Fiscal Deficits and International Monetary Institutions

David Laidler

Citation of this paper:

Follow this and additional works at: https://ir.lib.uwo.ca/economicscsier_wp

Part of the Economics Commons
THE CENTRE FOR THE STUDY OF INTERNATIONAL ECONOMIC RELATIONS

WORKING PAPER NO. 8526C

FISCAL DEFICITS AND INTERNATIONAL MONETARY INSTITUTIONS

David Laidler

This paper contains preliminary findings from research work still in progress and should not be quoted without prior approval of the author.

DEPARTMENT OF ECONOMICS
THE UNIVERSITY OF WESTERN ONTARIO
LONDON, CANADA
N6A 5C2
FISCAL DEFICITS AND INTERNATIONAL MONETARY INSTITUTIONS
by
David Laidler
UNIVERSITY OF WESTERN ONTARIO
I. Introduction

The early 1970's were marked by two striking changes in the economic policy environment of the Western World, one quite obvious at the time and the second, no less important, only clearly visible with benefit of hindsight. The first of these changes was the break-up of the Bretton Woods system of fixed exchange rates and its replacement by an ad hoc array of floating exchange rate mechanisms; the second was the beginning of a period of chronic fiscal deficits in a number of countries, notably but by no means uniquely the United States, on a scale unprecedented in peacetime.

It is natural to enquire about the inter-connectedness of institutional change in the international monetary system and such a fundamental shift in the stance of fiscal policy, coming as they did at about the same time, and this paper addresses aspects of this issue. It begins with a general discussion of whether deficits are indeed something to be concerned about, and concludes that they are. It then goes on to consider the role of the Bretton Woods system as a constraint upon fiscal policy in earlier times, and argues that the system could act as a constraint for only so long as this was not fully apparent to those who believed in the beneficial effects of deficit finance. Finally, it considers the interaction of the U.S. deficit with the special role played by the United States dollar in the current international monetary system and suggests that this interaction poses special and crucial problems for the conduct of U.S. fiscal policy that do not arise from other countries' deficits.
II. Deficits and the Ricardian Equivalence Theorem

Any essay dealing with government debt and deficits must first take a position about the effect, if any, that they have upon the economy both in the present and in the future. Robert J. Barro (1974) sets out conditions under which the economic effects of tax and bond financed government expenditure are equivalent. Though it is one thing to point out that such equivalence may hold in principle, and quite another to argue that it does hold in practice, Barro's analysis is surely the intellectual source of widespread unconcern about the current stance of fiscal policy in the United States and elsewhere.

To put matters in their simplest possible terms, the "Ricardian Equivalence" theorem, as, following Buchanan (1976) it has come to be called, tells us that the choice between tax and bond finance for current government expenditure is of no real consequence if: taxes now and in the future have no allocative effects; all agents perceive that the substitution of current debt issue for current taxation represents the substitution of future taxes for present taxes; and those same agents evaluate future taxes as having exactly the same present value as the current taxes they replace, because they discount future tax liabilities at the same rate as they discount the coupon payments born by the government bonds which they purchase instead of paying current taxes.¹ If these conditions hold, the choice between financing current government expenditure by taxes or borrowing will have no effect upon agents' evaluation of their own wealth, and hence no effects upon the rate at which the economy accumulates capital.

There is a certain irony in the fact that this analysis, advanced by a leading proponent of "new-classical" macroeconomics, should resemble one much used by "Keynesian" proponents of deficit finance, notably Abba Lerner (1943)
in earlier times. For the typical Keynesian of forty years ago, and for some even now, the national debt is no burden because "we owe it to ourselves". How, the rhetorical question was asked (and sometimes still is) can we impose a burden upon ourselves by writing IOUs to ourselves? Of course, if that is all deficit finance amounts to, we cannot; and a moment’s reflection will convince the reader that Barro’s assumptions that the current generation may be modelled as a simple aggregate of identical representative agents in whose utility functions the welfare of unknown members of future generations gets exactly the same weight as does their own future welfare, is logically equivalent to assuming that the economy under analysis consists of one representative infinitely lived individual. In such an economy the creation of government debt is exactly equivalent to that individual writing IOUs to himself, and an immortal Robinson Crusoe obviously could write IOUs to himself to his heart’s content with no real consequences of any sort. That, stripped to its basics, is what Barro’s Ricardian Equivalence Theorem amounts to saying.2

Now the representative agent assumption used by Barro certainly obscures many issues in the analysis of public debt, as Karen Vaughn’s (1985) survey of Buchanan’s pioneering work on the question makes quite clear, but it does not lie at the heart of Barro’s result. Rather it is the assumption that the individuals who are now faced with a choice between tax and debt finance for government expenditure both care about the welfare of their descendents, and realise that this welfare can only be provided for by endowing them with the appropriately chosen stock of capital, regardless of methods of government finance currently in force that accounts for his conclusions.
Nevertheless, anyone who believes that the representative agent assumption does not distract attention from important questions presumably also believes that an immediate repudiation of the existing domestically held debt of the United States or any other Government would be an event of no more importance than Robinson Crusoe's destroying his existing stock of IOUs. Obviously important wealth redistributions would stem from such a repudiation, and their analysis would require ethical questions, beyond the boundaries of positive economics, to be addressed. However, the perfect altruism towards future generations on the part of the representative agent assumption of Barro's analysis, if extended towards other members of the current generation, would produce just the case in which such distribution effects are irrelevant. The fact that we would regard it as highly unlikely that society would tolerate with equanimity debt repudiation by government, because of its redistributive effects within a generation, should alert us to the possibility that the assumptions, about altruism between generations, from which the Ricardian equivalence theorem follows involve propositions of dubious validity about the attitudes of individuals now living towards the welfare of anonymous members of future generations.  

Another reason for doubting Ricardian equivalence arises, as Buchanan (1976) has pointed out, from the fact that a society made up of agents so altruistic that the theorem in question holds would not be one in which democratic processes were systematically biased in favour of debt, as opposed to tax, financed government expenditure. Altruistic agents who cared equally about all members of future generations would be indifferent between tax and bond financed government expenditure and would have no systematic incentive to vote for one rather than the other. They would recognise that they could make
provision for the welfare of those future generations only by reducing their own current consumption and that the means used to finance current government expenditure should not be allowed to impinge upon their choice here. For such agents, the choice between debt and tax finance only becomes determinate when the welfare costs imposed by non-lump-sum taxation are taken into account. Debt finance then opens up the possibility of smoothing out such welfare burdens over time in the face of fluctuating government expenditure. Though Barro (1979) shows that such considerations explain much of the variation in the U.S. public debt between 1917 and 1976, a period in which expenditure fluctuations are dominated by wartime requirements, and in which tax-smoothing motives might well have been important, it is hard to reconcile the steadily increasing deficits of the last ten years with this analysis.

It is at least plausible that the apparently strong bias towards deficit finance recently displayed by democratic processes in the U.S. stems from a desire on the part of individual members of society to provide for their own futures, and perhaps those of their own descendants, without sacrificing current consumption. How better to do this than to endow themselves and those descendants with enforceable claims on the incomes of others? And what does the creation of government debt accomplish if not that? This highly plausible explanation of deficit financing of government expenditure offered by the public choice literature is, of course, logically inconsistent with the Ricardian equivalence theorem.

The foregoing arguments do not prove that Barro's celebrated theorem is wrong; given its assumptions it is patently correct. However, they strongly suggest that those assumptions do not hold in the real world, and that, therefore, the choice between taxation and debt issue made by the current
generation does indeed matter for the welfare of future generations, and does so precisely because it matters for that current generation. Those arguments further suggest that our proclivity to choose debt finance implies that (at least in a closed economy) future generations will be endowed with a smaller capital stock than would be theirs in the absence of such debt financing. Now in a fully employed economy, future generations taken as a whole may enjoy a higher level of consumption only if the current generation tolerates a lower one and vice versa. In the absence of some market imperfection or outright failure, the choice between tax and debt finance is therefore, of its very essence a choice about the inter-generational distribution of economic welfare. This does not mean that there is nothing to be said about the issue however, but rather that its nature is at least as much ethical as it is economic. An economist must be wary when he discusses such an issue, and the reader of his discussion should be doubly so, but it is hard to see how the discussion can be avoided.

If the choice between tax and debt finance for government expenditure fundamentally concerns the intergenerational distribution of consumption, it is also one in which some of the affected parties are not, and by the very nature of things cannot, be consulted. There must, therefore, be a presumption that, if left to choose on its own account, a less than perfectly altruistic current generation will tend to tip the scales further in its own direction than a dispassionate spectator, who weighed the utilities accruing to individuals independently of the time at which they happened to be born, would think appropriate. If this argument is accepted, then not only does debt finance have real consequences, but those consequences are ethically questionable. It would then follow that limits on the extent to which the current generation can choose debt finance are desirable.
III. Deficits in Keynesian Analysis

In the light of the foregoing arguments we might helpfully think of the present generation as a political interest group which, when it comes to decisions about debt and tax financing of current government expenditure, acts so as to extract rents from future generations whose interests are under-represented in the political process. Such rent seeking behaviour through political processes is hardly unique, and a well known approach to the problems it generates involves the creation of new, or the defense of existing, institutional constraints upon agents' activities. Such institutional constraints may be formally constitutional and de jure, incapable of being set aside by simple fiat of any legislature, or informal but nevertheless powerful manifestations of social and political conventions which de facto prevent a legislature taking, or indeed even contemplating, particular acts.

Constraints on debt finance have in the past typically been of the latter kind. Adam Smith's dictum, quoted with disapproval, and scandalous disregard for accuracy, by Keynes (1936 p. 361), that "What is prudence in the conduct of every private family can scarce be folly in that of a great Kingdom" occurs in the context of a discussion of free trade, and not of deficit finance as the unwary reader of the General Theory might think; but, it is nevertheless the case that outside of wartime, the notion that budgets should be balanced dominated the conduct of fiscal policy in much of the Western World throughout the 19th century and into the 20th. An idea whose wisdom is universally taken for granted is a powerful constraint upon policy for just as long as it is not subjected to careful criticism; but it will only remain such if it turns out to be logically coherent when analysed. Though "sound finance", as Abba Lerner (1943) was to
term it, may be judged desirable practice in the light of arguments advanced earlier in this paper, any defense of it, based on a transparently false analogy between the individual and the nation was bound to crumble in the face of Keynesian attacks on behalf of "functional finance" (again the phrase is Lerner's).

But we must be careful here, because Keynes, and most of his disciples, when they attacked the conventional wisdom of the "balanced budget", did not base their arguments on any Ricardian equivalence theorem, nor would they have regarded the arguments advanced earlier in this paper as being of the slightest relevance to their concerns. We have so far discussed the pros and cons of debt finance in a full employment situation in which current consumption has an opportunity cost in terms of current capital accumulation and hence of future consumption, but they did not. Rightly or wrongly, their vision of the world was one in which a failure of market mechanisms created involuntary unemployment so that output produced in response to current government expenditure had a zero opportunity cost. Modern commentators on Keynes such as Johnson (1961), Clower (1965) and Leijonhufvud (1968) are surely right in arguing that, to the extent that this vision is relevant, it refers to the depression phase of a business cycle rather than to the economy's secular behaviour. (pace Hansen (1938) and the secular stagnationists).

Most early Keynesian advocates of debt financed expenditure cast their arguments in the context of an explicitly cyclical analysis which envisaged deficits accumulated during the depression phase being offset by surpluses generated during prosperous times, with the whole thrust of policy being to mitigate cyclical instability, while maintaining rough secular balance in the budget. Thus, though the rhetoric of Keynesian economics has been used to defend the chronic secular deficits that so many governments are now running,
it probably ought not to have been. When Keynes and most Keynesians attacked
the principles of "sound finance", it was their application on a year by year
basis, regardless of the cyclical state of the economy, that they had in mind,
and not their validity as guides to the appropriate long-run stance of fiscal
policy. In an economy whose cyclical fluctuations are about a full-employment
secular trend, the zero opportunity cost doctrine may be a valid defense of
deficits during the depression phase, but it is not relevant to secular
questions. 8

The difficulty is that, having undermined the constraints placed upon
fiscal policy by an unthinking adherence to the principles of sound finance,
by showing that there might be circumstances to which those principles are
inappropriate, Keynesian economics has rendered those constraints totally
ineffective in the political arena, even in those situations in which the
logic of Keynesian analysis itself might suggest that deficits are undesirable.

IV. Keynesian Policy and the Bretton Woods System

The General Theory was published almost 50 years ago, and in only 10 or
15 years came to dominate academic thinking about fiscal policy. Furthermore,
by the late 1940's a number of countries, notably the United Kingdom, had
governments and bureaucracies firmly committed to Keynesian policy. It has
only been since the late 1970's that fiscal deficits have been widely
perceived as a problem, and it is difficult to make the case that they
represented any kind of unrecognised problem much before the early 1970s, even
in countries where policy had been avowedly Keynesian for two decades. It is
instructive to ask why it was that Keynesian policies apparently "worked" in
countries such as the U.K. for close to two decades without creating problems,
to ask why active fiscal stabilisation policies did not lead to chronic secular budget imbalances; an answer which this author (Laidler (1976)) has offered in the past to this question lies in the operation of the international monetary system, and in particular the constraints imposed upon domestic policies of countries such as the United Kingdom by their adherence to the Bretton Woods arrangements.9

So called "Gladstonian" ideas about the appropriateness of balanced budgets were not the only informal but powerful constraints upon policy which the 20th century inherited from the 19th. It also inherited a deeply held conviction that a gold or gold exchange standard was the right way to organise the international monetary system. The international gold standard was in fact a rather short lived affair, because, until Gresham's law began to operate in the wake of the gold discoveries of the 1840s and 50s, most of the world other than Britain was on a silver standard. What with the financial disruptions associated with the U.S. civil war and the Franco-Prussian war, it was not until the late 1870s that a gold standard was at all widely established in the international economy, and, it was brought to an end by the outbreak of War in 1914, the best (and worst) efforts of governments to restore it in the 1920's notwithstanding. However, the idea that it was the moral duty of those responsible for monetary policy to preserve constancy in the purchasing power of money, and the notion that compelling convertibility of bank liabilities into specie was a good way of ensuring this, both predated and long outlasted the gold standard as a functioning set of institutions. Indeed, belief in the inherent wisdom of these principles was strengthened rather than weakened by the monetary experiences of the inter-war years.10
The Bretton Woods system represented a conscious effort to rebuild a stable international monetary environment after the Second World War on the basis of rather fixed exchange rates and gold convertibility, while permitting latitude to governments to utilise short-term Keynesian policies to counter any cyclical instabilities to which their economies might be prone; although, in cases of chronic difficulties, it was supposed to permit exchange rates to be changed rather than force governments to impose severe deflationary policies. As is well known, the system did not evolve in practice quite as it had been designed. For countries other than the United States (and we will come to the U.S. in due course) it grew into something more akin to a dollar standard than a gold exchange standard, and, of particular importance in the current context, it was characterised by rather more exchange rate fixity than its founders, particularly Keynes, had intended.

It is surely no accident that in the post-war world, the period of successful Keynesian macro-policy in peripheral countries of the system, such as the United Kingdom, coincided with a period of rather conservative and distinctly unKeynesian policies in the United States. To maintain a fixed exchange rate on the United States dollar, a peripheral country had to permit its monetary policy to be made in the United States, and in the 1950s and early 1960s this involved accepting policy which was widely understood to be, and expected to remain, non-inflationary. In effect the institution of a fixed exchange rate on the stable United States dollar provided an essential prerequisite for a successful regime of Keynesian fiscal fine tuning which avoided the chronic fiscal deficits, not to mention inflation, that have plagued the world in more recent years.
In a closed economy, current consumption undertaken because government expenditure is bond rather than tax financed, to the extent that it employs resources which have alternative uses, must come at the cost of reduced capital accumulation. In an open economy such as the U.K., it can, and under the Bretton Woods system it did, generate deficits in the current account of the balance of payments which the international capital markets of that time did not automatically and willingly finance. The balance of payments effects of fiscal deficits implicit here were exacerbated by the then prevalent practise of making nominal interest rates the centerpiece of monetary policy. Increased government borrowing tends, under such a monetary policy regime, to lead to increased domestic credit expansion and hence ensures that current account difficulties quickly become overall balance of payments problems. So long therefore as the central country of the Bretton Woods System pursued responsible policies, fiscal deficits in a peripheral country such as the U.K. generated balance of payments problems for that country, and any government seriously committed to maintaining a fixed exchange rate on the U.S. dollar found its freedom to run such deficits severely curtailed by that commitment.

In the U.K. the phenomenon popularly known as "stop-go"—a sequence of events involving fiscal and monetary restraint, sluggish domestic activity and an improving balance of payments, followed by fiscal and monetary expansion, a buoyant domestic economy, and balance of payments problems, followed by a return to restraint, and so on—was the natural outcome of the interaction of Keynesian domestic policies and a firm commitment to Bretton Woods. So long as the exchange rate was fixed on the stable non-inflationary U.S. dollar, and so long as international capital markets would not lend freely in unlimited amounts at given nominal interest rates, fiscal deficits could not become
chronic. Under "stop-go", moreover, the economy performed well, though this last judgement is made with benefit of much hindsight. In the 1950s and 60s, "stop-go" was perceived as anything but satisfactory, and the exchange rate regime came to be viewed, not as inhibiting chronic and undesirable fiscal deficits (not to mention monetary expansion) but as standing in the way of policies that could lead to a permanent increase in the economy's long-run growth rate; for if balance of payments problems were the "cause" of the "stop" phase of policy, would it not be possible to prolong the "go" phase indefinitely by removing that cause?

Perhaps, as has already been argued, the type of chronic secular fiscal deficits which currently infect the world's economies should not really be laid at the door of Keynesian economics, because they do not result from the type of anti-cyclical fiscal policies whose desirability Keynes's macro theory seemed, to most of his followers, to imply. Nevertheless, there arose amongst some of those followers from the 1950s onwards, a tendency to neglect the all-important cyclical-secular distinction and to argue that policies with a proven ability to generate cyclical expansion could also be relied upon to provide demand led secular growth. The fundamental resource constraint on the economy, which ensures that, in a secular setting, the extra consumption generated by debt financed government expenditure has an opportunity cost in terms of current capital accumulation was lost sight of; and the manifestation of that constraint under the Bretton Woods system, namely balance of payments problems, came to be interpreted as the result of an artificial, self imposed, and "merely financial" constraint implicit in the fixed exchange rate.11

Economists are accustomed to distinguish rather sharply between ends and means, and the foregoing argument has implicitly been cast in terms of this
distinction. The size and duration of the fiscal deficit have been treated as objects of choice for policy makers, and a fixed exchange rate regime has been presented as a factor constraining choices about them. Though this treatment has, it is hoped, facilitated the narrative, there is a sense in which it has been fundamentally misleading. Social institutions are not like physical characteristics of the environment. They are not givens, but are themselves the outcome, often unintended to be sure, of agents' choices. As we have already seen in the context of the principles of "sound finance", when a particular institution ceases to be taken for granted and is subjected to analysis, it also ceases to be a constraint upon political choice and becomes one of its objects.

Thus it was also with the fixed exchange rate in the United Kingdom. Once it was understood that it prevented continuous fiscal and monetary expansion, the choice between "stop-go" along with a fixed exchange rate on the one hand and perpetual growth accompanied by a flexible exchange rate on the other, was entered upon the political agenda; and the decision was made, quite explicitly, to choose fiscal expansion rather than exchange rate fixity. 12 The resource constraint facing the economy was not removed by changing the exchange rate regime, however. When debt financed government expenditure began to divert resources from capital accumulation to consumption by putting upward pressure on the interest rate, this effect too was resisted by the authorities. The fundamental resource constraint then manifested itself in inflation instead, and the current generation ended up paying for its own extra consumption from the proceeds of tax on cash balances and a not immediately perceived capital levy on already existing stocks of nominal debt. 13 By the late 1970s, policies to bring both inflation and
deficits under control were coming into place in the U.K., and by now it is possible to argue that deficits there are too small, rather than too large. This is hardly the case in the United States, to which we now turn.

As noted earlier, the position of the United States under the Bretton Woods system was different from that of other nations. The obligation to design policies so as to maintain a balance of payments position compatible with maintaining a fixed exchange rate on the U.S. dollar, which the system imposed upon peripheral countries, could not, by its very nature, affect the policies of the key currency country. Indeed, it is debatable whether the Bretton Woods system imposed any institutional constraint at all upon the United States. At the outset the U.S. had assumed the responsibility of maintaining the convertibility of the dollar into gold at a fixed price, and the designers of the system intended this measure to ensure the ultimate restoration of a gold exchange standard; but institutions have a way of evolving in unexpected directions.

It is at least arguable that the evolution of the U.S. dollar into the key currency of the Bretton Woods system had little if anything to do with its gold convertibility. As we have argued, policy in peripheral countries was influenced by dollar convertibility considerations, but Darby, Lothian et. al. ((1983) Chapter 16) report no evidence that the conduct of short-run domestic policy in the United States in the 1950s and 1960s was in any similar way influenced by the gold convertibility commitment. This of course is not to deny the obvious fact that, although U.S. policy was becoming increasingly lax from the early 1960s onwards, the recent and truly alarming growth of U.S. fiscal deficits dates from the early 1970s -- the very time at which gold convertibility was abandoned--but we must be careful how we interpret this fact.
Perhaps the abandonment of gold convertibility did indeed represent the inadvertent removal of a constraint upon U.S. fiscal policy and "caused" the latter to become less responsible, but it may also be that the maintenance of gold convertibility came to be seen as standing in the way of a fiscal policy stance which for other reasons was regarded as desirable, so that its abandonment was "caused" by fiscal policy decisions. The data will hardly permit us to discriminate between these two quite contradictory explanations of a single event, consisting as they do of the facts that the alternative explanations are designed to deal with in the first place. However, gold convertibility was abandoned as a matter of conscious policy and the only issue in doubt is whether, when this was done, the implications for future fiscal and monetary policy were understood and taken into account in the decision. There can be no debating the conclusion that, as in the case of the U.K. fixed exchange rate, an institutional factor which might have acted as a constraint upon political choices in the United States in fact became one of the objects of such choices, and was removed in 1972.

It would be wrong to end any account of the demise of the Bretton Woods system without drawing explicit attention to the elementary fact that a system of fixed exchange rates need not be given up if all of its members decide to indulge in expansionary policies. Such a system requires long-run compatibility among the domestic macroeconomic policies of its members; it does not also require those policies to be responsible. At the end of the 1960s the policies of countries such as West Germany and Japan did not involve fiscal or monetary expansion, and, given what was by then happening elsewhere, those countries found themselves with ever increasing balance of payments surpluses. Had they accepted the "discipline" imposed by fixed exchange
rates they would have had to import inflation. Their unwillingness to do so led them to give up their wholehearted commitment to Bretton Woods and made its own contribution to the system's collapse.

Presumably these countries' decisions to maintain responsible macroeconomic policies when other nations were abandoning them are explicable in terms of domestic political and institutional factors having to do with "tastes" vis-a-vis inflation and unemployment such as were analysed by Fried (1973), but it would take us beyond the scope of this paper to discuss item. However, the implications of all this as far as they concern constraints imposed upon domestic policies by international monetary institutions under Bretton Woods are surely clear: in the case of responsible governments as with their irresponsible counterparts, it was domestic factors which determined the conduct of macroeconomic policy in the 1960s and 1970s; and when those domestic factors began to work to produce an array of policies incompatible with a system of fixed exchange rates, that system did not provide a quasi-constitutional institutional constraint upon policy; instead it collapsed.

V. After Bretton Woods

It has been argued that policy choices based upon erroneous economic analysis, involving a confusion between short and long-run responses of the economy to fiscal expansion, lay at the root of the problems encountered by such countries as the U.K. (and perhaps also the United States) as the Bretton Woods system was abandoned, though old fashioned problems of war finance associated with the Vietnam conflict must not be neglected in the United States case. However those choices did not immediately involve deficit and
debt problems of the type which we now face. Rather they led on to inflation which actually eroded real government debt. Increased consumption provided through the government sector must, as we have repeatedly said, be paid for, and in the 1970s it was typically paid for, not by reducing capital accumulation and hence the consumption of future generations, but from the proceeds of an inflation tax on cash balances and an inflation imposed capital levy on existing nominal wealth.

It would be a mistake to argue literally that this was the outcome of a carefully considered choice made and imposed through political processes by a particular predominant pro-inflation political coalition. Nevertheless the specific brand of erroneous economics, which holds that fiscal expansion accommodated by money growth can lead to real secular growth in the economy, must have seemed particularly attractive to that large cohort of young voters to which, in the early 1970s, inflation redistributed a substantial portion of the wealth of older people, largely through the housing and mortgage markets. With the passage of time, in the United States as elsewhere, the inflation tax has become as unpopular as other taxes, while government provided consumption has retained or even increased its popularity; and that same generation which first financed its consumption by imposing inflationary redistributions on its elders, having exhausted that source, is now maintaining its living standards by imposing costs, through fiscal deficits, on future generations of American taxpayers; -- or is it?

In a closed economy, any increase in current consumption, to the extent that it requires resources with alternative uses, must be at the expense of capital accumulation and hence of future consumption, but in an open economy, there is an alternative source of supply for such resources, namely capital
inflow associated with a current account balance of payments deficit. The United States is, of course, an open economy, but at first sight it may seem that this complication does not change the essential trade off already discussed. It should make no difference to their consumption opportunities whether future generations inherit a smaller or larger capital stock, if the latter is accompanied by an obligation to make payments to foreigners equal in value to the return on the extra capital in question. The critical point in the latter case, however, is how binding upon future generations are the commitments to foreign creditors entered into upon their behalf by their predecessors.

If foreign debt is unquestionably collectible, and is denominated in a unit of account of stable purchasing power, then indeed its existence and growth do nothing more than complicate the mechanisms whereby debt financed government expenditure reduces the consumption of future generations inhabiting the country whose government emits the debt in question. However neither of these conditions can be taken for granted in the case of United States government debt. As Buchanan (1985) argues, moral constraints against default are not in general particularly strong when applied to the debt of a nation state. To borrow, consume, and then repudiate debt must be tempting for any country, though for most, difficulties of borrowing again after outright repudiation – Kindleberger (1985) Ch. 12 suggests, on the basis of historical experience, a hiatus of about thirty years – inhibit this ultimate step. Nevertheless there are many degrees of default short of outright repudiation, and with recent experience in Eastern Europe, Africa, and Latin America to reflect upon, no one can take it for granted that loans made to a so-called "sovereign risk" even the U.S. government, are completely secure; nor, with
two decades of inflationary experience behind us can anyone be confident that inflation might not break out again in the U.S. and erode existing debt.

Valid though these two points may be, neither taken by itself is quite central. The key point rather is that in the case of The United States, unlike any other country, the two factors interact to offer its citizens a choice not available elsewhere. The current generation of United States citizens, in accumulating foreign debts denominated in United States dollars, is leaving open to its successors the option of repudiating that debt by choosing to inflate it away, and of all the methods of defaulting on its obligations open to an electorate, inflation is the one against which moral sanctions seem to be the weakest. This option, uniquely available to citizens of the U.S., is created by the special role played by the United States dollar in the international monetary system.

Under Bretton Woods, the world was to all intents and purposes on a dollar standard. This did not come about by conscious design, but rather because the expanding international economy of the post-second-world-war period required means of exchange and units of account. As with any economy in which such things are left to the collective outcome of a myriad of individual choices, the international economy converged on the use of a single money that was cheap to use and stable and secure in its purchasing power. Perhaps the convertibility of the U.S. dollar into gold was initially an important factor in generating widespread confidence in its security, but as has already been argued, once established as the international money per excellence, the dollar's link with gold became progressively less relevant to its ability to play that role. When the Bretton Woods system broke down, and the dollar's link to gold was severed, the international economy did not
disappear, nor did an internationally acceptable means of exchange and unit of account cease to be required. Institutional development is not easily reversed, and the United States dollar continued to play the role of international money in the face of instability in its purchasing power of a degree which, experienced earlier, would surely have prevented it assuming that part. The dollar's complete dominance has been eroded, to be sure, but it remains far and away the most important international money.

The point of all this is that governments which borrow abroad usually do so in United States dollars. The United States government is now doing precisely that, and is thereby creating incentives, which increase over time, for its electorate to vote for inflation as a means of repudiating its debt; and though the Federal Reserve System is nominally independent, and hence insulated from direct political pressures, Weintraub (1978) shows only too clearly that, in the past, such insulation has never prevented the electorate, through the influence of the President, ultimately having its way with monetary policy. Moreover, the very institutional fact which makes this option available also implies that, if it is exercised, the resulting damage will go far beyond that inflicted by a capital levy upon the United States' creditors. All the damage which inflationary monetary policy can do to the functioning of any economy will, in the case of an inflation of the United States dollar, be inflicted on the international economy. Already that economy is showing signs of the stresses imposed both by past Eastern European and Third World borrowing and by current United States borrowing, in ways too well known to merit discussion here. It is not going too far to say that, particularly given the fragile state of the international monetary system, implicit in current United States fiscal policy is a threat to the continued
existence of the liberal international economic order whose creation was the
great political achievement of the post-second world war period.

The "Ricardian Equivalence" theorem discussed at the beginning of this
paper contributes nothing to our understanding of this issue. Either no
problem exists, because agents in the U.S. are accumulating capital out of
whose income debt interest will be paid, and because agents in the rest of the
world did the same when their governments were borrowing; or if a problem does
exist it must be the result of some random error in expectations about which
economics has nothing to say. On the other hand, the "public choice" approach
which underlies this paper tells us that a problem does indeed exist, first
because governments face incentives to increase their citizen's current
consumption by emitting public debt, and second because, later, if debt is
held abroad, they face other incentives to seek means of defaulting on it in
order to maintain domestic consumption levels. Many debtor countries are
already acting in this way, and the United States differs from them only in
lagging behind in its foreign borrowing, and having open to it domestic
inflation as a means to default on foreign debt.

It is small wonder that, among thoughtful commentators, a search is on
for a set of institutional constraints which will prevent United States
political processes generating so destructive an outcome as that just
envisaged. Because the establishment of a set of international monetary
arrangements based upon fixed exchange rates and some form of commodity
convertibility would provide just such a set of constraints, it is equally
small wonder that calls are being heard for a return to gold or the
establishment of a "new Bretton Woods". Much as I sympathise with its aims,
it should be clear from the preceding discussion that such advocacy seems to
me to be beside the point. After all we had the old Bretton Woods, and it lasted just so long as the electorates of certain key member countries refrained from attempting to secure for themselves through government activities increased consumption at no extra current cost. The Bretton Woods system stood in the way of such political choices being made. It had to be given up if those choices were to be exercised, and given up it was. It did not prevent them.

Surely it is wishful thinking to believe that any electorate in hot pursuit of a free lunch will deliberately act so as to close down the counter at which such meals are available, but that is what attempting to constrain domestic fiscal imprudence by the establishment of a new set of international monetary institutions would require. The problem, that is to say, is not how to design the international economic order in order to curb domestic policies. Rather it is how to curb domestic policies in order to preserve the international economic order.

VI. Concluding Comment

The underlying theme of this paper is easily stated. The political decisions from which deficits stem are taken by the governments of nation states, and international monetary institutions link the economies of those same nation states. It may be regrettable, but it is hardly surprising, that, when the maintenance of a set of institutions, which by their very nature inhibited the growth of deficits, came into conflict with the domestic political forces tending to produce them, it was the international institutions which gave way. It follows that the re-establishment of a stable international monetary order must await the re-establishment of prudent
domestic policies in individual nations, and that any attempt to impose prudence surreptitiously by prior reform of international monetary institutions would be bound to fail.

To discuss in detail the nature of the domestic institutional reforms which might accompany and encourage the fundamental changes in fiscal policy which seem so desirable would be to go far beyond the assigned bounds of this paper, but a few concluding comments on this issue are in order. First and foremost, when institutional constraints on a particular type of action are missing in the political structure of any country, it is necessary first to convince its electorate that the action in question is undesirable before such constraints can be imposed. Indeed, a widely held conviction of its undesirability is surely the most important and binding limit that can be placed upon any specific course of government action. No electorate is going to impose upon its representatives restrictions which will prevent them undertaking desirable policies, but it is unlikely to resist restrictions on what it regards as undesirable.

The key task for opponents of chronic deficit finance then, is to persuade electorates that it is undesirable, at least on its current scale, and there are some grounds for hoping that this can be done. It has been argued above that deficit as opposed to tax finance of government expenditure is undertaken because individuals now living wish simultaneously to maintain their own consumption levels while providing for their own descendants' well being by endowing them with enforceable claims upon the incomes of others. It has also been suggested that, collectively, this action is self defeating to the extent that it results in those descendants as a group inheriting a lower capital stock than would otherwise be theirs. There is, therefore, an element
of "public bad" about deficit finance which once understood might be harnessed to make a case against it.

In the case of the United States however, matters are, as we have seen, more complex. Because of the critical role of the United States dollar in the international monetary system, current United States deficits do not necessarily impose a lower standard of living upon future generations of Americans. Instead they offer them a choice between putting up with lower living standards on the one hand and legally repudiating their inherited debts by way of inflation on the other. That inflation is a public bad is not, of course, in dispute, but in the case of the U.S. dollar, the constituency that would be adversely affected by its inflation is far bigger than the electorate which will pass judgement on the issue. To say that this is worrisome is not to say that the U.S. electorate is somehow more short-sighted and self-interested than any other, but merely to say that it must be persuaded to display more foresight and public spiritedness than any other if the U.S. is to be expected to put its fiscal house in order.
FOOTNOTES

* A paper presented at a Conference "Towards a Political Economy of Deficits" held at George Mason University, September 1985. I am indebted to Russ Boyer, Joel Fried, Peter Howitt, Michael Parkin and Charles Rowley for much helpful discussion of the subject matter of this essay.

1 It is worth pointing out for the record that, though the theorem in question may have originated with Ricardo, he rejected it as a practical guide to policy. The analysis of this theorem presented here is brief but it is dealt with in much greater detail in other essays in this volume, notably Brennan and Buchanan.

2 It is to Barro's credit that he at least is consistent in his treatment of debt finance, arguing both that it creates no long-term burden and also that it has no current real effects. Lerner of course claimed short-run benefits with no long-run costs, at least in a closed economy. However, Lerner's analysis unlike Barro's was premised on the Keynesian assumption of involuntarily unemployed resources being available. This matter is discussed below pp. 6-7. And foreign debt considerations are discussed on p. 16 et seq..

3 For a rigorous analysis of the way in which the combination of self-interest and mortality undermine the Ricardian theorem, see Blanchard (1984).

4 As has already been noted, Keynesian analysis of deficit finance is premised upon an assumption of market failure. It is worth noting that the leading exponent of the Keynesian position, Abba Lerner, was well aware of the logical possibility of deficit finance affecting capital accumulation, thereby placing a burden upon future generations. He noted this point in (1961) while attacking the views of Bowen et al (1960) and Buchanan (1958), but attached no empirical relevance to it.
For an excellent survey of the literature on constitutional constraints upon rent seeking, see Rowley (1985).

This is not to deny that Keynes himself toyed with the notion of secular stagnation, because he clearly did, but only to point out that, if the stagnationist thesis fails, his model still maintains potential validity as a device for analysing certain properties of the depression phase of the business cycle.

Lerner (1943) was one of the few early Keynesians to entertain the possibility of secular deficits if necessary. His defence of them is remarkable for the way in which one of the founders of modern welfare economics was willing completely to neglect the potential welfare burden associated with taxation levied to pay debt interest. As Colander (1984) has recently recorded, Keynes himself was unwilling to face up to the apparent implications of his own analysis on at least one occasion when Lerner drew his attention to them.

It should also be noted that Lerner, unlike many advocates of expansionary fiscal policy also argued for monetizing deficits in order to maximise their impact on income and employment. In this he was willing to follow the logic of his analysis further than most Keynesians. For a further discussions of Functional Finance see Rowley (1985).

Thus it is possible to be concerned about the current stance of fiscal policy in countries such as the U.S. and Canada while still conceding a role to fiscal policy as a short-run stabilisation device. This certainly would be my own position. See however fn 19 below.
9 Canada was, of course, one of those countries which adopted Keynesian policies at a very early date, but she, more or less simultaneously opted for a flexible exchange rate. However, since the exchange rate remained a policy target, balance of payments considerations exercised a restraining influence on other aspects of policy even there.

10 Mints (1945) remains a classic source of information on the development of monetary thought over the period of question.

11 As is usually the case, there was a germ of truth in the underlying arguments here. If the component of demand that we expect to load "growth" is exports, and these expand because of a real shift of world demand towards them, the home country will become genuinely richer in a long-run sense. It is another thing altogether to try to promote long-run growth by devaluation, or by a simple expansion of domestic aggregate demand. The all important distinctions here became lost in British debates at some time in the 1960s, but it would be unfair to attribute the fallacies involved here to all British Keynesians. Sir Alec Cairncross, for example, is nothing if not a Keynesian, but he was very critical of attempts to generate demand led growth. See Cairncross (1975).

12 Fixed exchange rates were repudiated in the 1972 budget speech. On all this see Laidler (1976).

13 Moreover, there were considerable wealth redistributions between members of that generation inherent in the policies in question. This issue is discussed below p.16.

14 This is by no means a universally held view. Robert Triffin eg. (1960) was a persuasive advocate of the position that the gold convertibility of the dollar was a vital component of the Bretton Woods system.
I am indebted to Michael Parkin for long ago suggesting to me the importance of demographic factors in generating a political climate favourable to inflation in the late 1960s–early 1970s. This matter would be well worth a careful study.

We have already commented on the ironical similarity of the arguments of Robert J. Barro to those of Abba Lerner. It is also worth pointing out that the nominally "conservative" arguments of supply side economics, currently used to justify U.S. fiscal policy, have a remarkable similarity to "liberal" demand side Keynesian analysis.

A Canadian economist should be careful about criticising U.S. fiscal policy, when Canadian fiscal policy is, relatively speaking, much more irresponsible. However, the growth of Canadian debt is being financed out of domestic savings, and the Canadian dollar is not an international currency of any importance. Hence the growth of Canada's debt, though of considerable domestic significance, does not have any important international implications. This is not true of the U.S., and that is why this paper focusses largely on U.S. policy. For a first rate Canadian perspective on questions having to do with deficits see Purvis (1985).

And let it be noted that this author is not one of those who believe that the costs of inflation can be reduced to a few insignificant welfare triangles. Leijonhufvud (1977) is one of the few economists to address the destructiveness of inflation in a comprehensive fashion, because he is one of the few to extend his arguments beyond the bounds of a model in which competitive markets always clear. According to Leijonhufvud, and I agree with
him, the destruction of market mechanisms is at the very heart of the damage which inflation does, and analysis which refuses to encompass this possibility, as does that of the so-called "new-classical" school (eg. Lucas (1975), Barro (1978)) or that based on the "overlapping generations" model (eg. Sargent and Wallace (1982)) inevitably trivialises the problems caused by inflation.

19 As I have argued above (fn.8) it is quite possible intellectually to combine a distaste for secular deficits with a defense of Keynesian counter-cyclical policy. I am bound, however, to record my doubts as to whether the fine distinctions needed to sustain such a position, clear though they may be to an academic audience, can be maintained in political debate.
References


Colander D. (1984), "Was Keynes a Keynesian or a Lernerian?" Journal of Economic Literature 22 (December) 1572-75.


Rowley, C. K., "The Legacy of Keynes: from the General Theory to Generalized Budget Deficits" (as #2 - #3).


Triffin, R. (1960), Gold and the Dollar Crisis, New Haven, Yale University Press.


1981


8104C Laidler, David. On the Case for Gradualism.

8105C Wirick, Ronald G. Rational Expectations and Rational Stabilization Policy in an Open Economy


8107C Burgess, David F., Energy Prices, Capital Formation, and Potential GNP


8109C DSJ Whalley, John Labour Migration and the North-South Debate

8110C Manning, Richard and John McMillan Government Expenditure and Comparative Advantage

8111C Freid, Joel and Peter Edwitt Why Inflation Reduces Real Interest Rates

1982

8201C Manning, Richard and James R. Markusen Dynamic Non-Substitution and Long Run Production Possibilities

8202C Feenstra, Robert and Ken Judd Tariffs, Technology Transfer, and Welfare

8203C Ronald W. Jones, and Douglas D. Purvis: International Differences in Response to Common External Shocks: The Role of Purchasing Power Parity

8204C James A Brander and Barbara J. Spencer: Industrial Strategy with Committed Firms

8205C Whalley, John, The North-South Debate and the Terms of Trade: An Applied General Equilibrium Approach

8206C Roger Betancourt, Christopher Clague, Arvind Panagariya CAPITAL UTILIZATION IN GENERAL EQUILIBRIUM

8207C Mansur, Ahsan H. On the Estimation of Import and Export Demand Elasticities and Elasticity Pessimism.

8208C Whalley, J. and Randy Wigle PRICE AND QUANTITY RIGIDITIES IN ADJUSTMENT TO TRADE POLICY CHANGES: ALTERNATIVE FORMULATIONS AND INITIAL CALCULATIONS

8209C DSU Jimenez, E. SQUATTING AND COMMUNITY ORGANIZATION IN DEVELOPING COUNTRIES: A CONCEPTUAL FRAMEWORK
1982

8210C Grossman, G.M. INTERNATIONAL COMPETITION AND THE UNIONIZED SECTOR

8211C Laidler,D. FRIEDMAN AND SCHWARTZ ON MONETARY TRENDS – A REVIEW ARTICLE

8212C Imam, M.H. and Whalley, J. INCIDENCE ANALYSIS OF A SECTOR SPECIFIC MINIMUM WAGE IN A TWO SECTOR HARRIS-TODARO MODEL.

8213C Markusen, J.R. and Melvin, J.R. THE GAINS FROM TRADE THEOREM WITH INCREASING RETURNS TO SCALE.

8214C INDUSTRIAL ORGANIZATION AND THE GENERAL EQUILIBRIUM COSTS OF PROTECTION IN SMALL OPEN ECONOMIES.

8215C Laidler, D. DID MACROECONOMICS NEED THE RATIONAL EXPECTATIONS REVOLUTION?

8216C Whalley, J. and Wigle, R. ARE DEVELOPED COUNTRY MULTILATERAL TARIFF REDUCTIONS NECESSARILY BENEFICIAL FOR THE U.S.?

8217C Bade, R. and Parkin, M. IS STERLING M3 THE RIGHT AGGREGATE?

8218C Kosch, B. FIXED PRICE EQUILIBRIA IN OPEN ECONOMIES.

1983

8301C Kimbell, L.J. and Harrison, G.W. ON THE SOLUTION OF GENERAL EQUILIBRIUM MODELS.

8302C Melvin, J.R. A GENERAL EQUILIBRIUM ANALYSIS OF CANADIAN OIL POLICY.

8303C Markusen, J.R. and Svensson, L.E.O. TRADE IN GOODS AND FACTORS WITH INTERNATIONAL DIFFERENCES IN TECHNOLOGY.

8304C Mohammad, S. Whalley, J. RENT SEEKING IN INDIA: ITS COSTS AND POLICY SIGNIFICANCE.

8305C DSU Jimenez, E. TENURE SECURITY AND URBAN SQUATTING.

8306C Parkin, M. WHAT CAN MACROECONOMIC THEORY TELL US ABOUT THE WAY DEFICITS SHOULD BE MEASURED.

8307C Parkin, M. THE INFLATION DEBATE: AN ATTEMPT TO CLEAR THE AIR.

8308C Wooton, I. LABOUR MIGRATION IN A MODEL OF NORTH-SOUTH TRADE.

8309C Deardorff, A.V. THE DIRECTIONS OF DEVELOPING COUNTRIES TRADE: EXAMPLES FROM PURE THEORY.

8310C Manning, R. ADVANTAGEOUS REALLOCATIONS AND MULTIPLE EQUILIBRIA: RESULTS FOR THE THREE-AGENT TRANSFER PROBLEM.
Mohammad, S. and Whalley, J. CONTROLS AND THE INTERSECTORAL TERMS OF TRADE IN INDIA.


Jones, R.W., Neary, J.P. and Ruane, F.P. TWO-WAY CAPITAL FLOWS: CROSS-HAULING IN A MODEL OF FOREIGN INVESTMENT.

Follain, J.R. Jr. and Jimenez, E. THE DEMAND FOR HOUSING CHARACTERISTICS IN DEVELOPING COUNTRIES.

Shoven, J.B. and Whalley, J. APPLIED GENERAL EQUILIBRIUM MODELS OF TAXATION AND INTERNATIONAL TRADE.

Boothe, Paul and Longworth David. SOME IRREGULAR REGULARITIES IN THE CANADIAN/U.S. EXCHANGE MARKET.

Hamilton, Bob and Whalley, John. BORDER TAX ADJUSTMENTS AND U.S. TRADE.

Neary, J. Peter, and Schweinberger, Albert G. FACTOR CONTENT FUNCTIONS AND THE THEORY OF INTERNATIONAL TRADE.

Veall, Michael R. THE EXPENDITURE TAX AND PROGRESSIVITY.

Melvin, James R. DOMESTIC EXCHANGE, TRANSPORTATION COSTS AND INTERNATIONAL TRADE.

Hamilton, Bob and Whalley, John. GEOGRAPHICALLY DISCRIMINATORY TRADE ARRANGEMENTS.

Bale, Harvey Jr. INVESTMENT FRICTIONS AND OPPORTUNITIES IN BILATERAL U.S.—CANADIAN TRADE RELATIONS.

Wonnacott, R.J. CANADA—U.S. ECONOMIC RELATIONS—A CANADIAN VIEW.

Stern, Robert M. U.S.—CANADIAN TRADE AND INVESTMENT FRICTIONS: THE U.S. VIEW.

Harrison, Glenn, H. and Kimbell, Larry, J. HOW ROBUST IS NUMERICAL GENERAL EQUILIBRIUM ANALYSIS?

Wonnacott, R.J. THE TASK FORCE PROPOSAL ON AUTO CONTENT: WOULD THIS SIMPLY EXTEND THE AUTO PACT, OR PUT IT AT SERIOUS RISK?

Bradford, James C. CANADIAN DEFENCE TRADE WITH THE U.S.

Conklin, David. SUBSIDY PACTS.

Rugman, Alan M. THE BEHAVIOUR OF U.S. SUBSIDARIES IN CANADA: IMPLICATIONS FOR TRADE AND INVESTMENTS.
1983

8328C Boyer, Kenneth D. U.S.-CANADIAN TRANSPORTATION ISSUES.

8329C Bird, Richard M. and Brean, Donald J.S. CANADA-U.S. TAX RELATIONS: ISSUES AND PERSPECTIVES.

8330C Moroz, Andrew R. CANADA-UNITED STATES AUTOMOTIVE TRADE AND TRADE POLICY ISSUES.


1984

8401C Harrison, Glenn W. and Manning, Richard. BEST APPROXIMATE AGGREGATION OF INPUT-OUTPUT SYSTEMS.

8402C Parkin, Michael. CORE INFLATION: A REVIEW ESSAY.

8403C Blomqvist, Åke, and McMahon, Gary. SIMULATING COMMERCIAL POLICY IN A SMALL, OPEN DUAL ECONOMY WITH URBAN UNEMPLOYMENT: A GENERAL EQUILIBRIUM APPROACH.

8404C Wonnacott, Ronald. THE THEORY OF TRADE DISCRIMINATION: THE MIRROR IMAGE OF VINERIAN PREFERENCE THEORY?

8405C Whalley, John. IMPACTS OF A 50% TARIFF REDUCTION IN AN EIGHT-REGION GLOBAL TRADE MODEL.

8406C Harrison, Glenn W. A GENERAL EQUILIBRIUM ANALYSIS OF TARIFF REDUCTIONS.

8407C Horstmann, Ignatius and Markussen, James R. STRATEGIC INVESTMENTS AND THE DEVELOPMENT OF MULTINATIONALS.

8408C Gregory, Allan W. and McCurdy, Thomas H. TESTING THE UNBIASEDNESS HYPOTHESIS IN THE FORWARD FOREIGN EXCHANGE MARKET: A SPECIFICATION ANALYSIS.

8409C Jones, Ronald W. and Kierzkowski, Henryk. NEIGHBORHOOD PRODUCTION STRUCTURES WITH APPLICATIONS TO THE THEORY OF INTERNATIONAL TRADE.

8410C Weller, Paul and Yano, Makoto. THE ROLE OF FUTURES MARKETS IN INTERNATIONAL TRADE: A GENERAL EQUILIBRIUM APPROACH.

8411C Brecher, Richard A. and Bhagwati, Jagdish N. VOLUNTARY EXPORT RESTRICTIONS VERSUS IMPORT RESTRICTIONS: A WELFARE-THEORETIC COMPARISON.
1984

8412C Ethier, Wilfred J. ILLEGAL IMMIGRATION.

8413C Eaton, Jonathon and Gene M. Grossman. OPTIMAL TRADE AND INDUSTRIAL POLICY UNDER OLIGOPOLY.

8414C Wooton, Ian. PREFERENTIAL TRADING AGREEMENTS - A 3xn MODEL.


8416C Deardorff, Alan V. FIRless FIRwoes: HOW PREFERENCES CAN INTERFERE WITH THE THEOREMS OF INTERNATIONAL TRADE.

8417C Greenwood, Jeremy. NONTRADED GOODS, THE TRADE BALANCE, AND THE BALANCE OF PAYMENTS.

8418C Blomqvist, Ake and Sharif Mohammad. CONTROLS, CORRUPTION, AND COMPETITIVE RENT-SEEKING IN LDCs.

8419C Grossman, Herschel I. POLICY, RATIONAL EXPECTATIONS, AND POSITIVE ECONOMIC ANALYSIS.

8420C Garber, Peter M. and Robert G. King. DEEP STRUCTURAL EXCAVATION? A CRITIQUE OF EULER EQUATION METHODS.

8421C Barro, Robert J. THE BEHAVIOR OF U.S. DEFICITS.

8422C Persson, Torsten and Lars E.O. Svensson. INTERNATIONAL BORROWING AND TIME-CONSISTENT FISCAL POLICY.

8423C Obstfeld Maurice. CAPITAL CONTROLS, THE DUAL EXCHANGE RATE, AND DEVALUATION.

8424C Kuhn, Peter. UNION PRODUCTIVITY EFFECTS AND ECONOMIC EFFICIENCY.

8425C Hamilton, Bob and John Whalley. TAX TREATMENT OF HOUSING IN A DYNAMIC SEQUENCED GENERAL EQUILIBRIUM MODEL.

8426C Hamilton, Bob, Sharif Mohammad, and John Whalley. RENT SEEKING AND THE NORTH-SOUTH TERMS OF TRADE.

8427C Adams, Charles and Jeremy Greenwood. DUAL EXCHANGE RATE SYSTEMS AND CAPITAL CONTROLS: AN INVESTIGATION.

8428 Loh, Choon Cheong and Michael R. Veall. A NOTE ON SOCIAL SECURITY AND PRIVATE SAVINGS IN SINGAPORE.

8429 Whalley, John. REgression Or PROgression: THE TAXING QUESTION OF INCIDENCE ANALYSIS.

8430 Kuhn, Peter. WAGES, EFFORT, AND INCENTIVE-COMPATIBILITY IN LIFE-CYCLE EMPLOYMENT CONTRACTS.
Greenwood, Jeremy and Kent P. Kimbrough. AN INVESTIGATION IN THE THEORY OF FOREIGN EXCHANGE CONTROLS.

Greenwood, Jeremy and Kent P. Kimbrough. CAPITAL CONTROLS AND THE INTERNATIONAL TRANSMISSION OF FISCAL POLICY.

Nguyen, Trien Trien and John Whalley. EQUILIBRIUM UNDER PRICE CONTROLS WITH ENDOGENOUS TRANSACTIONS COSTS.

Adams, Charles and Russell S. Boyer. EFFICIENCY AND A SIMPLE MODEL OF EXCHANGE RATE DETERMINATION.

Kuhn, Peter. UNIONS, ENTREPRENEURSHIP, AND EFFICIENCY.

Hercowitz, Zvi and Efraim Sadka. ON OPTIMAL CURRENCY SUBSTITUTION POLICY AND PUBLIC FINANCE.

Lenjosek, Gordon and John Whalley. POLICY EVALUATION IN A SMALL OPEN PRICE TAKING ECONOMY: CANADIAN ENERGY POLICIES.

Aschauer, David and Jeremy Greenwood. MACROECONOMIC EFFECTS OF FISCAL POLICY.

Hercowitz, Zvi. ON THE DETERMINATION OF THE EXTERNAL DEBT: THE CASE OF ISRAEL.

Stern, Robert M. GLOBAL DIMENSIONS AND DETERMINANTS OF INTERNATIONAL TRADE AND INVESTMENT IN SERVICES.

Deardorff, Alan V. COMPARATIVE ADVANTAGE AND INTERNATIONAL TRADE AND INVESTMENT IN SERVICES.

Daly, Donald J. TECHNOLOGY TRANSFER AND CANADA'S COMPETITIVE PERFORMANCE.

Grey, Rodney de C. NEGOTIATING ABOUT TRADE AND INVESTMENT IN SERVICES.

Grossman, Gene M. and Carl Shapiro. NORMATIVE ISSUES RAISED BY INTERNATIONAL TRADE IN TECHNOLOGY SERVICES.

Chant, John F. THE CANADIAN TREATMENT OF FOREIGN BANKS: A CASE STUDY IN THE WORKINGS OF THE NATIONAL TREATMENT APPROACH.

Aronson, Jonathan D. and Peter F. Cowhey. COMPUTER, DATA PROCESSING, AND COMMUNICATION SERVICES.

Feketekuty, Geza. NEGOTIATING STRATEGIES FOR LIBERALIZING TRADE AND INVESTMENT IN SERVICES.

Harrison, Glenn, W. and E.E. Rutstrom. THE EFFECT OF MANUFACTURING SECTOR PROTECTION ON ASEAN AND AUSTRALIA: A GENERAL EQUILIBRIUM ANALYSIS.
Horstmann, Ignatius and James R. Markusen. UP YOUR AVERAGE COST CURVE: INEFFICIENT ENTRY AND THE NEW PROTECTIONISM.

Gregory, Allan W. TESTING INTEREST RATE PARITY AND RATIONAL EXPECTATIONS FOR CANADA AND THE UNITED STATES.

Kuhn, Peter and Ian Wooton. INTERNATIONAL FACTOR MOVEMENTS IN THE PRESENCE OF A FIXED FACTOR.

Wong, Kar-yiu. GAINS FROM GOODS TRADE AND FACTOR MOBILITY.

Weller, Paul and Makoto Yano. FUTURES MARKETS, REAL INCOME, AND SPOT PRICE VARIABILITY: A GENERAL EQUILIBRIUM APPROACH.

Diewert, W.E. THE EFFECTS OF AN INNOVATION: A TRADE THEORY APPROACH.

Ethier, Wilfred J. FOREIGN DIRECT INVESTMENT AND THE MULTINATIONAL FIRM.

Dinopoulos, Elias. INSIDE THE BLACK BOX: (IN)TANGIBLE ASSETS, INTRA-INDUSTRY INVESTMENT AND TRADE.

Jones, Richard, John Whalley, and Randall Wige. REGIONAL IMPACTS OF TARIFFS IN CANADA: PRELIMINARY RESULTS FROM A SMALL DIMENSIONAL NUMERICAL GENERAL EQUILIBRIUM MODEL.

Whalley, John. HIDDEN CHALLENGES IN RECENT APPLIED GENERAL EQUILIBRIUM EXERCISES.

Smith, Bruce. SOME COLONIAL EVIDENCE ON TWO THEORIES OF MONEY: MARYLAND AND THE CAROLINAS.


Romer, Paul R. TAX EFFECTS AND TRANSACTION COSTS FOR SHORT TERM MARKET DISCOUNT BONDS.

McCallum, Bennett T. ON CONSEQUENCES AND CRITICISMS OF MONETARY TARGETING.

Dinopoulos, Elias and Ian Wooton. A NORTH-SOUTH MODEL OF INTERNATIONAL JUSTICE.

Huffman, Gregory W. A DYNAMIC EQUILIBRIUM MODEL OF ASSET PRICES AND TRANSACTION VOLUME.

Huffman, Gregory W. AN ALTERNATIVE VIEW OF OPTIMAL SEIGNIORAGE.

Huffman, Gregory W. ASSET PRICING WITH HETEROGENEOUS ASSETS.
1985

8520C Hercowitz, Zvi. THE REAL INTEREST RATE AND AGGREGATE SUPPLY.

8521C Davies, James and Michael Hoy. COMPARING INCOME DISTRIBUTIONS UNDER AVERSION TO DOWNSIDE INEQUALITY.

8522C Nguyen, Trien T. and John Whalley. COEXISTENCE OF EQUILIBRIA ON BLACK AND WHITE MARKETS.

8523C Clarete, Ramon and John Whalley. INTERACTIONS BETWEEN TRADE POLICIES AND DOMESTIC DISTORTIONS: THE PHILIPPINE CASE.

8524C Hamilton, Bob, Sharif Mohammad, and John Whalley. APPLIED GENERAL EQUILIBRIUM ANALYSIS AND PERSPECTIVES ON GROWTH PERFORMANCE.

8525C Huffman, Gregory W. THE LAGGED EFFECTS OF POLICY ON THE PRICE LEVEL.

8526C Laidler, David. FISCAL DEFICITS AND INTERNATIONAL MONETARY INSTITUTIONS.