

Alternative exchange rate arrangements and effective demand: an important missing analysis in the debate over greater North American monetary integration

***Abstract:** Given the wide swings in the exchange value of the Canadian dollar over the past decade, some would like to see a return to a fixed exchange rate system in North America. In reviewing the debate between supporters of pegged versus floating rates, there is little analysis found of the implications that these alternative currency arrangements could have on effective demand along Keynesian lines. Interestingly, not only is this latter issue completely ignored, as among neoclassical economists, but even among Post Keynesian economists, there is little focused analysis of the implications of the choice of exchange rate regime on domestic effective demand. After a brief theoretical analysis of the role that floating versus pegged exchange rates would have on the ability of a domestic economy to amortize negative international shocks, the paper suggests that a floating rate would generate less recessionary pressures domestically than would a pegged exchange rate. Reviewing the economic performance in terms of gross domestic product per capita growth of some 34 countries for the post-Bretton Woods period, from 1973–97, that had experimented with both pegged and non-pegged arrangements, it was found that the latter fared better than the former.*

***Key words:** aggregate effective demand, exchange rates, growth performance, monetary integration, unemployment.*

While Canadian public opinion in support of a floating exchange rate has followed closely the ups and downs of the Canadian dollar over the past decade, since the launching of the euro, first as a virtual currency in

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1999 and then as a bona fide one in 2002, the question of greater currency integration has become an issue of growing importance for Canada's policy analysts and politicians, perhaps only to be surpassed by the controversy relating to the increasing cooperation over security of the North American continent since September 11, 2001. For instance, in March 1999, by a vote of 175 to 67, the governing Liberal Party, together with the support of the New Democratic Party, defeated a motion that was debated in Canada's House of Commons to study the creation of a North American monetary union. Since 1999, most policy-oriented journals, such as *Canadian Public Policy* (September 1999), the now defunct *Canadian Business Economics* (December 1999), *Isuma: Canadian Journal of Policy Research* (Spring 2000), and, among others, *Policy Options* (May 2001), have all featured special issues debating the merits of greater North American monetary integration. Leading the chorus, one finds major policy research institutes, such as the C.D. Howe Research Institute, the Fraser Institute, and the Canadian Center for Policy Alternatives, that funded reports on the question. Over the same period, there has also been a virtual avalanche of articles and comments on this issue in the Canadian media at large.

Although the recent sharp rise in the Canadian dollar has dampened somewhat public interest in greater monetary integration, over the past decade the more the Canadian dollar plummeted, the larger had become the chorus of those wishing to consider alternative exchange rate arrangements for North America. In particular, there have been some who would like a return to the "good old days" of the 1960s when the Canadian monetary authorities had pursued, during a short period of about eight years, the path of fixed exchange rates by setting the Canadian dollar within a narrow band of plus or minus 1 percent around the fixed parity of 92.5 cents in U.S. funds (see, for instance, Marcil and Beaulieu, 2002; Van Audenrode, 1998). There have been other policy analysts who view a fixed exchange rate policy merely as a transitional measure to lead ultimately to a complete revamping of the North American monetary landscape with the setting up of a common currency arrangement along the lines of the European Economic and Monetary Union (EMU) (see Courchene, 1999; Courchene and Harris, 1999a, 1999b; Grubel, 1999; Harris, 2000). There have been still others, perhaps reflecting the opinion of the majority of Canadians, who instead view the benefits of the status quo of a floating Canadian dollar to still exceed the costs. Especially important to most Canadians, there are the psychic and tangible costs of losing one's national sovereignty over policy matters (see Carr, 2000; Laidler, 1999; Laidler and Poschmann, 2000; Murray, 1999; Robson, 2001).

In debating the merits of these various exchange rate regimes, the supporters of greater monetary integration have pointed to the cornucopia of benefits that would result in tying Canadian currency to the U.S. dollar, including such supposed benefits as greater productivity, lower transactions costs, lower long-term interest rates (because of the elimination of exchange rate risk), and, among many other presumed benefits, a low inflation rate. The advocates of floating rates, on the other hand, have emphasized primarily the “shock-absorbing” feature of such regimes, while the desirability of retaining the policy independence of the monetary authorities has often taken a visible, yet more subordinate, position in the debates. As discussed elsewhere, many of these presupposed benefits of greater integration are highly disputable (see Seccareccia, 2002). However, a careful reading of much of the research that has been published since 1999 would reveal that, although numerous facets of the existing and proposed competing exchange rate arrangements have been explored and analyzed, no one has studied the implications that these alternative monetary arrangements would have on effective demand and on the degree of utilization of Canada’s productive capacity.

The object of our paper is to address the issue of effective demand—an aspect that is completely lacking from the current policy debates in Canada. We shall first begin by offering a brief historical perspective on the issue and a short review of the theoretical concerns. This will then be followed by an attempt to evaluate the empirical relevance of our analysis.

A brief historical digression on exchange rate arrangements

The monetary history of the past century shows how advanced market economies have slowly divested themselves of constraining nineteenth-century mechanisms that imposed an inherently deflationary bias and prevented policy-makers from implementing domestic stabilization policies. Until World War I, we had inherited an international monetary arrangement whose central characteristic was the free convertibility of a country’s currency to gold at a *fixed* administered price chosen by the domestic monetary authority (see Eichengreen, 1985; 1996). Once that key relative price was fixed, domestic prices and incomes would then be forced to absorb shocks stemming from the international economy. Hence, disequilibria in a country’s trade account, originating, say, from a negative international demand shock, would call forth a compensating gold outflow that would only be halted once domestic wages and prices would have deflated enough to eliminate the negative trade balance. This rigid exchange rate system did have the effect of imposing relative long-term

stability on domestic prices, but only at the severe cost of destabilizing national income and output. Keynes had described the gold standard as a “barbarous relic” not only because of the harsh liquidity constraints that were imposed on the participating countries facing the negative international shock but because of its destabilizing ramifications on domestic effective demand.

Although it was abandoned during the Great Depression, the major players at Bretton Woods in 1944 were unable to break away completely from this “relic.” Known as the gold exchange system, under the Bretton Woods system of the early postwar period, two levels of convertibility were put in place whereby the United States first set the price of gold in terms of its official convertibility and the other participating countries would in turn fix their exchange rates in relation to the U.S. dollar. Although still retaining some important features of the earlier gold standard, there were crucial differences that offered greater policy flexibility to the governments of the participating countries. Unlike the earlier gold standard, this was in essence a U.S. dollar standard whose sole link to gold was because of the U.S. monetary authorities’ commitment to a *fixed* domestic price for gold at \$35 per ounce on the regulated primary market among central banks. In the private unregulated gold market, American citizens could not freely convert domestic currency to gold at the fixed administered rate applicable to central banks but had to pay the market price that was, at best, only tenuously related to the official fixed rate (De Grauwe, 1996, p. 17). Moreover, while participating countries were committed to fixing their exchange rates to the U.S. dollar, until the late 1950s, individuals could not freely convert their domestic currencies to the latter because of the various foreign exchange controls put in place during the early postwar period. It was largely this latter regulatory structure, together with the fact that exchange rates were fixed, but *adjustable*, which gave the degree of freedom that would allow policymakers to pursue expansionary policies domestically. However, by the late 1960s and early 1970s, because of the inordinate growth in claims from the rest of the world and especially because of a growing inflation associated with the Vietnam War in the United States, this made the gold parity rate progressively more difficult to defend internationally, and, with it, the fixed exchange rate system of the Bretton Woods era. After a series of speculative crises between 1968 and 1973, the system finally collapsed.

As early as 1950, Canada had been one of the first countries to break away from the Bretton Woods fixed exchange rate system. However, during the past three decades, the world has witnessed a proliferation of

countries adopting floating exchange rates—with the exception of European countries that have elected to join in a common currency arrangement and some financially troubled countries, primarily from the developing world, that have chosen the route of dollarization. This change in the international monetary environment has had the effect of severing permanently the tenuous link that had existed with gold during the previous era of fixed exchange rates. Unfortunately, the breakdown of the Bretton Woods system was also accompanied by a disappearance of the complex regulatory structure that had characterized the preceding era as countries went from a system of low to high capital mobility (see Alogoskoufis et al., 1991, pp. 1–2). As a result, when the world economy faced important crises, such as the oil price shocks of 1973 and 1979, and most Western governments reacted by implementing high interest rate policies to combat double-digit inflation rates, the effect was to destabilize domestic economies by bringing about a period of both monetary and fiscal retrenchment.

The mounting problem of effective demand, low growth, and rising unemployment that sets apart the post-1973 period from the earlier post-war era of fixed exchange rates was *not*, however, a result of the adoption of a more flexible international exchange rate structure, as some pro-Mundellian analysts would like us to believe. We wish to argue that it was, above all, the consequence of a series of conscious policies on the part of Western governments to bring about a low inflation environment, which most central bankers (mistakenly) believed would generate sustained growth in output and productivity (see Seccareccia and Lavoie, 1996). Instead of floating rates, the prime culprits were the high interest rate policies and fiscal austerity measures put in place during the past few decades, together with the deregulation of financial capital markets both domestically and internationally.

The effect of these policy measures was to generate low growth and the crisis-ridden speculative international monetary landscape typical of much of the post-1973 period. However, sustained growth and high employment could just as easily have been associated with the post-Bretton Woods environment of flexible exchange rates. Indeed, unlike the gold standard and other hybrid forms of fixed exchange rate arrangements, including currency boards and deeper monetary integration (such as dollarization and outright monetary union), floating exchange rate systems offer countries the flexibility and policy independence that other arrangements do not. Moreover, while fixed or floating exchange rate systems in themselves cannot be considered the single, or even the most significant, factor explaining economic performance, we wish to argue

that the choice of currency arrangement does have some implications for what can be described as the Keynesian problem of effective demand. In the following section, we shall discuss why various forms of fixed exchange rate structures have a greater deflationary bias for a domestic economy than floating rate systems. This is so not only because of the critical role that they play in constraining policy-makers to choose expansionary macroeconomic policies but also because of their possible mitigating effect on the behavior of private domestic aggregate demand as the latter reacts to negative international shocks.

The analytics of competing exchange rate regimes

Analytical differences among neoclassical economists

Given their microeconomic methodology, not surprisingly, most mainstream economists show a complete disregard for aggregate demand-side considerations. For instance, when Friedman (1988) first spelled out his famous position in favor of flexible exchange rates, he had emphasized their positive “shock-absorbing” feature, especially in modern economies characterized by substantial wage and price rigidities. Nowadays, this continues to be his position, as well as that of his followers, say, at the Bank of Canada (see Friedman, 2001; and, among many others, Murray 1999 and Schembri, 2001). For instance, in his debate with Mundell, Friedman argues that, in reaction to international shocks, it is simpler and far more desirable “to allow one price to change, namely the price of foreign exchange, than to rely upon changes in the multitude of prices that together constitute the internal price structure” (2001, p. 24). Adjustment in the foreign exchange rate prevents, therefore, price fluctuations in the international market to be transmitted domestically, which, in turn, allows an economy the choice of its own domestic inflation rate. Moreover, since the existence of inflexible prices and wages supposedly prevents market clearance and thus leads to the distortion of market adjustments to external shocks, flexibility in the exchange rate is seen as a surrogate to changes in domestic wages and prices, whose ultimate effect would be to mitigate fluctuations in output and employment (Friedman, 1988, pp. 9–10).

Neoclassical opponents of floating exchange rates, such as Mundell (2001), have argued instead that exchange rate flexibility cannot be a substitute for wage and price flexibility. Exchange rate volatility merely generates greater risk of exchange rate misalignment, thereby creating still greater market distortions (also see Harris, 2000). For instance,

Mundell argues that “efficient markets require thousands of flexible prices and the exchange rate provides [the flexibility of] only one price” (2001, p. 25). The only optimal solution is for wages and prices to be flexible; exchange rate variability would merely create greater exchange rate misalignment. Consequently, price stability as well as the optimal allocation of resources would best be achieved under monetary arrangements, such as a hard fix or a currency union, which would eliminate the presumed information distortions created by fluctuations in the exchange rate.

As we can see, therefore, for mainstream economists, the debate revolves essentially around what is the best way for the omnipotent market to achieve market clearance and the optimal allocation of resources—either through wage and price flexibility or through the exchange rate mechanism. Regardless of whether one subscribes to Friedman’s or the Mundellian analytics, all neoclassical economists remain prisoners of rudimentary microeconomic methodology. Nowhere is addressed the Keynesian problem of effective demand. Yet we wish to argue that this ought to be perhaps the most important concern to policy-makers, which neither neoclassical economists have seriously considered nor, as we shall see below, even some Post Keynesian economists have sufficiently explored.

Analytical differences among Post Keynesian economists

As pointed out by Smithin (2001), writers within the Post Keynesian tradition, who take seriously the question of effective demand, show no clear preference for either of the two main types of exchange rate arrangement. Indeed, Keynes, who was staunchly against the gold standard (i.e., one particular type of fixed exchange rate regime), had played a significant role in setting up the postwar Bretton Woods system of fixed (albeit adjustable) exchange rates. In part, this ambivalence in Keynes arose from the way one conceptualizes the problem of effective demand. For instance, when addressing the link between effective demand and exchange rate regime in chapter 19 of the *General Theory*, Keynes appears to be very unequivocal as to the desirability of flexible exchange rates in stabilizing domestic income; he wrote:

In light of these (aggregate demand) considerations I am now of the opinion that the maintenance of a stable general level of money-wages is, on a balance of considerations, the most advisable policy for a closed system; whilst *the same conclusion will hold good for an open system, provided the equilibrium with the rest of the world can be secured by means of fluctuating exchanges.* (1936, p. 270; emphasis added)

Hence, for reasons similar to why Keynes rejected the gold standard, only “fluctuating” exchange rates could maintain wages stable in face of an aggregate demand shock. Fixed exchange rates would lead to a greater destabilization of domestic incomes by engendering problems of effective demand through wage adjustment.

Despite the recognition of a possible link between the choice of exchange rate regime and effective demand domestically, as Davidson (1991, p. 87) has pointed out, in some of his writings, Keynes did recognize the negative feedback of a system of flexible exchange rates on global (or international) effective demand, because of the beggar-thy-neighbor outcome of competitive devaluations. Hence, while somewhat protecting aggregate demand in one country, a floating exchange rate would become the vehicle through which recession would spread to the rest of the world. As Davidson puts it,

a flexible exchange rate regime guarantees that for every “successful” economy that pursues a mercantilist trade surplus policy for expansionary purposes, there must be offsetting nations that are plagued with persistent trade deficits combined with the problem of importing forces. For every winner on the flexible rate system, there must be one or more losers. (1992, p. 207)

While overlooking Keynes’s argument defended in chapter 19 of the *General Theory* as to the previously mentioned “wage stabilizing” feature of a floating exchange rate system, a number of Post Keynesian economists, including Wray (1999), have been opposed, therefore, to such flexible exchange rate arrangements because of their prime concern with the destabilizing feedback effect on aggregate effective demand internationally.

Moreover, from Harrod (1965) to Davidson (1992; 2003), many Post Keynesian economists have rejected flexible exchange rates also because of the fear of destabilizing (price) expectations that would feed speculation, thereby requiring, for instance, greater central bank intervention in the foreign exchange markets than under a fixed exchange rate system. This, for instance, is what is to be found in Davidson (1992; 2003). It is the uncertainties that flexible exchange rates breed as a consequence of international shocks that is of concern; and this negative property of floating rates is perceived to swamp any other positive features that may be appealing to policy-makers (also see Pressman, 1993).

On the other hand, other Post Keynesian writers, such as Smithin (2001), have opted instead for floating exchange rates, particularly because of the “flexibility” the latter offers policy-makers wishing to pursue

Keynesian stabilization policies. Fixed exchange rate systems constrain governments from pursuing activist monetary and fiscal policies. Therefore, even if fluctuating exchange rates may encourage speculation in the foreign exchange markets and can destabilize rest-of-the-world incomes, they also free up policy instruments to combat such recessionary pressures within the domestic economy. Yet, despite Keynes's obvious insistence in the *General Theory* to the income stabilization effect, what is somewhat lacking on either side of the two Post Keynesian camps is a more focused discussion of the implications of the choice of exchange rate regime on effective demand domestically. The object of the following section is precisely to address more carefully this latter concern.

Theoretical framework

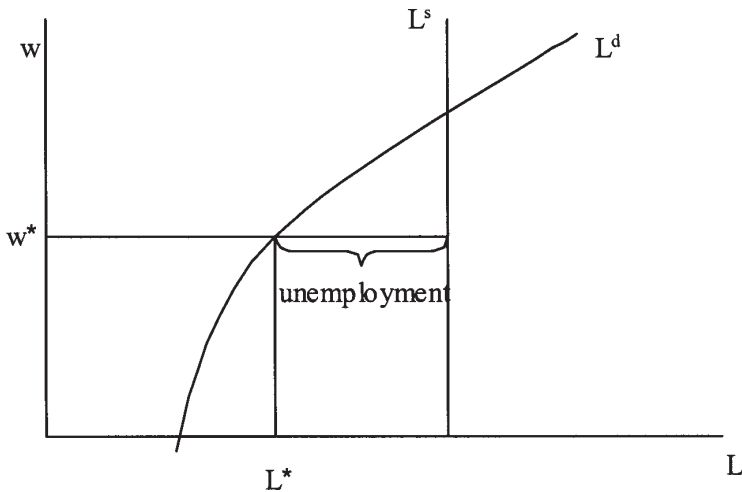
To explore the implications on domestic macroeconomic performance, we shall introduce a simple aggregate relation that we have adopted elsewhere in our research (see Bougrine and Seccareccia, 1999; Seccareccia, 1991), variants of which can also be found in other writings, such as those of Blecker (1989; 1999):

$$Y = C + A^D + X = wL + \Pi, \quad (1)$$

where Y is aggregate output/income, A^D is autonomous domestic spending (i.e., investment and government expenditures), X is exports, w is the wage rate, L is employment, and Π is property income. Let us suppose the usual Post Keynesian differential consumption propensities, so that $c_w > c_\Pi > 0$, or in the simpler version that will be assumed here that $c_\Pi = 0$, where the subscripts w and Π represent labor and nonlabor (or property) incomes. From this, we can obtain a textbook-type consumption relation $C = c_w(1 - m)wL$, with m being the propensity to import (for simplicity, we shall abstract from imports of capital goods). Assuming a Leontief linear production relation, where $L = aY$ (with a being the reciprocal of average labor productivity), we can derive an aggregate labor demand relation by solving for L :

$$L = (A^D + X) a / [1 - c_w(1 - m)wa]. \quad (2)$$

Equation (2) indicates that aggregate employment, L , depends on autonomous domestic spending and exports by a multiplicative factor $a/[1 - c_w(1 - m)wa]$, with $\partial L/\partial w > 0$, and $\partial^2 L/\partial w^2 > 0$. This relation can be seen graphically in the wage-employment space as an upward-sloping non-linear aggregate labor demand curve (shown in Figure 1). However, X

Figure 1 Aggregate labor demand and supply relations

cannot be considered an exogenous variable. Following such writers as Blecker (1989), exports can be postulated to depend on at least three key variables: the exchange rate (e), the price of the good—which is merely a markup on unit labor costs (wa), and foreign income or demand (Y^F).

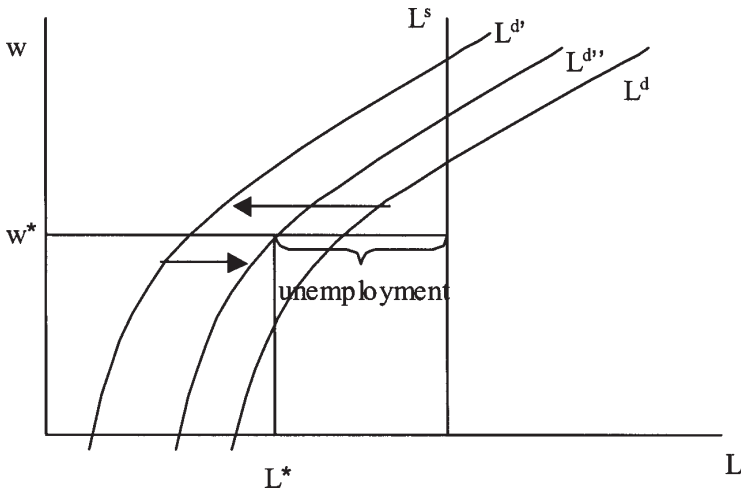
$$X = x(e, wa, Y^F), \quad (3)$$

where e is the exchange rate (defined here as the rate at which the domestic currency is exchanged for foreign currency). Since $\partial X/\partial e < 0$, $\partial X/\partial(wa) < 0$, and $\partial X/\partial Y^F > 0$, any changes in these variables can affect exports, thereby shifting the aggregate labor demand curve inward or outward in Figure 1, with the same negative/positive consequences on the level of employment and unemployment (the latter being defined as the difference between L^s and L^d at a given wage w in the graph, see Figure 1).

*Evaluating the impact of alternative exchange rate arrangements:
floating exchange rate*

Let us begin by analyzing the effect of a negative international shock (say, a decline in Y^F) under a floating exchange rate regime. For the purpose of our analysis, we shall define a floating exchange rate system as encompassing both a freely flexible exchange rate and any hybrid version, such as a managed float, which is sufficiently responsive to

Figure 2 Evaluating the impact of negative international shocks under floating exchange rate



changes in foreign demand. Hence, a negative shock from a decline in Y^F would entail a decrease in exports and thus, as shown in Figure 1, would lead to a leftward shift in the aggregate employment curve. The fall in export demand would, in turn, induce a decline in e , which, depending on the price elasticity of exports, would trigger a second-round compensatory increase in exports that would amortize some of the initial negative shock on employment in the export sector (shown as a rightward shift in the L^d curve in Figure 2).

Although the precise significance of this positive compensatory (or shock-absorbing) effect would depend on the specific nature of the elasticity of export demand, we could reasonably infer that this second-round effect would impact positively on exports. Moreover, to the extent that the coefficient m (representing import demand) in Equation (2) is sensitive to the rising relative price of foreign goods, this coefficient would be declining *pari passu* with the fall in e . Because of the resulting increase in the employment multiplier in Equation (2), this would mean that the positive compensatory impact on employment would probably be higher than would otherwise have been the case without the decline in the m parameter above.

There is, however, a further related issue involving the question of effective demand. The amortizing effect, previously discussed, would insulate somewhat both the export sector and the domestic economy from a strong negative pressure on wages, w . From this, it ensues that,

under a floating exchange rate, the domestic economy would not as easily become caught in a Keynesian deflationary spiral that could exacerbate the already depressed situation caused by the initial negative shock originating from the export sector. Once again, while the importance of this protection from a deflationary wage-price spiral would depend on the importance of the shock-absorbing effect of the fall in e , we could at least infer that the negative impact on w would be less severe than under any alternative monetary arrangement, such as fixed exchange rates, currency boards, and so on.

Furthermore, a floating exchange rate would not prevent policy-makers from implementing strong domestic stabilization policies (both monetary and fiscal). Clearly, even within the standard Mundell-Fleming framework, a country under a floating exchange rate would be able to conduct its own countercyclical interest rate policy, so as to stimulate other elements of A^D subsequent to a shortfall in foreign demand. However, in contrast with the textbook Mundell-Fleming approach, even fiscal policy would have strong stimulating effects on aggregate demand. Indeed, there is no reason why, in a Post Keynesian endogenous money world, there ought to be any accompanying upward pressure on interest rates that would supposedly “crowd out” other components of aggregate spending. On the contrary, fiscal policy would probably be an even more effective tool at the disposal of policy-makers. Hence, to conclude, it may be argued that whether it is through the various compensatory effects discussed above or through its ability to engage in activist monetary and fiscal policy, a floating exchange rate would be able to insulate somewhat an economy from the vagaries of the international market.

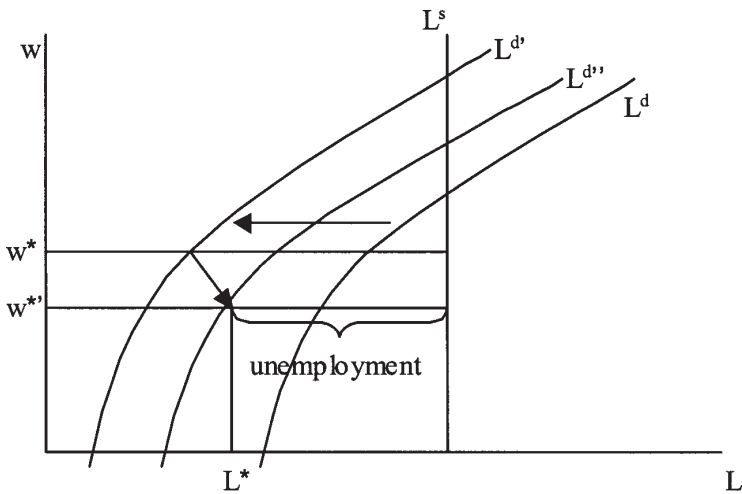
While this may be so, thus far we have abstracted from one important consequence of floating exchange rates that have brought Post Keynesian economists, such as Davidson (1992), to place their support firmly behind fixed (albeit adjustable) exchange rate systems. This is because the compensatory absorption of the exogenous shock (via a fall in e) could be spreading deflationary pressures to the rest of the world. In other words, although a fall in e may stimulate domestic demand, its impact on the rest of the world would be to compress somewhat Y^F . The magnitude of this effect would depend on the relative weight of the domestic economy in relation to that of the rest of the world. In a simple two-country case where, say, the trading partners would be of similar weight, under appropriate assumptions regarding the respective countries' elasticity of exports/imports, these compensatory effects could turn out to be fully offsetting. However, in the current international landscape, in which major monetary blocs such as the United States and the European

Union are trading with a constellation of small open economies, such an asymmetry would ensure that this feedback effect on these small economies would be relatively insignificant. Hence, in the example of Canada vis-à-vis the United States, with the latter's gross domestic product (GDP) being approximately ten times that of the former, one would not expect that a compensatory fall of the Canadian dollar due to a negative aggregate demand shock in the United States would substantially damage U.S. growth and thus lead to a significant second-round decline in Canadian exports to the United States. Indeed, as even recognized by Davidson (1992, p. 277, n. 6), existing asymmetries internationally may ensure that such second-round effects would be highly mitigated. Indeed, it is only when two major blocs, such as the European Union and the United States, resort to competitive devaluations between themselves that the final outcome may turn out to be self-defeating to both and could spread strong recessionary pressures internationally.

Evaluating the impact of alternative exchange rate arrangements: pegged exchange rate

Let us assume that Y^F declines as before and that, once again, this disturbance in foreign demand affects the export sector, leading to a concomitant fall in X and L (as shown in Figure 2). Would a pegged exchange rate regime fare any better than a floating rate monetary arrangement because of possible positive secondary effects on output and employment? Since e is fixed, a fall in export demand would now bring much stronger pressures to bear on unit labor costs (wa) in the export sector than was the case under the previously discussed floating rate arrangement. However, unit labor costs could decline either because wages (w) fall or because productivity ($1/a$) increases. While it is possible, of course, to envisage an increase in productivity, such an effect would probably be negligible. This is because, other than limited organizational changes in the workplace, for Kaldorian reasons firms in the export sector would need substantial investment in new machinery and equipment to enhance productivity. The likelihood of an increase in investment would be exceedingly low for at least two reasons. First, firms in the export sector would already be facing large unused capacity because of the sharp fall in exports, X , and therefore would have little incentive to want to build up further their productive capacity. Second, where would they find the financing to renew their capital stock? Faced with declining export demand, firms in the export sector would encounter an obvious problem of bank creditworthiness. For these reasons, most of the pressure would be on w and not on $1/a$.

Figure 3 Evaluating the impact of negative international shocks under pegged exchange rate



A fall in w , and therefore in unit labor costs, in the export sector would have a similar compensatory impact on export demand (shown in Figure 2) as would a fall in e , subject to, of course, the usual caveat regarding the magnitude of the elasticity of export demand. However, we wish to argue that, because of Keynesian demand-side arguments, the shock-absorbing effect of a cut in wages in the export sector would *not* be sufficient to offset the negative consequences that such a fall in wages would have on aggregate domestic demand. In a demand-constrained economy, such as that of Canada, characterized by both considerable unemployment and labor mobility, a fall in wages in the export sector would slowly spread to the domestic economy. A general fall in w would bring about a collapse in consumption spending along Keynesian lines and, via the usual accelerator effect, a drop in A^D . Hence, as shown in Figure 3, the fall in w would drag the economy toward a much lower level of employment (and higher level of unemployment) than what would have occurred under the preceding floating rate system. Moreover, unlike the previous analysis, where the propensity to import, m , was affected by the fall in e , under a pegged exchange rate, no such positive secondary effect on the multiplier would occur.

In addition to the negative consequences on domestic demand through the fall in w , there is a further concern about a pegged exchange rate that relates to a country's ability to pursue countercyclical economic policies. While fiscal stabilization policy (i.e., deficit spending) could be

implemented (as even the standard Mundell-Fleming model would advise), the consequences of monetary policy would be necessarily destabilizing for the domestic economy. As is well-known, as soon as export demand weakens, the monetary authorities would have to prop up interest rates and drain their foreign reserves in order to defend the hard fix. Hence, at a time when a greater monetary stimulus would be desirable, interest rates would be inching upward and depressing still further domestic demand.

From this analysis, we can conclude that, under a pegged exchange rate arrangement, there are few positive feedback mechanisms on the demand-side to prevent serious shocks originating in the export sector from destabilizing the whole economy. Moreover, with the exception of a common currency arrangement,¹ this would be applicable to any regime from a hard fix to a currency board structure, in which the defense of a parity rate would override all other domestic concerns. As with the gold standard, under these various pegged exchange rate arrangements a shock in foreign demand would quickly be transmitted with even greater fury to the domestic economy. An example of this is the recent Argentine debacle, where exchange rate stability had been achieved at the expense of high domestic instability.

Empirical analysis

To evaluate the relevance of our analysis, we have chosen to compare the performance of several countries over a relatively long period of

¹ It is only under a common currency arrangement that the problem of effective demand is posed somewhat differently, albeit with the same consequences as pegged exchange rate arrangements. Within a large monetary union, such as the EMU, with regionally differentiated economic spaces, the problem becomes one that is familiar to Mundell and his followers—the problem of optimal currency areas (OCA). The larger the common currency area is, the greater the probability of encountering a serious OCA problem. By this we mean that any foreign demand shock, which affects asymmetrically distinct regional economies within a large monetary bloc, would lead to growing disparities because of cumulative causation problems discussed already with respect to pegged exchange rates. Without strong fiscal transfers across regions of a large currency bloc, the destabilizing effects via the mechanism of effective demand analyzed previously with regard to fixed exchange rates would now have serious ramifications on the regional economies. Indeed, regions of a wider currency space would be in an even weaker position than countries under pegged exchange rate regimes to implement any regional stabilization policy in response to the foreign demand shock. However, since this issue is part of a larger problem regarding the constraining role of large economic *and* monetary blocs that may be considered somewhat outside the focus of the present paper, we shall not discuss the matter further here (for some limited discussion of the OCA issue, see Seccareccia, 2002).

time (1973–97). The choice of the sample period was dictated by several reasons: (1) it corresponds to the post–Bretton Woods era during which most countries had started implementing floating exchange rates, thus allowing us to compare the situation under both types of regimes; (2) because of data availability, most studies that have attempted to classify exchange rate regimes (as pegged, flexible, etc.) refer to this period (see Bailliu et al., 2002; IMF, 1999); and (3) recent empirical studies evaluating the effect of exchange rate regimes on economic performance are limited to the post–Bretton Woods era, and we thought it important to contrast our results with theirs. Therefore, for our purpose, we have retained the same countries as in the study by Bailliu et al. (2002), which also spans the same period.

However, to compare the performance of the countries in the sample under different exchange rate arrangements, we have chosen an alternative classification. Given that, in practice, governments tend to have a “fear of floating” (Calvo and Reinhart, 2002) and, therefore, often intervene to manipulate exchange rates, and given that the extreme case of hard peg or super-fixity is somewhat rare (see Bogetic, 2000; Edwards, 2001), our criteria for classifying exchange rates is simply whether there is some degree of flexibility or not.² Consequently, based on the official classification used by the International Monetary Fund (IMF) as well as the hybrid mechanical rule (HMR) used by Bailliu et al. (2002), we end up with two categories: pegged and non-pegged exchange rates.³ We use data on GDP per capita, inflation rates, and unemployment rates for the 1973–97 period. Data for the first two variables were taken from the *World Development Indicators* (World Bank, 2002) and unemployment rates were compiled from various sources (the UN’s *Statistical Yearbook* and the IMF’s *International Financial Statistics*).

We have calculated growth rates (measured by GDP per capita) for each country in the sample, taking into account the type of exchange rate arrangement both according to the IMF official classification and the HMR used by Bailliu et al. (2002). The results show that, following

² We are aware of the criticism that “intermediate” and “fully” flexible exchange rates may result in different monetary policies with different implications for economic growth, but given that our concern is precisely whether governments will be able to conduct independent monetary policies or not, this classification strengthens rather than weakens our point.

³ Note, however, that the HMR classification includes the crawling peg with narrow bands, in addition to currency boards, single-currency pegs, and basket pegs chosen by the official classification of the IMF.

Table 1
Comparing performance under pegged and non-pegged exchange rate regimes

	IMF official classification		HMR classification	
	Pegged	Non-pegged	Pegged	Non-pegged
Average growth rate	1.96	2.02	1.91	2.32
Standard deviation	2.33	1.88	2.43	2.09
How many performed better	14	19	14	20
Average inflation rate	43.42	44.42	41.53	48.24

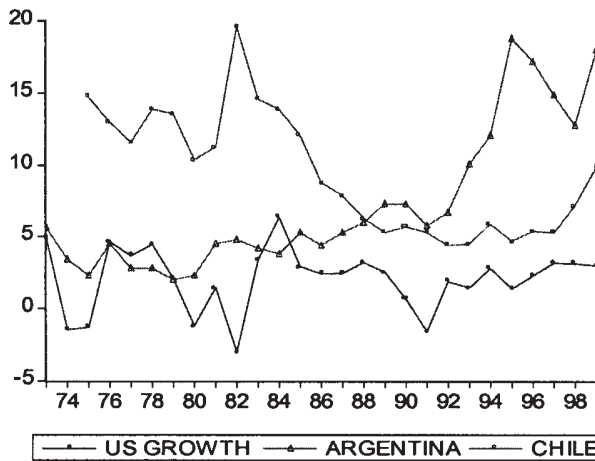
Source: Authors' calculations based on data from *World Development Indicators* (World Bank, 2002).

the official classification, out of the 33 countries that experimented with both types of exchange rate arrangements (pegged and non-pegged), 19 recorded higher growth rates under the non-pegged regime. Similarly, when we used the HMR, we found that 20 out of 34 countries had higher growth rates under the non-pegged system. We have also calculated the average growth rate for the group of countries that had chosen either type of exchange rate arrangement and it turned out that it was consistently lower under the pegged regime whether we use the official classification ($1.96 < 2.02$) or the HMR ($1.91 < 2.33$). Moreover, the standard deviation of growth rates under the pegged regime was larger than under non-pegged regimes, indicating that actual growth experience of individual countries tends to be far different from the mean of the group (see Table 1). These results are consistent with those found by Edwards (2001), Bailliu et al. (2001), and Levy Yeyati and Sturzenegger (2002), among others.

Concerning the issue of price adjustment under exchange rate regimes, our calculations indicate that the average inflation rate (using consumer prices) is consistently higher during periods of non-pegged exchange rate regimes whether we use the official classification ($44.42 > 43.42$) or the HMR ($48.24 > 42.53$). Lower inflation rates under pegged or fixed exchange rate regimes have also been documented by other studies (for the case of dollarized economies, see Edwards, 2001, and Edwards and Magendzo, 2001). Indeed, our main conjecture is that when we have highly integrated economies, pegged exchange rates expose individual economies to external shocks and force the adjustment to be in employment and output, accompanied by lower rates of inflation.

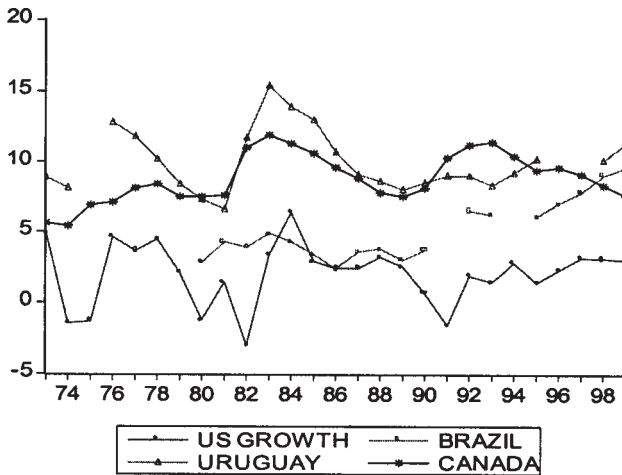
Data on unemployment were available on a consistent basis only since 1983 and only for 39 countries out of the original sample. Moreover,

Figure 4 Unemployment and exchange rates: comparing Argentina and Chile



only 11 countries of the 39 had experimented with both types of exchange rate regimes during the short period since 1983. Based on this information, it would appear that the evidence regarding the nexus between unemployment and exchange rate regimes is largely inconclusive because 3 out of the 11 countries (Austria, Finland, and Sweden) had experienced a rise in unemployment as they switched from a pegged to a non-pegged regime, whereas another group of 3 countries (Argentina, Chile, and Costa Rica after 1993) also experienced a rise in unemployment while moving in the opposite direction, that is, from a non-pegged to a pegged regime. The rest of the countries (five) did not record any significant change as they moved from one type of exchange rate regime to another. This leads us to test our hypothesis more directly.

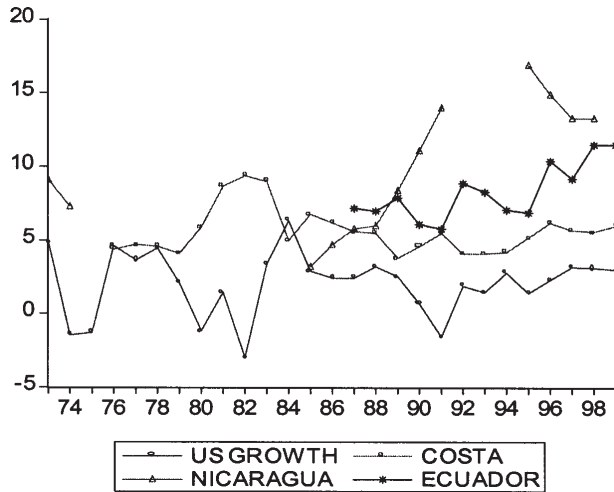
Therefore, we have examined the performance of several countries in the Americas as they adjust to fluctuations in U.S. growth. The two most striking examples in this respect are those of Argentina and Chile (see Figure 4). It is worth recalling that Argentina had abandoned the pegged system in 1977 and adopted a flexible exchange rate until 1993 when it reverted back to the pegged regime. Chile, on the other hand, introduced flexible exchange rates only in 1983, and returned to the pegged regime at the same time as Argentina. As can be seen from Figure 4 where we have plotted U.S. growth rates and unemployment rates in Chile and Argentina, recessions or slow economic growth in the United States were mirrored by a rise in unemployment in both Argentina and Chile during the periods of pegged exchange rates. However, the negative effects of

Figure 5 Unemployment and exchange rates: the Canadian experience

the 1981 major recession in the United States were stronger in Chile (whose exchange rate was pegged) than they were in Argentina (which had already abandoned the peg). It is also worth noting that the dramatic decline in Chilean unemployment between 1983 and 1993 coincided with the liberalization movement, which included foreign exchange markets. Moreover, the increases in Argentinean unemployment during the 1978–92 period were quite moderate, but became much more pronounced after the country converted back to a pegged regime in 1993.

The dampening effect of flexible (non-pegged) exchange rates was more evident in the case of Canada, which had a non-pegged system throughout the period since 1973. Indeed, Figure 5 shows that, with the exception of the two major recessions of 1981 and 1990, Canada was able to withstand the negative effects of most recessionary periods in the United States despite the high level of integration between the two economies. This was also the case for other Latin American countries that had non-pegged exchange rates, such as Brazil during the 1980s and Uruguay (see Figure 5). Those countries that had pegged their currencies, such as Ecuador, Nicaragua, and Costa Rica before the 1980s, have paid the price in terms of higher unemployment (see Figure 6).

While we are aware that the causes of unemployment in a society may be numerous and therefore we cannot establish a direct causal relationship between exchange rate arrangements and unemployment, the evidence presented here is consistent with this hypothesis. We believe that these findings should alert policy-makers in North America that further

Figure 6 Unemployment and exchange rates: the cost of pegging

movement toward a deeper monetary integration, eventually leading to pegged exchange rates (as some in Canada are proposing), may not be without costs in terms of lower growth in aggregate effective demand and output within the three North American Free Trade Agreement (NAFTA) countries.

Conclusion

The purpose of this paper has been to address a question that has not been sufficiently explored not only by mainstream economists but, surprisingly, also by numerous Post Keynesian economists. Does the choice of an exchange regime have significant implications for aggregate domestic demand? Interestingly, this was a question that Keynes himself had posed in his discussion over the effect of flexible wage policy on aggregate effective demand in his famous chapter 19 of the *General Theory*. Using a fairly simple Post Keynesian macroeconomic framework of analysis, we have shown that, theoretically, floating exchange rates do have an advantage over pegged exchange rates not only because the former equip policy-makers with a wider capacity to conduct stabilization policies independently of the rest-of-the-world environment but also because of the inherent lack of a domestic deflationary bias that generally affects pegged exchange rate regimes.

Of course, we do not believe that by choosing a floating exchange rate regime can *in esse* be sufficient to prevent economies from being plagued

by Keynesian problems of effective demand. We would thus agree with Davidson (2003) that floating rates should not be conceived as an all-purpose cure for the chronic problem of unemployment currently afflicting numerous countries in both the developed and developing world. As the post-1973 experience with floating exchange rates suggests, other factors, particularly pertaining to the conduct of monetary and fiscal austerity policies, can easily militate against strong economic expansion, regardless of the exchange rate regime. However, while the post-1973 period has not been characteristic of a high growth environment, some prima facie evidence from a fairly wide sample of countries internationally would suggest that countries that had chosen to peg their exchange rates during this same period did, in a majority of cases, actually perform somewhat worse than those adopting more flexible exchange rate arrangements. This is a result that is indeed consistent with our hypothesis, as well as with the recent work of a number of other researchers internationally.

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