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INTERNATIONAL COMPARISONS OF FISCAL POLICY:
THE OECD AND THE IMF MEASURES OF FISCAL IMPULSE

by

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International Comparisons of Fiscal Policy:
the OECD and the IMF Measures of Fiscal Impulse

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Abstract

Both the OECD and the IMF periodically estimate and publish measures of fiscal impulse to gauge the extent to which fiscal policy in the major industrial countries has become more or less expansive over time. This paper compares these measures analytically and numerically. The paper shows that the OECD and IMF measures of fiscal impulse differ in at least four fundamental ways: (1) the OECD includes fiscal drag under the presumption that it is part of the "structure" of fiscal policy, while the IMF excludes it from its adjusted measure of the budget balance; (2) the OECD and the IMF both adjust for cyclical factors but they do so differently; (3) the OECD estimates its marginal tax and expenditure rates from a structural model whereas the IMF assumes unit income-elasticity of its parameters and uses historical average tax and spending rates; and (4) each agency uses different estimates of potential output. The paper then numerically allocates differences in the published figures of the OECD and the IMF to these various sources. The paper assesses the usefulness of each measure.

International Comparisons of Fiscal Policies:
the OECD and IMF Measures of Fiscal Impulse

Introduction

Changes in a government's budget balance do not accurately measure changes in fiscal policy. When budgets for different countries are compared, measurement problems become more pronounced and complicated.

Both the OECD and the IMF periodically estimate and publish measures of fiscal impulse to gauge the extent to which fiscal policy in the major industrial countries has become more or less expansive over time. The OECD employs a structural approach in that it attempts to calculate at each point in time what the budget balance would be along some smoothly and appropriately defined growth path. The IMF on the other hand, attempts to measure the added stimulus of budgetary policies over some well defined time period relative to the policies of a base period. This paper compares the two.¹

The paper concludes that the OECD and IMF measures of fiscal impulse differ in at least four fundamental ways: (1) the OECD includes fiscal drag under the presumption that it is part of the "structure" of fiscal policy, while the IMF excludes it from its adjusted measure of the budget balance; (2) the OECD and the IMF both adjust for cyclical factors but they do so differently; (3) the OECD estimates its marginal tax and expenditure rates from a structural model whereas the IMF assumes unit income-elasticity of its parameters and uses historical average tax and spending rates; and (4) each agency uses different estimates of potential

¹This paper focuses on the simplest form of adjusted budget balances which are not adjusted for inflation, interest rates, and other factors. Subsequent papers will focus on various adjustments to these measures.

output. Because the OECD and the IMF adjustments to actual budget balances are different, the two measures are different numerically. But are these differences significant? More importantly, are the measures comparable in the sense that they try to measure similar magnitudes? This paper attempts to answer these questions.

The paper is organized as follows. The first section presents and briefly discusses fiscal impulse measures for the major industrial countries published by both agencies in their most recent publications. The second section describes the OECD and IMF methodologies.² The third section compares the two methods by adopting a rather conventional decomposition of actual budget balances. The focus is on differences in the levels of adjusted budget balances (what is often called the fiscal stance), which more easily reveals differences in methodologies. The fourth section numerically allocates discrepancies in adjusted balances (both levels and ratios) and changes in adjusted balances (levels and ratios) to potential sources such as differences in estimates of potential GNP. A concluding section summarizes.

I. Estimates of Fiscal Impulse: the Nature of the Problem

Table 1 presents fiscal impulse measures published by the OECD and the IMF for the major industrial countries over the period 1979-84. These measures are defined as the negative of the change in the ratio of an adjusted budget balance to potential GNP. The budget balance is defined as

²For a complete description of the OECD methodology see Muller and Price and for a complete description of the IMF methodology see Heller, et al.

Table 1¹
Fiscal Impulse Measures

		<u>OECD</u> ²	<u>IMF</u> ³	<u>Difference</u>
United States	1979	→.3	→.5	.2
	1980	.5	.6	→.1
	1981	→.4	→.3	→.1
	1982	.9	1.0	→.1
	1983	.7	.7	.0
	1984	.7	.9	→.2
Japan	1979	→.7	→.5	→.2
	1980	→.4	→.2	→.2
	1981	→.4	→1.0	.6
	1982	→.3	→.2	→.1
	1983	→.6	→.4	→.2
	1984	→.5	→.2	→.3
Germany	1979	.7	.9	→.2
	1980	.4	.0	.4
	1981	.2	→1.0	1.2
	1982	→1.4	→2.0	.6
	1983	→1.4	→.9	→.5
	1984	→.5	.2	→.7
France	1979	→.9	→1.0	.1
	1980	→.3	→1.8	1.5
	1981	1.0	.6	.4
	1982	.6	.3	.3
	1983	→.3	→.5	.2
	1984	→1.2	→.9	→.3
United Kingdom	1979	→.7	→.7	.0
	1980	→1.1	→1.7	.6
	1981	→2.9	→2.6	→.3
	1982	→1.5	→.8	→.7
	1983	1.3	1.3	.0
	1984	.4	.5	→.3
Italy	1979	.5	.4	.1
	1980	→.9	→1.3	.4
	1981	3.8	2.2	1.6
	1982	→.6	→1.1	.5
	1983	→1.7	→1.9	.2
	1984	.2	.9	→.7
Canada	1979	→1.2	→.6	→.6
	1980	.5	.5	.0
	1981	→.8	→.8	.0
	1982	.4	→.4	.8
	1983	1.7	1.2	.5
	1984	1.0	1.3	→.3

1/ A minus indicates a move in the direction of less stimulus (a smaller deficit).

2/ Change in the ratio of the structural budget balance to potential GNP, as published in OECD Economic Outlook (Dec. 1985), multiplied by minus one.

3/ Change in the ratio of fiscal stance to potential GNP multiplied by minus one, as published in the World Economic Outlook.

revenues less expenditures, so a negative balance indicates a deficit. When the fiscal impulse measure is positive it indicates a move towards expansion (a larger deficit or smaller surplus), while if it is negative it indicates a move towards restriction.

With the exception of Germany in 1981 and 1984 and Canada in 1982 both measures indicate the same direction of change of fiscal stimulus. Magnitudes differ by amounts ranging between -.7 and 1.6 percentage points.

When fiscal impulse measures are translated into implicit levels of the adjusted budget balances, differences between the two balances are large relative to the actual budget balance. Table 2 presents actual budget balances in local currencies and implicit³ estimates of adjusted budget balances by the OECD and the IMF. Column 4 presents absolute differences between the two measures. As can be seen, these differences can be quite large; with two exceptions, they range between -20 and 182 percent of the actual balance.

In summary, there are substantial differences in implicit budget adjustments. Are these differences merely the result of discrepancies in estimates of potential (or actual) GDP, or are there substantial differences in methodologies?

³These are calculated using source data provided by the OECD and the IMF.

Table 2

ACTUAL AND ADJUSTED BUDGET BALANCES

	ACTUAL	OECD	IMF	DIFFERENCE
UNITED STATES (BILLIONS \$):				
* 1979	14.53	29.9	11.68	18.22
* 1980	-30.75	19.	-3.12	22.12
* 1981	-26.82	32.4	4.33	28.07
* 1982	-115.28	3.5	-25.31	28.81
* 1983	-134.2	-22.3	-49.09	26.79
* 1984	-123.05	-51.7	-87.53	35.83
JAPAN (TRILLIONS Y):				
* 1979	-10.43	-9.4	1.12	-10.52
* 1980	-10.54	-9.2	1.78	-10.98
* 1981	-10.06	-8.7	4.31	-13.01
* 1982	-9.58	-8.3	5.15	-13.45
* 1983	-9.67	-7.	6.37	-13.37
* 1984	-7.8	-5.8	7.23	-13.03
GERMANY (BILLIONS DM):				
* 1979	-35.63	-27.9	-13.08	-14.82
* 1980	-42.95	-32.2	-14.39	-17.81
* 1981	-56.66	-34.2	-1.52	-32.68
* 1982	-52.52	-12.4	32.16	-44.56
* 1983	-41.16	8.8	46.29	-37.49
* 1984	-33.82	12.2	44.29	-32.09
FRANCE (BILLIONS FR):				
* 1979	-16.7	-21.3	24.09	-45.39
* 1980	5.9	14.1	77.24	-63.14
* 1981	-55.6	-23.7	66.82	-90.52
* 1982	-97.24	-49.7	65.39	-115.09
* 1983	-120.92	-50.3	93.38	-143.68
* 1984	-119.81	-24.3	140.04	-164.34
UNITED KINGDOM (BILLIONS L):				
* 1979	-6.87	-7.9	1.46	-9.36
* 1980	-8.09	-4.3	5.43	-9.73
* 1981	-7.21	3.4	12.43	-9.03
* 1982	-6.49	5.7	16.47	-10.77
* 1983	-11.18	-0.5	13.63	-14.13
* 1984	-12.34	-2.4	13.91	-16.31
ITALY (TRILLIONS L):				
* 1979	-25.74	-26.	-0.98	-25.02
* 1980	-27.22	-28.5	3.18	-31.68
* 1981	-47.9	-48.5	-5.11	-43.39
* 1982	-59.26	-57.3	-0.64	-56.66
* 1983	-66.7	-60.7	9.44	-70.14
* 1984	-82.9	-76.1	5.1	-81.2
CANADA (BILLIONS C\$):				
* 1979	-4.63	-4.1	1.68	-5.78
* 1980	-8.1	-6.3	0.28	-6.58
* 1981	-5.44	-4.4	2.91	-7.31
* 1982	-17.89	-6.5	4.4	-10.9
* 1983	-24.12	-14.1	0.12	-14.22
* 1984	-26.7	-19.	-5.26	-13.74

II. The OECD and IMF Adjustments to Actual Budget Balances

Generalities

This section describes the adjustments to actual budget balances made by each agency and reproduces the equations that generate these adjusted balances. Although fiscal impulse measures are defined as the change in the adjusted budget balance (level or ratio), the focus of this section is on the level of actual and adjusted budget balances⁴ to clearly reveal methodological differences. However, neither agency places any significance on these levels. For the purpose of cross-country comparison, the adjusted budget balance is deflated by GDP. The fiscal impulse is defined as the change in this ratio multiplied by minus one. Fiscal impulse is a concept that represents the change in the impact of budget balances.

The OECD's Method

The OECD's approach is to remove built-in-stabilizer effects from the actual budget balance.⁵ To achieve this objective, the OECD assumes the actual budget balance is composed of two major components: a

⁴The level of the adjusted budget balance is what the OECD calls the fiscal stance, whereas the IMF multiplies its adjusted balance by minus one to derive its measure of fiscal stance.

⁵The OECD method is similar in spirit to the method used by the Bureau of Economic Analysis. BEA's cyclically adjusted federal budget is constructed according to the following procedure: (1) choose a reference trend for GNP free of short-run fluctuations; (2) estimate response parameters (elasticities) of components of revenues and expenditures to short-run movements in GNP; (3) apply these responses to the gap between trend and actual GNP to obtain "gross-ups"; and (4) add these "gross-ups" to the actual budget to obtain a cyclically adjusted budget.

policy-induced or discretionary component; and an income-induced component. The adjusted balance measures that part of the budget balance which is policy related or what has been called the "structural" deficit. It includes the income-induced component which would exist were the economy expanding along a trend growth path (potential, mid-cycle, or some other path). These ideas can be made more rigorous as follows:

$$(1) \quad B_t = B_{Dt} + mY_t$$

where

B_t = actual budget balance, defined as receipts (R) less expenditures (G)

B_{Dt} = part of the budget independent of income (and in this methodology discretionary)

Y_t = actual GDP

m = $m^R - m^G$ where m^R , m^G are the marginal rates of revenues and expenditures, respectively, with regard to GDP.

The marginal tax and spending rates are derived from elasticities which are estimated from structural models.

Part of the income-induced component is unrelated to cyclical changes in income. Actual output can be decomposed into "cyclical" and "potential" as follows:

$$Y_t = Y_t^P + (Y_t - Y_t^P).$$

Y^P is potential output and $Y - Y^P$ is the output gap. The income-induced component decomposes into a "fiscal drag" component and a "built-in-stabilizer" component:

$$mY_t = mY_t^P + m(Y_t - Y_t^P)$$

The first term represents "fiscal drag" -- the budget balance at "full-employment" resulting from the difference between tax and expenditure rates (i.e. non-zero m). The second term represents built-in-stabilizer effects or the balance resulting from cyclical fluctuations of the economy along a trend growth path. Equation (1) now becomes:

$$(2) \quad B_t = B_{Dt} + mY_t^P + m(Y_t - Y_t^P).$$

The OECD's adjusted budget balance is then defined as in (3).

$$(3) \quad AB_t^0 = B_t - m(Y_t - Y_t^P) [= B_{Dt} + mY_t^P]$$

and includes the budget balance originating in discretionary policy and fiscal drag (or "structural" components).⁶

Note that when the economy is growing along its potential growth path the actual budget balance is the OECD structural balance. The OECD adjusted balance gives a reasonable answer to the following question: What

⁶In the OECD's words: "The 'discretionary', or 'cyclically-corrected', change is made up of two principal components: (i) The effect of existing policies, reflected in the elasticity of taxes (e) and expenditures (g) relative to the growth of potential GDP....; (ii) Changes in tax yields (ΔR) and expenditures (ΔG) arising out of policy changes in year t ." This cyclically-corrected component is represented by the first three terms in the equation below.

$$" \Delta B_t = \Delta R_t - \Delta G_t + (e(T/Y)_0 - g(G/Y)_0) \Delta Y_t^P + m(\Delta Y_t - \Delta Y_t^P) ."$$

would the budget balance be, given existing budgetary policies, were the economy operating at full employment? The change in this adjusted balance attempts to measure the policy-induced change in the budget, where the budget impact of fiscal drag is presumed to be deliberate policy.

The IMF's Method

The IMF attempts to calculate the "initial impulse" to aggregate demand from all fiscal sources (whether discretionary or otherwise) during a given period. To achieve this objective, the IMF defines a "cyclically neutral budget", which can be interpreted as an estimate of the cyclical component of the budget. The cyclically neutral budget is defined as in eq. (4).

$$(4) \quad \text{CNB}_t = t_o Y_t - g_o^* Y_t^P,$$

where $t_o = \frac{R_o}{Y_o}$ and R_o is total receipts in the base period,

$$g_o^* = \frac{G_o - \text{UIB}_o}{Y_o}, \text{ and } G_o \text{ is total outlays in the base period,}$$

and UIB_o represents unemployment insurance benefits in the base period.

The IMF defines expenditure as cyclically neutral when changes in expenditures from a base period are proportional to potential GNP. Since the IMF views unemployment insurance benefits (UIB) as cyclically neutral, it excludes UIB from expenditures and from the calculation of the expenditure-policy parameter, g_o^* . Revenues are cyclically neutral when they change in proportion to actual GNP. These definitions imply tax receipts are unit elastic with respect to actual GNP (marginal and average

aggregate tax rates equal) while expenditures are unit elastic with respect to potential GNP. These assumptions are not well motivated.

The actual budget balance, which excludes UIB for the calculation, has two components: the cyclically neutral budget balance; and everything else, which the IMF calls fiscal stance (FIS).

$$(5) \quad B_t^* = t_o Y_t - g_o^* Y_t^P - FIS_t^*$$

The adjusted budget balance is then the difference between the actual budget balance and the cyclically neutral balance:⁷

$$(6) \quad AB_t^F = B_t^* - (t_o Y_t - g_o^* Y_t^P) [= - FIS_t^*]$$

Equations (3) and (6) are reproductions of the OECD and IMF methods for calculating adjusted budget balances. To calculate the fiscal impulse, one divides each measure by actual GDP (or GNP), takes first differences, and changes the sign.

⁷In the words of the IMF: "Such changes [in the adjusted balance] may be viewed as policy determined either (1) by the introduction of new measures or (2) by the operation of previously existing measures that automatically result in revenue (expenditure) changing disproportionately to the change in GNP (potential GNP) by which 'neutrality' is judged." (WEO, April 1985, p. 109)

"The net 'fiscal impulse' (FI) may be expressed in terms of the change in revenue (R), expenditure other than unemployment insurance benefits (E), actual GNP (Y), and potential GNP (YP), as follows:

$$FI_t = -(\Delta R_t - t_o \Delta Y_t) + (\Delta E_t - g_o \Delta Y_t^P)$$

where t_o and g_o are the base year ratios of revenue to actual GNP and of expenditure other than unemployment insurance benefits to potential GNP, respectively." (WEO, April 1985, p. 110)

III. An Analytical Comparison of the Two Measure

Comparable Treatment of Unemployment Insurance Benefits

The derived adjusted budget balances described in the previous section (eq.(3) and eq.(6)) treat unemployment insurance benefits differently. In estimating cyclical expenditures, the OECD treats these benefits like other government expenditures. The IMF, on the other hand, removes UIB from its calculation of the adjusted balance by excluding it from the actual budget (B^*) and its policy parameter (g^*). The IMF measure can be adjusted. Since

$$B_t^* = B_t + \text{UIB}_t$$

and since

$$g_o^* = (G_o - \text{UIB}_o) / Y_o$$

we can rewrite the adjusted budget balance as

$$(7) \quad AB_t^F = B_t - (t_o Y_t - g_o Y_t^P) + \text{UIB}_t - (g_o - g_o^*) Y_t^P ,$$

where B is comparable to the budget concept used by OECD, g_o is the ratio of total government expenditure to GDP in the base period, and $g_o - g_o^* = (\text{UIB}_o / Y_o)$ and represents the unemployment insurance benefit payout ratio in the base period, which will be labelled ρ in subsequent discussion.

A Conventional Budget Decomposition: A Short Digression

To clarify the conceptual differences in these measures, it is useful to define budget balances as the sum of three terms representing the following concepts: (1) discretionary policy; (2) budget items that expand with the economy along trend (potential or mid-cycle trend, for example); and (3) budget items that respond to cyclical fluctuations. Equation (8) defines the budget balance in these terms.

$$(8) \quad B_t = B_{Dt} + B_{Tt} + B_{Ct}$$

The subscripts D, T, and C represent discretionary, trend, and cyclical components, respectively.

Under this useful decomposition, the OECD adjusts actual changes in the budget balance by removing its estimate of the cyclical component of the budget balance:

$$(9) \quad B_{Ct}^O = (m^r - m^g)(Y_t - Y_t^P)$$

The OECD adjusts the actual budget balance for cyclical revenues ($m^r (Y_t - Y_t^P)$) and cyclical expenditures ($m^g (Y_t - Y_t^P)$). The adjusted budget balance in principle includes the discretionary surplus and fiscal drag (the surplus at potential output), both perceived to be structural elements of policy.

The IMF adjusted balance can be interpreted as removing both the

trend component (or fiscal drag) and a cyclical component, eq.(11) and eq.(12), respectively.⁸

$$(11) \quad B_{Tt}^F = (t_o - g_o) Y_t^P$$

$$(12) \quad B_{Ct}^F = t_o (Y_t - Y_t^P) - [UIB_t - \rho Y_t^P]$$

In summary, the OECD subtracts cyclical revenues and expenditures from actual budget balances to derive its adjusted budget balance. Its adjusted balance includes discretionary budget items and income sensitive components of the budget that would change along a trend growth path. The IMF, on the other hand, subtracts its estimate of cyclical revenues and expenditures and also subtracts the budget balance at potential GDP assuming policy (parameters) has not changed since the base period. The IMF's adjusted balance includes discretionary budgetary items and cyclical

⁸To decompose the IMF measure in this way let the actual budget balance be composed of three elements: a "base year surplus," chosen in a period when actual and potential output are roughly equivalent; a cyclical component; and the fiscal stance. This is represented in the equation below and is equivalent to eq.(7) in the text.

$$B = (t_o - g_o) Y_t^P + [t_o (Y_t - Y_t^P) - (UIB_t - \rho Y_t^P)] - FIS_t$$

The first term represents the base year surplus, with t_o and g_o defined as the ratios of receipts and expenditures to output measured in the base year, a time period when actual and potential output are equivalent (or nearly so). This term then represents the full-employment budget surplus in time period t , under the policies in force in the base period (where t_o and g_o represent the "policies"). The second term represents cyclical revenues less cyclical expenditures. Whenever actual output is greater than potential, total receipts will exceed full-employment receipts and the actual budget deficit will include these receipts. Cyclical expenditure is estimated by cyclical unemployment insurance benefits (actual UIB minus what would be paid out at potential assuming the base period payout ratio). The fourth term, FIS, includes discretionary policy changes since time period 0 and represents the IMF's view of the "thrust" of fiscal policy.

government expenditures that deviate from unit elasticity with respect to potential GDP and cyclical revenues that deviate from unit elasticity with respect to actual GDP.

Differences in Adjusted Budget Balances

We can now return to the major objective of this paper. Equation (13) below is a precise formulation of the difference between the OECD and the IMF adjusted budget balance, where Y^O and Y^F represent potential output estimates by the OECD and the IMF, respectively. Eq. (13) is derived by subtracting eq. (7) from eq. (3).

$$(13) \quad AB_t^O - AB_t^F = (B_t^O - B_t^F) - [m^r(Y_t - Y_t^O) - t_0(Y_t - Y_t^F)] \\ + [m^g(Y_t - Y_t^O) - (UIB_t - (g_0 - g_0^*)Y^F)] + (t_0 - g_0) Y_t^F$$

Differences in fiscal impulse measures arise because of differences in adjusted budget balances. We can address the questions raised in the introduction by closely examining differences in adjusted budget balances. The first term represents differences in estimates of the actual budget balance arising, for example, from different accounting procedures used by the OECD and the IMF. The second term accounts for differences in estimates of cyclical revenues. The third term accounts for differences in estimates of cyclical expenditures. Both the second and third terms involve differences in parameter estimates and potential output estimates as well as implicit methodological differences. The fourth term accounts for the fact that the IMF removes the trend budget deficit whereas the OECD does not.

IV. An Examination of the Numbers

Sources of the Discrepancy in Adjusted Budget Balances⁹

Table 3 presents the level of the adjusted budget balances implicit in the most recent OECD and IMF publications (December and October 1985, respectively) for the United States, Japan, and Canada. The table allocates the discrepancy in the two measures according to equation (13). (Note that table 4 reveals that the percent distribution of the total discrepancy in the ratio of adjusted balances to GDP among potential sources is similar to that of levels.) Referring back to table 3, note the size of the discrepancies between the two measures and the large number of discrepancies about whether the economy in question has a surplus or deficit, particularly for Japan and Canada. For the United States large discrepancies occur in the cyclical expenditure and cyclical revenue adjustments while the fiscal drag adjustment (made by the IMF and not made by the OECD) contributes very little to the discrepancy. In both Japan and Canada, fiscal drag accounts for more than 100 percent of the discrepancy in adjusted budget balances in all years except one (Canada 1983), indicating the relatively large gap between tax and spending rates.

The more relevant comparisons are made in tables 5 and 6 which present these same allocations for changes in adjusted balances and changes in the ratio of adjusted balances to GDP, respectively. As stated in the

⁹Source data for the calculations in this section were provided by the OECD and the IMF. Calculated "fiscal impulse" measures may differ from the measures actually published by the agencies due to rounding errors and discrepancies created by using slightly updated source data.

Table 3

SOURCES OF DISCREPANCY IN ADJUSTED BUDGET BALANCE

	1979	1980	1981	1982	1983	1984
UNITED STATES (BILLIONS OF \$)						
OECD	29.9	19.0	32.4	3.5	-22.3	-51.7
IMF	11.7	-3.1	4.3	-25.3	-49.1	-87.5
DISCREPANCY	18.3	22.1	28.1	28.8	26.8	35.9
SOURCES (% OF TOTAL DISCREPANCY)						
CYCLICAL REVENUES	64.2	57.2	47.6	7.0	-5.7	27.0
CYCLICAL EXPENDITURES	29.7	38.5	48.8	88.7	99.6	69.5
FISCAL DRAG	4.9	4.5	4.0	4.3	4.9	3.9
OTHER	1.3	-1.2	-1.4	.1	1.1	-1.4
JAPAN (TRILLIONS OF Y)						
OECD	-9.4	-9.2	-8.7	-8.3	-7.0	-5.8
IMF	1.1	1.8	4.3	5.1	6.4	7.2
DISCREPANCY	-10.6	-11.0	-13.0	-13.4	-13.4	-13.0
SOURCES (% OF TOTAL DISCREPANCY)						
CYCLICAL REVENUES	-12.9	-16.8	-13.2	-8.7	-13.5	-20.8
CYCLICAL EXPENDITURES	-7	-7	-6	-2	-9	-4
FISCAL DRAG	113.6	117.5	106.1	108.8	114.4	122.8
OTHER	.0	-.0	7.7	.0	.0	-1.7
CANADA (BILLIONS OF C\$)						
OECD	-4.1	-6.3	-4.4	-6.5	-14.1	-19.0
IMF	1.7	.3	2.9	4.4	.1	-5.3
DISCREPANCY	-5.8	-6.6	-7.3	-10.9	-14.2	-13.7
SOURCES (% OF TOTAL DISCREPANCY)						
CYCLICAL REVENUES	-21.2	-13.8	-20.0	1.2	4.3	-10.6
CYCLICAL EXPENDITURES	-20.5	-28.9	-25.6	-11.0	4.7	11.6
FISCAL DRAG	141.8	142.8	145.6	109.9	91.1	98.9
OTHER	-.0	-.0	-.0	-.1	-.0	.1

Table 4

		1979	1980	1981	1982	1983	1984
SOURCES OF DISCREPANCY IN RATIO OF ADJUSTED BUDGET BALANCE TO GNP							
UNITED STATES (% OF GNP)							
OECD		1.218	.690	1.047	.104	-.622	-1.353
IMF		.483	-.118	.146	-.825	-1.485	-2.390
DISCREPANCY		.736	.808	.900	.928	.864	1.037
SOURCES (% OF TOTAL DISCREPANCY)							
CYCLICAL REVENUES		64.859	51.629	42.992	-18.612	-26.005	20.292
CYCLICAL EXPENDITURES		30.054	37.462	48.763	78.512	83.337	63.020
FISCAL DRAG		5.014	4.712	4.238	4.315	4.592	3.679
OTHER		.072	6.198	4.007	35.784	38.076	13.008
JAPAN (% OF GNP)							
OECD		-4.171	-3.787	-3.356	-3.028	-2.443	-1.926
IMF		.510	.754	1.709	1.945	2.318	2.470
DISCREPANCY		-4.702	-4.543	-5.073	-4.971	-4.766	-4.391
SOURCES (% OF TOTAL DISCREPANCY)							
CYCLICAL REVENUES		-13.012	-16.894	-13.158	-8.540	-13.049	-20.619
CYCLICAL EXPENDITURES		-.685	-.683	-.550	-.138	-.845	-.361
FISCAL DRAG		116.610	120.477	108.083	111.145	116.957	124.350
OTHER		-2.913	-2.900	5.624	-2.467	-3.063	-3.370
CANADA (% OF GNP)							
OECD		-1.543	-2.080	-1.285	-1.685	-3.394	-4.342
IMF		.634	.093	.858	1.227	.031	-1.250
DISCREPANCY		-2.187	-2.171	-2.137	-2.916	-3.417	-3.094
SOURCES (% OF TOTAL DISCREPANCY)							
CYCLICAL REVENUES		-21.293	-13.680	-19.977	7.416	8.147	-9.389
CYCLICAL EXPENDITURES		-20.602	-29.320	-25.694	-9.898	6.011	12.707
FISCAL DRAG		142.350	145.197	146.253	114.785	97.002	104.417
OTHER		-.455	-2.198	-.582	-12.303	-11.161	-7.734

Table 5

SOURCES OF DISCREPANCY IN CHANGE IN ADJUSTED BUDGET BALANCE

	1979	1980	1981	1982	1983	1984
UNITED STATES (BILLIONS OF \$)						
OECD	9.9	-10.9	13.4	-28.9	-25.8	-29.4
IMF	11.7	-14.8	7.4	-29.6	-23.8	-38.4
DISCREPANCY	-1.7	3.8	6.0	.7	-2.0	9.1
SOURCES (% OF TOTAL DISCREPANCY)						
CYCLICAL REVENUES	-67.8	23.9	12.3	-1540.6	176.7	123.5
CYCLICAL EXPENDITURES	4.3	80.6	86.8	1607.9	-58.6	-19.5
FISCAL DRAG	-5.4	2.8	2.1	13.7	-4.1	1.0
OTHER	168.8	-7.3	-1.2	19.0	-14.0	-5.0
JAPAN (TRILLIONS OF ¥)						
OECD	.9	.2	.5	.4	1.3	1.2
IMF	1.1	.7	2.5	.8	1.2	.9
DISCREPANCY	-1.3	-.4	-2.0	-.4	.1	.4
SOURCES (% OF TOTAL DISCREPANCY)						
CYCLICAL REVENUES	-144.8	-114.8	6.4	133.1	1008.8	249.0
CYCLICAL EXPENDITURES	-12.9	-.7	.1	12.2	154.3	-19.5
FISCAL DRAG	257.8	215.5	44.6	195.2	-1063.1	-190.6
OTHER	.0	-.0	48.9	-240.5	.0	61.2
CANADA (BILLIONS OF C\$)						
OECD	2.6	-2.2	1.9	-2.1	-7.6	-4.9
IMF	1.7	-1.4	2.6	1.5	-4.3	-5.4
DISCREPANCY	.9	-.8	-.7	-3.6	-3.3	.4
SOURCES (% OF TOTAL DISCREPANCY)						
CYCLICAL REVENUES	86.6	42.3	-75.9	44.0	14.3	466.4
CYCLICAL EXPENDITURES	115.9	-92.5	4.8	18.3	56.9	-211.5
FISCAL DRAG	-102.5	150.2	171.1	38.0	28.4	-152.6
OTHER	.0	-.0	.0	-.3	.3	-2.3

Table 6

SOURCES OF DISCREPANCY IN CHANGE IN RATIO OF ADJUSTED BUDGET BALANCE TO GNP						
	1979	1980	1981	1982	1983	1984
UNITED STATES (% OF GNP)						
OECD	.308	-.528	.357	-.943	-.726	-.731
IMF	.483	-.602	.265	-.971	-.661	-.904
DISCREPANCY	.174	-.071	-.092	-.028	.064	-.174
SOURCES (% OF TOTAL DISCREPANCY)						
CYCLICAL REVENUES	1.205	-85.055	-32.435	-1998.994	80.800	250.779
CYCLICAL EXPENDITURES	16.546	113.988	147.462	1034.875	13.645	-38.122
FISCAL DRAG	.019	1.588	.097	6.803	.586	-.867
OTHER	82.230	69.479	-15.124	1057.315	4.969	-111.789
JAPAN (% OF GNP)						
OECD	.746	.384	.431	.328	.585	.517
IMF	.510	.244	.956	.235	.373	.152
DISCREPANCY	-.193	-.159	.530	-.102	-.205	-.375
SOURCES (% OF TOTAL DISCREPANCY)						
CYCLICAL REVENUES	90.523	97.854	18.845	-238.098	96.156	75.650
CYCLICAL EXPENDITURES	8.995	-.717	.592	-20.601	16.257	-6.510
FISCAL DRAG	22.054	6.170	1.919	-41.063	-23.791	30.331
OTHER	-21.571	-3.306	78.644	399.762	11.379	.529
CANADA (% OF GNP)						
OECD	1.322	-.538	.795	-.400	-1.709	-.949
IMF	.634	-.541	.764	.370	-1.196	-1.281
DISCREPANCY	-.686	-.016	-.035	.779	.502	-.323
SOURCES (% OF TOTAL DISCREPANCY)						
CYCLICAL REVENUES	40.487	-1065.694	373.108	82.559	12.399	176.100
CYCLICAL EXPENDITURES	57.621	1175.356	-251.994	33.435	98.429	-58.113
FISCAL DRAG	3.788	-248.307	80.343	28.463	-6.305	25.987
OTHER	-1.895	238.645	-101.457	-44.456	-4.524	-43.974

first section of this paper, the direction of change of adjusted balances (in levels and ratio form) is usually the same for both agencies; the exception here is Canada for 1982. In general, the pattern of the discrepancy in changes in levels of adjusted balances is similar to the pattern that emerges in levels or ratios. For the United States, except for 1979, most of the discrepancy in changes in levels is accounted for by estimates of cyclical revenues and/or expenditures. Fiscal drag again accounts for a relatively small fraction of the discrepancy in all years. 1979 was an unusual year in which estimates by each agency of the actual change in the budget balance differed a great deal ("other"). And in 1982, a year of deep recession, cyclical revenue and cyclical expenditure adjustments differed a great deal, even though the overall discrepancy was relatively small.

The data for Japan present a different picture. In most years, fiscal drag consistently accounts for a large share of the discrepancy in the change in levels, while cyclical expenditure adjustments account for a relatively small share. In 1981 and 1982, the agencies' estimates of the change in the actual budget balances were quite different. Finally Canada appears to be a hybrid case where each category of adjustment, except "other", plays a major role in explaining the discrepancy in some years and a minor role in other years. Fiscal drag, however, appears to account for a consistently large share of the overall discrepancy.

The picture is somewhat different in table 6 where the discrepancy in changes in the ratio of adjusted balances to GDP are allocated among the various potential sources of differences. Although

some patterns emerge, they are less obvious. For the United States, fiscal drag again plays a minor role in explaining the overall discrepancy between fiscal impulse measures. The other three categories explain major or minor shares depending on which year is examined; in 1982, a recession year, all three categories show that the OECD and IMF measures diverged widely. For Japan, no clear pattern emerges except that cyclical revenue adjustments accounted for a consistently large share of the total discrepancy in fiscal impulse measures for Japan. Finally, for Canada no clear pattern emerges at all.

Isolating Differences in Adjusted Balances and Fiscal Impulse

Although eq. (13) is a useful decomposition of the discrepancy in fiscal impulse measures, one can easily think of other decompositions. For example, answers to the following question would be useful: What part of the overall discrepancy is traceable to differences in parameter estimates, differences in estimates of potential GDP, or differences in methodologies? Unfortunately, parametric differences are difficult to interpret and methodological differences are difficult to quantify.

Parametric Differences:

Differences in the two measures arising from differences in parameter estimates are difficult to interpret. The OECD parameters for time period t are estimated marginal rates derived from estimated short-run income-elasticities of revenue and expenditure and actual revenue and expenditure shares in time period t . The IMF parameters are actual ratios (average rates) of revenues to GDP and expenditures to potential GDP

measured in the base year and implicitly assume that the tax elasticity with respect to actual GNP and expenditure elasticity with respect to potential GNP are unity. These parameters are presented in table 7. Expenditure parameters differ significantly because of methodological assumptions. Setting parameters equal is artificial because each set of parameters is associated with methodological assumptions and their differences are difficult to interpret and misleading. These computations are therefore not presented.¹⁰

Differences in Potential GNP:

Contributions to the total discrepancy in the two measures arising from different estimates of potential GNP can be calculated and interpreted unambiguously. The following expression represents the

¹⁰To estimate this contribution one can compare the discrepancy in adjusted balances derived in eq.(13) to one derived under alternative parameter assumptions. Two alternative assumptions are that both agencies use either the OECD parameters or the IMF parameters. Setting the OECD parameters equal to the IMF's is equivalent to assuming that the real world is characterized by unit-elasticity of tax and spending rates so that OECD estimates of marginal rates are identical to the IMF estimates of average rates. Equations (a) and (b) below represent the contribution to the total discrepancy of each agency using its own estimate rather than both agencies using the same parameter estimates, either the OECD's or the IMF's, respectively.

$$(a) \quad -\left(\begin{matrix} r \\ o \end{matrix} - \begin{matrix} m \\ t \end{matrix} \right) Y + \left(\begin{matrix} g \\ o \end{matrix} - \begin{matrix} m \\ o \end{matrix} \right) Y$$

$$(b) \quad -\left[\left(\begin{matrix} r \\ o \end{matrix} - \begin{matrix} m \\ o \end{matrix} \right) - \left(\begin{matrix} g \\ o \end{matrix} - \begin{matrix} m \\ t \end{matrix} \right) \right] (Y - Y_o)$$

Note that m^{r*} is not a parameter estimated by the OECD, but it can safely be assumed that it would be close to the IMF's estimate g_o^* . These equations represent the difference between the discrepancy in adjusted balances as calculated by each agency and the discrepancy assuming each agency uses the same parameters, either the OECD's as in eq(a) or the IMF's as in eq (b).

Table 7

PARAMETER ESTIMATES USED IN NUMERICAL EXERCISES

	OECD		IMF	
	MARGINAL TAX PARAMETER (MR)	MARGINAL EXPENDITURE PARAMETER (MG)	AVERAGE TAX PARAMETER (TO)	AVERAGE EXPENDITURE PARAMETER (GO)
UNITED STATES				
1979.....	0.304	-0.121	0.315	0.315
1980.....	0.306	-0.102	0.315	0.315
1981.....	0.317	-0.116	0.315	0.315
1982.....	0.279	-0.121	0.315	0.315
1983.....	0.266	-0.131	0.315	0.315
1984.....	0.301	-0.151	0.315	0.315
JAPAN				
1979.....	0.146	-0.005	0.246	0.302
1980.....	0.182	-0.005	0.246	0.302
1981.....	0.171	-0.013	0.246	0.302
1982.....	0.126	-0.014	0.246	0.302
1983.....	0.213	-0.022	0.246	0.302
1984.....	0.225	-0.02	0.246	0.302
CANADA				
1979.....	0.259	-0.074	0.385	0.417
1980.....	0.263	-0.077	0.385	0.417
1981.....	0.319	-0.08	0.385	0.417
1982.....	0.326	-0.087	0.385	0.417
1983.....	0.304	-0.088	0.385	0.417
1984.....	0.371	-0.09	0.385	0.417

contribution to the overall discrepancy arising from the IMF using its own estimate of potential, rather than the OECD's.

$$(14a) \quad - g_o^*(Y^F - Y^O)$$

Likewise, the following expression represents the contribution arising from the OECD using its estimate rather than the IMF's.¹¹

$$(14b) \quad - (m^r - m^g)(Y^F - Y^O)$$

¹¹We can also isolate the difference in adjusted budget balances arising from methodological choices by controlling for all other factors. These factors include parameter estimates and estimates of potential output. Assuming parameter estimates and potential output estimates are identical leaves the following expression:

$$(m^r - m^g) Y_t^P + m^g (Y_t^O - Y_t^F) - [UIB_t + g_o^* Y_t^P]$$

where $Y_t^P = Y_t^O = Y_t^F$

and $m_o^r = t ; m_o^g = g$

This expression demonstrates that the IMF excludes fiscal drag (the first term) and that adjustments for cyclical expenditures are quite different (the second and third terms). Note further that if the economy operates at potential, then under these two assumptions the only difference is fiscal drag:

$$(m^r - m^g) Y_t^P$$

The OECD perceives fiscal drag as part of the structure of fiscal policy whereas the IMF does not. This difference in adjusted budget balances remains regardless of the assumptions made.

Numerical estimates of these contributions are presented in table 8 for levels, table 9 for changes in levels, table 10 for ratios, and finally table 11 for changes in ratios. As the tables reveal, a considerable portion of the total discrepancy can be attributed to differences in estimates of potential GNP by the two agencies, regardless of whether one uses levels (ratios) or changes in levels (ratios). For levels and ratio measures the United States data has a larger share of the total discrepancy attributable to potential GNP estimates than either Japan or Canada. For the change in levels form, Japan has the largest discrepancies. For the change in the ratios data (table 11) there is no clear pattern either within a country or across countries.

V. Conclusions

General Conclusions

The OECD and IMF measures of fiscal impulse differ in at least four fundamental ways: (1) the OECD includes fiscal drag under the presumption that it is part of the "structure" of fiscal policy, while the IMF excludes it from its adjusted measure of the budget balance; (2) the OECD and the IMF both adjust for cyclical factors but they do so differently; (3) the OECD estimates its marginal tax and expenditure rates from a structural model (m^r , m^g) whereas the IMF assumes unit income-elasticity of its parameters and uses historical average tax and spending rates (t_0 , g_0); and (4) each agency uses different estimates of potential output.

Table 8

CONTRIBUTIONS TO THE TOTAL DISCREPANCY (LEVELS) OF DIFFERENCES IN POTENTIAL GNP

	1979	1980	1981	1982	1983	1984
UNITED STATES						
TOTAL DISCREPANCY (BILLIONS OF \$)	18.3	22.1	28.1	28.8	26.8	35.9
ISOLATED CONTRIBUTIONS (% OF TOTAL)	66.1	62.2	46.3	43.4	46.0	33.0
FROM NOT USING OECD POTENTIAL	90.5	81.8	64.7	56.0	58.8	48.0
FROM NOT USING IMF POTENTIAL						
JAPAN						
TOTAL DISCREPANCY (TRILLIONS OF Y)	-10.6	-11.0	-13.0	-13.4	-13.4	-13.0
ISOLATED CONTRIBUTIONS (% OF TOTAL)	-23.0	-25.4	-20.9	-20.6	-21.0	-26.7
FROM NOT USING OECD POTENTIAL	-11.7	-16.0	-13.0	-9.7	-16.6	-22.0
FROM NOT USING IMF POTENTIAL						
CANADA						
TOTAL DISCREPANCY (BILLIONS OF C\$)	-5.8	-6.6	-7.3	-10.9	-14.2	-13.7
ISOLATED CONTRIBUTIONS (% OF TOTAL)	-25.3	-24.5	-23.1	-14.1	-10.7	-12.7
FROM NOT USING OECD POTENTIAL	-21.2	-20.9	-23.2	-14.7	-10.6	-14.8
FROM NOT USING IMF POTENTIAL						

Table 9

CONTRIBUTIONS TO THE TOTAL DISCREPANCY (CHANGE IN LEVELS) OF DIFFERENCES IN POTENTIAL GNP

	1979	1980	1981	1982	1983	1984
UNITED STATES						
TOTAL DISCREPANCY (BILLIONS OF \$)	-1.7	3.8	6.0	.7	-2.0	9.1
ISOLATED CONTRIBUTIONS (% OF TOTAL)						
FROM NOT USING OECD POTENTIAL	-115.5	43.8	-12.5	-68.3	8.5	-5.6
FROM NOT USING IMF POTENTIAL	-29.1	40.7	1.5	-277.0	18.5	16.1
JAPAN						
TOTAL DISCREPANCY (TRILLIONS OF Y)	-.3	-.4	-2.0	-.4	.1	.4
ISOLATED CONTRIBUTIONS (% OF TOTAL)						
FROM NOT USING OECD POTENTIAL	-133.3	-87.2	3.4	-10.0	76.1	184.1
FROM NOT USING IMF POTENTIAL	-91.9	-124.8	3.4	93.8	1452.7	176.5
CANADA						
TOTAL DISCREPANCY (BILLIONS OF C\$)	.9	-.8	-.7	-3.6	-3.3	.4
ISOLATED CONTRIBUTIONS (% OF TOTAL)						
FROM NOT USING OECD POTENTIAL	86.2	-18.1	-10.7	4.1	.5	52.2
FROM NOT USING IMF POTENTIAL	71.8	-18.9	-43.5	2.5	3.0	120.3

Table 10

CONTRIBUTIONS TO THE TOTAL DISCREPANCY (RATIOS) OF DIFFERENCES IN POTENTIAL GNP

	1979	1980	1981	1982	1983	1984
UNITED STATES						
TOTAL DISCREPANCY (PERCENT OF GNP)	.736	.808	.900	.928	.864	1.037
ISOLATED CONTRIBUTIONS (% OF TOTAL)						
FROM NOT USING OECD POTENTIAL	67.759	64.678	48.843	43.885	43.193	31.120
FROM NOT USING IMF POTENTIAL	91.456	78.941	63.184	47.629	47.360	42.053
JAPAN						
TOTAL DISCREPANCY (PERCENT OF GNP)	-4.702	-4.543	-5.073	-4.971	-4.766	-4.391
ISOLATED CONTRIBUTIONS (% OF TOTAL)						
FROM NOT USING OECD POTENTIAL	-23.598	-26.086	-21.321	-21.023	-21.513	-27.039
FROM NOT USING IMF POTENTIAL	-11.738	-16.077	-12.937	-9.534	-16.196	-21.892
CANADA						
TOTAL DISCREPANCY (PERCENT OF GNP)	-2.187	-2.171	-2.137	-2.916	-3.417	-3.094
ISOLATED CONTRIBUTIONS (% OF TOTAL)						
FROM NOT USING OECD POTENTIAL	-25.409	-24.887	-23.217	-14.710	-11.411	-13.448
FROM NOT USING IMF POTENTIAL	-21.345	-20.835	-23.207	-13.342	-10.016	-14.597

Table 11

	1979	1980	1981	1982	1983	1984
CONTRIBUTIONS TO THE TOTAL DISCREPANCY (CHANGE IN RATIOS) OF DIFFERENCES IN POTENTIAL GNP						
UNITED STATES						
TOTAL DISCREPANCY (PERCENT OF GNP)	.174	-.071	-.092	-.028	.064	-.174
ISOLATED CONTRIBUTIONS (% OF TOTAL)						
FROM NOT USING OECD POTENTIAL	19.656	-32.853	89.462	115.495	-53.183	28.985
FROM NOT USING IMF POTENTIAL	-31.888	50.355	74.437	452.409	-51.241	-15.631
JAPAN						
TOTAL DISCREPANCY (PERCENT OF GNP)	-.193	-.159	.530	-.102	-.205	-.375
ISOLATED CONTRIBUTIONS (% OF TOTAL)						
FROM NOT USING OECD POTENTIAL	-60.155	-47.472	-19.501	35.812	9.661	-43.242
FROM NOT USING IMF POTENTIAL	-51.408	-112.185	-13.963	178.677	-145.145	-50.536
CANADA						
TOTAL DISCREPANCY (PERCENT OF GNP)	-.686	-.016	-.035	.779	.502	-.323
ISOLATED CONTRIBUTIONS (% OF TOTAL)						
FROM NOT USING OECD POTENTIAL	-38.376	97.089	127.447	-8.625	-7.752	-8.097
FROM NOT USING IMF POTENTIAL	-32.334	91.247	-124.832	-13.721	-9.303	-33.856

Each measure has methodological biases. Even if each agency used the same parameters (which would move the methodologies closer to each other), and the same measure of potential GNP, and even if the economy were on its potential (or some other well defined) growth path, the two measures would differ. This difference arises because the OECD perceives "fiscal drag" as part of the structure of fiscal policy and therefore includes it in its adjusted balance, whereas the IMF removes it.

In the IMF's methodology, a change in tax receipts creates an impulse when revenues change as a share of actual GNP, while changes in expenditures creates an impulse when expenditures change as a share of potential GNP and when there is a change in the GNP gap. In other words, the IMF perceives revenues which are more than proportional to actual GNP (rather than potential GNP) as diminishing stimulus and it perceives government expenditures (other than unemployment insurance benefits) which are more than proportional to potential GNP as adding to stimulus. The OECD, on the other hand, attempts to remove all "built-in" stabilizer effects that result from deviations from potential output. In this sense, the OECD's measure is more complete and consistent in cyclically adjusting revenues and expenditures.

Which fiscal impulse measure is "best", however, clearly depends on its uses. The "structural" approach used by OECD can answer some relevant questions more accurately (but not necessarily as easily). The IMF measure gives a bad answer to the question, "What would the budget balance be along a trend path (possibly potential) of GNP?", and it gives a bad answer to the question, "What part of the change in the actual budget

balance originates in changes in policy, either discretionary or programmed?". The IMF measure would yield poor results in comparing budget outcomes of various fiscal policy proposals (which is where the structural approach excels, as demonstrated by the Congressional Budget Office). And the IMF approach cannot accurately answer the question, "How much must the current balance be increased, using discretionary sources, to balance the budget at some level of output?".

The OECD approach can in principle answer all these questions, but it relies on parameter estimates from structural models that are not necessarily accurate or even reasonable representations of the real world. Major strengths of the IMF measure are its simplicity, that it requires no sophisticated model or data, and that it yields results that are qualitatively similar to the more complicated OECD measure. Each measure is probably more reliable as an indicator of fiscal ease or tightness within a country over time than it is as a quantitative measure comparing fiscal impulse across countries.

Specific Conclusions

Section III of this paper created an allocation scheme for explaining the difference between estimates of fiscal impulse measures. This scheme allocated the total discrepancy to cyclical revenues, cyclical expenditures, fiscal drag, and "other". One clear pattern that emerges is that the exclusion of fiscal drag by the IMF accounts for a much smaller share of the discrepancy in measures for the United States than for Japan and Canada, regardless of whether one examines levels (ratios) or changes

in levels (ratios). For the United States in particular, differences in estimates of cyclical revenues and cyclical expenditures account for consistently large shares of the total discrepancy in measures. For Japan and Canada, fiscal drag explains a much larger share of the total discrepancy, but cyclical revenues and expenditures also play a major role at times. No other consistent patterns emerge for this particular scheme.

It was also possible to quantify the contribution to the total discrepancy in fiscal impulse measures of differences in estimates of potential GNP. It was found that a large share of the discrepancy can be attributed to differences in potential GNP estimates, particularly for the United States data.

Other differences, such as parameter differences, were not sensibly quantifiable. The IMF assumes that tax receipts are unit elastic with respect to actual GDP, while government expenditures (excluding unemployment insurance benefits) are unit elastic with respect to potential output. The OECD instead estimates short-run marginal tax and spending rates. While comparing the OECD's m^r and m^g with the IMF's t_0 and g_0 might be a useful exercise, it will not capture all of the discrepancy in measures created by the different assumptions used to generate these parameter estimates. Because of this difficulty, it was not possible to quantify the effects of methodological differences (i.e., differences due to factors other than parameter differences and differences in potential GNP); but all other results point in the direction of concluding that the two measures are methodologically quite different.

References

Heller, Peter, S., Richard Haas, and Ahsan Mansur, "A Review of the Fiscal Impulse Measure, with Estimates of the Structural Budget Balance." IMF Department Memorandum, DM/85/18, March 21, 1985.

Muller, Patrice and Robert W.R. Price, "Structural Budget Deficits and Fiscal Stance." OECD Working Paper #15, July 1984.

OECD Economic Outlook, OECD, December 1985.

World Economic Outlook, IMF, October 1985.

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