The Bank of Mexico could keep the EIR (overnight rate) at 1%; the treasury bill rate would then be arbitrated close to 1%. When the government deficit spends, this can create excess reserves that put downward pressure on the overnight rate (causing it to fall below the 1% target)—relieved by selling government bonds. If the government offers bonds but finds no demand for them at the 1% rate target, this simply indicates that banks are happy with their reserve position. In that case, there is no reason to sell the bonds, and certainly no reason to *raise* rates on the hope that markets would choose to buy bonds! With respect to "financing" the trade deficit, we have already noted that it is more revealing to think of the trade deficit as "financing" the ROW demand for peso-denominated assets. If that demand were already satisfied, the trade deficit would not expand. It makes no sense to try to keep interest rates up to "attract" capital flows, as the trade deficit creates the peso flows that allow the ROW to buy peso-denominated assets. Thus, the conventional arguments for keeping Mexico's interest rate high (to "finance" budget and trade deficits) are flawed.

## ALTERNATIVE POLICY FOR A DEVELOPING NATION

Let us assume that we wish to construct an alternative set of policies for a developing nation that issues its own sovereign currency. The primary goal is to achieve full employment with price stability. Subsidiary goals could include poverty reduction, improvement of public infrastructure, promotion of domestic consumer output, and provision of public services. In this final section, we will examine what has been called the “employer of last resort” policy (ELR)—which could be used as the basis of this alternative policy proposal.

The first component of the proposal is relatively simple: the government offers to hire all the labor that cannot find private sector (formal) employment. (See Wray 1998 for a longer discussion, including suggested types of jobs that could be created and performed by ELR workers.) The government simply announces the wage at which it will hire anyone who wants to work, and then hires all who seek employment at that wage. A package of benefits could include healthcare, childcare, sick leave, vacations, and contributions to Social Security so that years spent in ELR would count toward retirement. Exactly what will be paid, and what benefits will be offered, will depend on the living standard that the country in question is able to provide. Over time, as the country’s productive capacity improves, it will raise this “basic package” that consists of a basic wage paid plus benefits.

Of course, there will still remain many (non-ELR jobs) jobs in the public sector that are not a component of the ELR and that could pay wages and benefits above the ELR wage. ELR is not meant to replace existing public sector workers. There will also be those who choose not to accept employment in ELR—for whatever reason. Still, this policy will as a matter of logic eliminate all unemployment, defined as workers ready, willing and able to work at the “basic” wage but unable to find a job even after looking—since they can always accept ELR work. Note also that there is no question about the government’s ability to financially afford such a program—so long as it pays wages in the form of its own sovereign, floating rate currency.

An important question, however, concerns the impact this program would have on aggregate demand: is the full employment that is generated going to increase aggregate demand so much that accelerating demand-pull inflation would follow? That is the belief of many policy-makers: if unemployment falls below NAIRU, inflation results. However, the ELR program is designed to ensure that spending on the program will rise only to the point that all involuntary employment is eliminated; once there are no workers willing to accept ELR jobs at the ELR wage, spending will not be increased further. Thus, the design of the ELR guarantees that program spending will not become "excessive", it will not increase aggregate demand beyond the full employment level. If ELR employment has a "multiplier" effect on private spending and production, workers will be hired out of the ELR program (to work in the private sector) so that spending on the program automatically falls. In this way, ELR is a powerful automatic stabilizer. With ELR in place, when private aggregate demand is not sufficient to employ all resources, the ELR program kicks in at just the right level to employ workers and raise aggregate demand. Once full employment is reached, ELR raises aggregate demand no further. This is all a result of automatic policy and does not have to rely on markets.

This should eliminate the fear that a full employment policy must necessarily generate demand-pull inflation. Of course, it can still be objected that full employment and the ELR wage could generate cost-push inflation by placing pressure on wages and thus costs and prices. We now examine the second part of the proposal: exogenous wage setting by the government. The government sets the price of the ELR wage, which becomes the base wage in the economy. Thus, while the quantity of government spending on the ELR program "floats", the price paid for ELR labor is fixed. The government will determine the price (ELR wage) and then let markets determine how many ELR workers show up -- which then determines total government spending (on this program—obviously there will be other types of government spending, which we are holding constant for the purposes of this analysis). This is the mechanism that prevents full employment achieved through ELR from setting off inflation. If the government said it would hire 8 million into ELR jobs and would pay whatever wage was required to obtain that many workers, then inflation could well result—as the government wage paid rises in an attempt to bid

workers away from the private sector. Instead, in the ELR program, the wage is fixed but the quantity employed floats. In other words, the government offers a “buffer stock” program, standing ready to “buy” labor at the announced price/wage.

What are the implications for prices and wages more generally?

With a fixed price, the government's ELR wage is perfectly stable and sets a benchmark price for labor. Some jobs might still pay a wage below the ELR wage if they are particularly desirable (for example, because the work is pleasurable, or where large wage increases are possible for a lucky few—as in sports or the arts). However, most low wage jobs (formal and informal)—which pay below the ELR wage before the ELR is implemented—will experience a one-time increase of wages (or will disappear altogether). Employers will then be forced to cover these higher costs through a combination of higher product prices, greater labor productivity, and lower realized profits. Thus, some product prices should also experience a one-time jump as the ELR program is implemented. In short, at the low end of the wage scale, implementation of ELR might cause wages and the prices of products produced by these workers to experience a one-time increase. If we set the ELR wage at the legislated minimum wage, even this jump won't occur (except where informal labor markets pay below the legislated minimum). This is why it is probably less disruptive to initially put the ELR wage at the minimum wage. If it is set above the minimum wage and it includes benefits not usually offered by the private sector, this would at first cause the ELR pool to grow as the private sector would lose workers. The private sector would then have to increase wages and benefits, presumably forcing them to raise prices. But this one time jump is not inflation nor can it be accelerating inflation as these terms are normally defined by economists.

Still, some argue that other wages are likely to also rise because by achieving full employment of labor, the threat of unemployment is removed, emboldening workers to demand higher wages—this is essentially the old Marxist “reserve army of the unemployed” argument. However, just as workers have the alternative of ELR jobs, so do

employers have the opportunity of hiring from the ELR jobs pool. Thus, if the wage demands of workers in the private sector exceed by too great a margin the employer's calculations of their productivity, the alternative is to obtain ELR jobs workers at a mark-up over the ELR wage. This will help to offset the wage pressures caused by elimination of the fear of unemployment. It must be remembered that the ELR jobs workers are not "lost" as a reserve army of potential employees; rather, they can always be obtained at a mark-up over the ELR wage. In the absence of ELR, these workers can be obtained at a mark-up over the value of the package of social spending obtained when unemployed (plus informal labor market earnings); this mark-up, however, is likely to be higher than the markup over the ELR wage since it must be sufficient to make formal sector employment preferable.

One might say that the ELR program provides full employment with loose labor markets; it is precisely the opposite of traditional Keynesian policy, which gives high employment only with tight labor markets -- at least for the skilled and semi-skilled. This is why ELR is consistent with price stability, while traditional Keynesian policy is not. So long as the government keeps the ELR wage fixed at the basic compensation level, employers can always obtain workers from this pool at that price. This is the private sector alternative to hiring workers of greater skill at "market determined" wages. When the "market determined" wage rises to a level that so exceeds productivity-adjusted value of labor employed, there is an incentive to substitute workers from the ELR jobs pool. For this reason, the ELR wage will continue to provide an "anchor" for market wages.

From time-to-time, there will be pressure for an upward revision of the ELR wage. As the overall price level (probably) will not be held constant, and as there are substantial forces in modern capitalist economies that generate trend increases of the price level, the "real" (inflation-adjusted) ELR wage will fall over time -- generating a need for an adjustment. In addition, there will be pressures by labor to raise the ELR wage—just as there are pressures currently to increase the minimum wage. When the government raises the ELR wage, this in effect devalues the currency by redefining the amount of labor services that must be provided to the government to obtain ELR money wages. Rather

than "causing inflation", the devaluation will merely take account of inflation that results from factors that have little to do with the ELR policy. Thus, the ELR will achieve what most economists would call zero unemployment (well beyond what they would call full employment) without inflationary pressures. The ELR policy would almost certainly result in less inflation than is currently the case, while simultaneously generating a higher level of employment.

Some argue that developing nations cannot adopt ELR policies because "international markets" will punish them. In truth, the developing country that adopts an ELR program has tremendous advantages so that others will soon follow. It will enjoy full employment, which allows workers to obtain on-the-job training, rather than remaining unemployed (or underemployed in informal markets). ELR workers are a visible workforce, available for hire by international investors at a small mark-up over the ELR wage. Further, the country can enjoy the output of the ELR workers—everything from public infrastructure investment to increased public services. Again, this will make the economy more desirable from the perspective of potential investors. The ELR program could be a strong force for more rapid development.

Others argue that ELR will increase the trade deficit as it increases income, aggregate demand, and thus the demand for imports. This is a possible outcome, although it should be noted that ELR can be implemented without raising national income or aggregate demand, if desired—for example if an economy were already operating close to capacity. This is done by cutting other government spending and/or raising taxes as ELR is implemented in order to hold aggregate demand constant. However, it is obvious that Mexico need not undertake such an approach as it chronically operates with insufficient demand and very high unemployment. Let us then presume that Mexico's ELR program does raise aggregate demand significantly and that this increases imports much more than it increases exports—resulting in a larger trade deficit. Is this a result that must be feared? No, as discussed in detail above. Even if a trade deficit results, and even if this depreciates the peso, net benefits are enjoyed and the real terms of trade improve. Indeed, ELR is the proper response to a trade deficit—it ensures that if domestic workers lose jobs due to import competition, they can still obtain jobs in the ELR program. Without an

assurance that displaced workers find employment elsewhere, the country loses the advantages of a trade deficit.

Note how these conclusions require the assumption of a sovereign nation, issuing its own currency, on a floating rate regime. A country in this situation spends by crediting bank accounts, so its spending cannot be constrained by revenue. Because it floats the currency, it has an additional degree of freedom: while it might prefer to have a strong (or weak) currency, it has not “mortgaged” fiscal and monetary policy to a promise to maintain a fixed exchange rate. It can “sacrifice” the exchange rate to gain higher employment and greater price stability if it so chooses. Its central bank is free to pursue its interest rate target—again, exchange rate movements might enter the central bank reaction function, but can be ignored if the central bank prefers to encourage high employment and growth with price stability.

This analysis does not apply solely to the issuer of the international currency reserve, but rather applies to any sovereign nation that issues its own, floating, currency. There can still be political or institutional barriers to implementing an ELR program that can produce full employment while improving price stability, but there are no financial constraints in the way. Each individual nation will have to formulate the ELR program to suit its own institutional and political situation. Both Argentina and India have instituted versions of ELR programs that are worth careful consideration to create a viable plan for Mexico.

Mexico faces a choice. Should it continue to adopt austerity on the misguided belief that this is necessary to “finance” its budget and trade deficits? Or, should it adopt an alternative that allows it to achieve full employment with enhanced price stability?

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