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ASSET PRICE CYCLES, "ONE-OFF" FACTORS AND STRUCTURAL BUDGET BALANCES

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ABSTRACT/RÉSUMÉ

Asset price cycles, "one-off" factors and structural budget balances

This paper analyses two factors which may cause cyclically-adjusted budget balances to give a misleading picture of underlying fiscal trends. It first explores the implications of recent large asset-market related fluctuations in government revenues for the measurement of structural budget balances. And second, it reviews the impact of the increased recourse to stopgap "one-off" measures to control deficits. The results confirm that since the late 1990s revenues have been more buoyant than would have been warranted by the registered rate of nominal output growth and the impact of tax measures. The study suggests that from 1995 to 2000 the average contribution of "unwarranted" revenues to year-to-year changes in cyclically-adjusted budget positions ranged from negligible to around ½ per cent of GDP, the main countries affected being the United States, the United Kingdom, France and some Nordic countries. Conversely, the subsequent decline in tax receipts has been sharper than could be warranted by output movements and tax measures, and in some cases the decline explains a significant part of the shift in cyclically-adjusted balances

JEL Classification: E32, E65, H6, H24, H25.
Keywords: Fiscal balances, structural balances, asset prices.

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Cette étude analyse deux facteurs qui peuvent contribuer à brouiller la lisibilité des positions budgétaires sous-jacentes évaluées par la mesure traditionnelle du solde budgétaire corrigé des variations cycliques. Dans un premier temps, elle étudie les implications des récentes fluctuations des recettes fiscales associées aux marchés boursiers sur la mesure du solde structurel. Dans un deuxième temps, cette étude discute des effets du recours accru aux facteurs non-récurrents sur la maîtrise des déficits. Les résultats confirment que depuis la fin des années 1990, les recettes fiscales ont été plus dynamiques que ne le laissaient suggérer le taux de croissance nominal de l'activité et les effets des mesures fiscales. Entre 1995 et 2000, la contribution moyenne des recettes non-expliquées au changement annuel du solde budgétaire corrigée pour les variations cycliques oscillerait entre zéro et ½ pour cent du PIB, les principaux pays concernés étant les États-Unis, le Royaume-Uni, la France et quelques pays nordiques.De façon similaire, la baisse ultérieure des recettes fiscales a été plus forte que ne le laissaient suggérer les variations de l'activité économique et les mesures fiscales, et dans certains cas, la baisse explique une part importante du changement des soldes ajustes pour les fluctuations cycliques.

Classification JEL : E32, E65, H6, H24, H25.
Mot clés : Solde budgétaire, solde budgétaire corrigé des variations cycliques, prix des actifs.

ASSET PRICE CYCLES , "ONE-OFF" FACTORS AND STRUCTURAL BUDGET BALANCES

Nathalie Girouard and Robert Price[1]

Introduction

1. This paper considers two factors which may cause cyclically-adjusted budget balances to give a misleading picture of underlying fiscal trends. It first explores the implications of recent large asset-market related fluctuations in government revenues for the measurement of structural budget balances. And second, it reviews the impact of the increased recourse to stopgap "one-off" measures to control deficits. Traditional methods of calculating the cyclical components of budget balances correct government receipts and transfers for the cycle in economic activity, but do not adjust revenues for cycles in asset prices. Fluctuations in tax receipts related to asset prices may be seen as permanent where the fundamentals determining asset prices (such as profits, productivity growth and risk premia) seem to have undergone a structural change. Where they have not, the cyclically-adjusted balance may then give too favourable a "structural" picture by not recognising the temporary nature of tax buoyancy arising from higher asset prices (and the converse). "One-off" measures may also undermine the accuracy of the cyclically-adjusted measure as a structural budget indicator, requiring correction -- as is the OECD procedure with respect to the proceeds of auctions of mobile phone licences, for example.

2. The paper begins by reviewing recent developments in cyclically-adjusted budget balances, identifying the sources of revenue and expenditure change in the two major fiscal phases which have characterised OECD-area fiscal policy over the past decade: the period of fiscal consolidation from 1993 to 2000 and the subsequent relaxation during the 2001 to 2003 period. For a small set of OECD economies, "unwarranted" shifts in cyclically-adjusted fiscal stance are then identified, relative to a benchmark based on conventional elasticity estimates and announced tax policy changes. In the subsequent section, which covers a somewhat wider set of countries,[2] the impact of the asset price cycle on individual tax sources is assessed with particular emphasis on capital gains taxes. The final section looks at the impact of exceptional "one-off" sources of budget change.

3. The results confirm that since the late 1990s revenues have been more buoyant than would have been warranted by the registered rate of nominal output growth and the impact of tax measures. The study suggests that from 1995 to 2000 the average contribution of "unwarranted" revenues to year-to-year changes in cyclically-adjusted budget positions ranged from negligible to around ½ per cent of GDP, the main countries affected being the United States, the United Kingdom, France and some Nordic countries.

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1 . The authors are members of the General Economic Analysis Division of the Economics Department of the OECD. They are grateful to Alain de Serres, Jorgen Elmeskov, Michael Feiner, Vincent Koen, Luiz de Mello and Paul van den Noord for their helpful comments and suggestions. They would also like to thank Marie-Christine Bonnefous, Catherine Chapuis, Lise Perreault and especially Chantal Nicq for technical assistance, and Anne Eggimann and Sarah Kennedy for secretarial assistance.

2 . The set of countries examined has been chosen according to relevance and data availability. It comprises the United States, Japan, France, Italy, the United Kingdom, Canada, Australia, Denmark, Finland, Sweden and Switzerland.

On average, this revenue "excess" would seem to have been of the same magnitude as if output growth had been underestimated by around ½ per cent per annum over the period. Conversely, the subsequent decline in tax receipts has been sharper than could be warranted by output movements and tax measures, and in some cases the decline explains a significant part of the shift in cyclically-adjusted balances.

4. The "excess" revenue at the cyclical peak in 2000 was important enough, in some instances, to have led to misjudgments about the level of structural budget balances of the order of 1½ to 3 percentage points of GDP. Over-statements of the strength of the structural budget position, due to overconfidence about the permanence of tax receipts (coupled with over-optimistic growth projections) may have led governments to reduce taxes or defer spending cuts to an extent which compromised subsequent budget management. In the late 1990s, the momentum of fiscal adjustment was weakened and in a number of countries the opportunity was lost to bring budgets into surplus or at least close to balance during a period of relatively buoyant growth.

5. Asset-related swings in revenues appear to have been a major factor in explaining "excess" revenues. And for those countries most affected, the quality of the cyclically-adjusted fiscal balance as a "structural" budget indicator could, in principle, be improved by making additional *ex post* corrections for fiscal movements linked to asset prices cycles. The adjustment explored below produces results which are, on occasions, quite different from the conventional cyclically-adjusted indicators. Nonetheless, *ex ante* difficulties in distinguishing temporary asset price movements from permanent ones make forward-looking adjustments difficult, while uneven fiscal data coverage between countries precludes an internationally consistent reassessment of the cyclical adjustment method. Differences in tax regime also imply that the importance of making such an adjustment varies from one country to another.

6. Efforts are, nevertheless, being made at the national level to improve data and structural position measurement in the United States, France, the United Kingdom and several European countries, which involve the identification of temporary revenue swings.[3] These include also the effects of "one-off" factors, of which the paper provides a non-exhaustive list. This is an area where further classification and cross-country estimation are needed. Adjusting for asset price effects and "one-off" measures should help to avoid the mistakes of overstating structural budget balances apparent during the past upturn.

Fiscal positions in OECD countries

Revenue and expenditure components of budget stance

7. Fiscal positions improved remarkably during the 1995-2000 upturn, but have deteriorated sharply in the course of the downturn (Table 1).[4] The associated swings in the cyclically-adjusted deficit amounted to close to 3 per cent of potential GDP for the OECD area as a whole during the consolidation phase, followed by a deterioration of just over 2 per cent in the course of 2001-03. During the upturn, the nature and extent of discretionary action behind these shifts varied:

- In the United States, higher tax receipts made a contribution equal to that of expenditure restraint to the improvement in the cyclically-adjusted balance up to 2000. The United Kingdom, Spain,

3. For example, Kranendonk (2003) has recommended that the European Commission take account of the country-specific lag between the output gap and the cyclical component of the budget balance. This is relevant when taxes and unemployment benefits react with some delay to changes in economic growth.

4. The sources of the tax revenue data used in this paper are both from OECD National Accounts and OECD Revenue Statistics. They are not fully comparable due to a variety of general and country-specific factors.

Norway and Australia experienced a similar pattern of fiscal "forces acting", higher effective tax rates and spending restraint both being used to consolidate.

- In France and Germany, the consolidation phase relied almost exclusively on tax receipts, current spending keeping pace with GDP growth, or nearly so, while in Portugal "excess" revenue buoyancy was almost used up in faster expenditure growth.

- For Italy, Canada and most of the smaller euro-area economies, the consolidation process of the 1990s was based heavily on expenditure restraint, revenue growth being maintained quite close to that of GDP.

Table 1. **Decomposing the fiscal stance in selected OECD countries**

Change in percentage points of potential GDP

	Cyclically-adjusted current revenues		Cyclically-adjusted current expenditures		Net capital outlays		Cyclically-adjusted balance	
	1995 to 2000	2001 to 2003	1995 to 2000	2001 to 2003	1995 to 2000	2001 to 2003	1995 to 2000	2001 to 2003
Australia	1.5	0.9	-1.9	0.0	-0.4	-1.0	3.8	1.9
Austria	-0.6	-2.4	-2.6	-1.2	-0.5	-0.3	2.4	-0.8
Belgium	0.9	-0.2	-1.7	0.0	0.4	-1.6	2.3	1.3
Canada	1.0	-1.6	-5.7	-1.9	-0.3	0.2	7.0	0.1
Denmark	-0.6	-1.0	-4.1	-1.3	0.4	-0.4	3.2	0.7
Finland	0.9	-1.7	-3.7	0.7	-0.4	0.2	4.9	-2.5
France	2.0	-1.4	-0.3	0.5	-0.7	-0.5	2.9	-1.4
Germany	1.1	-0.4	0.0	-0.6	-0.2	-0.3	1.3	0.5
Greece	5.5	-0.9	-2.5	0.8	0.8	0.3	7.2	-2.0
Iceland	5.7	2.0	3.8	3.1	0.5	-0.6	1.5	-0.5
Ireland	-1.5	0.2	-6.7	0.8	1.6	-1.1	3.6	0.4
Italy	0.9	-1.3	-3.6	-1.1	-0.5	-1.5	5.0	1.3
Japan	-0.2	-1.8	3.2	1.2	-0.7	-1.1	-2.7	-1.9
Netherlands	0.3	-1.3	-3.2	-0.9	0.2	-0.4	3.3	0.0
New Zealand	-3.2	0.6	-0.7	-0.6	-1.3	0.3	-1.2	1.0
Norway[a]	1.2	-1.0	-1.2	0.8	0.0	0.1	2.4	-1.8
Portugal	3.6	1.1	2.7	-0.6	0.4	-1.8	0.4	3.5
Spain	1.7	0.5	-1.4	-0.4	-0.3	-0.2	3.4	1.1
Sweden	2.0	-1.2	-5.0	0.5	-1.5	0.1	8.6	-1.8
United Kingdom	1.9	-1.5	-2.3	1.0	-1.4	0.7	5.6	-3.2
United States	2.1	-3.5	-2.1	0.7	0.2	0.1	4.1	-4.3
Euro area	1.1	-0.9	-1.4	-0.5	-0.2	-0.6	2.7	0.2
Total OECD	1.4	-2.1	-1.3	0.3	-0.2	-0.3	2.9	-2.2

Note: Net capital outlays and cyclically-adjusted financial balances exlude one-off revenues from the sale of mobile telephone licenses. where reported revenues are substantial: i.e Australia (2000-2001), Austria (2000), Belgium (2001), Denmark (2001), France (2001-2002), Germany (2000), Greece (2001), Ireland (2002), Italy (2000), Netherlands (2000) New Zealand (2001), Portugal (2000), Spain (2000) and the United Kingdom (2000). Such revenues are recorded as negative capital outlays for these countries.

a) Data for the cyclically-adjusted balance refer to mainland economy only, i.e. excluding revenues from the petroleum activities.

Source: OECD.

8. In a majority of OECD countries, a prominent and widespread feature of the fiscal deterioration is the extent to which revenues have fallen beyond what might normally have been expected from the cyclical downturn. The United States has seen a particularly abrupt revenue shortfall, but there have also been substantial negative swings in Canada, France, the Netherlands, the United Kingdom and in some of the Nordic countries. In some economies, notably Belgium, Italy and Spain cyclically-adjusted balances have stabilised or even continued to improve slightly. However, this has in some cases been the result of measures which have only a "one-off", temporary effect.

Discretionary versus unplanned revenue shifts

9. Table 2 provides an *ex post* measure of the extent to which movements in tax ratios have reflected autonomous (exogenous) forces not captured in traditional revenue-projection processes.[5] Deviations from normal revenue behaviour are defined as "residual" changes in tax receipts, which cannot be explained by revenue growth deriving from the actual growth of GDP, measured according to conventional elasticities or identifiable discretionary fiscal policy measures. Unfortunately, time series data on discretionary fiscal actions is not widely available, so this stage of the analysis was limited to four countries: the United States, France, the United Kingdom and Canada.

10. More specifically, the calculations of residual revenue shifts are based on actual GDP outcomes and *ex post* estimates of the output gap, to remove the source of error due to "misforecasts" of output growth:

$$RR_{i,j} = R_{i,j} - PR_{i,j}$$

where: $PR_{i,j} = R_{i-1,j} * [1 + (bY_{i,j} - bY_{i-1,j}) * E_j / bY_{i-1,j}] + D_{i,j}$

with RR = residual revenue; R = actual revenue; PR = predicted revenue; bY = tax base; Y = national income; b = ratio of taxable to total national income; D = effect of discretionary measures; i = period; j = tax category; and E = elasticity of tax revenue with respect to tax base. The tax elasticities are based on OECD estimates, with the individual elasticities assumed to be constant over the observation period.[6] Two categories of tax are distinguished: direct taxes on businesses and direct taxes on households.

11. Estimates of discretionary policy change relate to federal government for Canada and to central governments for France[7], the United Kingdom and the United States. They are based on their officially projected impact provided at the time of enactment. These estimates have not been updated for later information such as actual incomes and taxpayer responses and thus represent only an approximation of the magnitude of the true discretionary policy changes. Part of the "unexplained" revenue may thus reflect a mis-estimation of discretionary measures. In most cases, however, the extent of the bias will be quite small, especially for income taxes where the effects of changing tax schedules and allowances can be quite accurately predicted. Tax bases for household direct tax comprise dependent wage income, self-employment income, property income and current transfers. The tax base for corporate income tax includes total economy output minus compensation of employees, self employment and indirect taxes plus subsidies.[8]

12. The above equation can be broken down one step further to expose more clearly measurement problems and to identify changes due to built-in stabilisers *i.e.* changes in the output gap and changes in trend growth. If Y is decomposed into potential output and the output gap, the tax base can be re-written as:

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5 . See also Eschenbach and Schuknecht (2002b) for a similar methodology.

6 . Van den Noord (2000).

7 . The French data for discretionary measures in 1998 have been adjusted by € 30 billion to take into account the tax switch reflecting the changes in the financing of the social security system.

8 . Definition and measurement of tax bases corresponding to the different types of revenues are often inaccurate and the order of magnitude provided in this paper should therefore be interpreted with cautious. Methodological problems associated with the calculation of effective tax rates are spelled out extensively in Carey and Rabesona (2002).

Table 2. **Developments in direct tax ratios**

Per cent of potential GDP

	1995	1996	1997	1998	1999	2000	2001	2002	Sum over the periods 1995-00	Sum over the periods 2001-02	Annual average 1995-00	Annual average 2001-02
Direct taxes on households												
United States												
Actual	9.98	10.63	11.25	11.92	12.23	12.83	12.16	9.85				
Predicted	9.99	10.67	10.87	11.49	11.44	11.69	11.56	10.70				
Residual	-0.01	-0.04	0.38	0.43	0.79	1.14	0.60	-0.85	2.7	-0.3	0.4	-0.1
Discretionary measures	0.41	0.80	0.37	0.26	-0.25	-0.36	-0.76	-1.08	1.2	-1.8	0.2	-0.9
France												
Actual	6.26	6.51	6.83	9.05	9.29	9.45	9.31	8.87				
Predicted	6.13	5.66	6.32	8.77	8.57	8.82	9.04	8.88				
Residual	0.14	0.85	0.51	0.27	0.72	0.63	0.27	-0.01	3.1	0.3	0.5	0.1
Discretionary measures	-0.18	-0.48	-0.06	-0.27	-0.44	-0.46	-0.30	-0.23	-1.9	-0.5	-0.3	-0.3
United Kingdom												
Actual	11.77	11.21	10.92	12.17	12.47	13.09	13.22	12.54				
Predicted	12.27	12.13	11.45	10.79	12.09	12.77	12.72	12.50				
Residual	-0.50	-0.92	-0.54	1.38	0.38	0.32	0.50	0.04	0.1	0.5	0.0	0.3
Discretionary measures	0.34	0.05	-0.05	-0.29	-0.33	-0.46	-0.69	-0.52	-0.7	-1.2	-0.1	-0.6
Canada												
Actual	12.94	13.26	13.46	13.92	13.75	13.65	13.17	12.14				
Predicted	12.78	12.79	13.23	13.59	13.68	13.45	12.96	12.08				
Residual	0.17	0.46	0.23	0.33	0.07	0.21	0.21	0.05	1.5	0.3	0.2	0.1
Discretionary measures	0.00	0.05	-0.06	-0.20	-0.30	-0.44	-0.69	-1.06	-0.9	-1.8	-0.2	-0.9
Direct taxes on businesses												
United States												
Actual	2.83	2.86	2.88	2.78	2.75	2.65	1.88	1.74				
Predicted	2.80	3.50	3.12	2.87	2.88	2.67	2.29	2.06				
Residual	0.02	-0.65	-0.24	-0.09	-0.14	-0.02	-0.42	-0.32	-1.1	-0.7	-0.2	-0.4
Discretionary measures	0.09	0.51	0.10	0.10	0.03	0.03	-0.32	-0.01	0.9	-0.3	0.1	-0.2
France												
Actual	2.01	2.15	2.34	2.37	2.77	2.86	3.24	2.64				
Predicted	2.18	1.94	2.55	2.70	2.72	3.06	2.87	3.07				
Residual	-0.17	0.22	-0.20	-0.33	0.05	-0.20	0.38	-0.43	-0.6	-0.1	-0.1	0.0
Discretionary measures	0.13	0.03	0.21	0.13	0.27	0.00	-0.05	-0.17	0.8	-0.2	0.1	-0.1
United Kingdom												
Actual	2.82	3.31	4.07	4.09	3.75	3.79	3.67	2.98				
Predicted	2.16	2.76	3.19	3.89	3.98	3.73	3.53	3.52				
Residual	0.67	0.55	0.88	0.20	-0.23	0.06	0.14	-0.53	2.1	-0.4	0.4	-0.2
Discretionary measures	-0.10	-0.05	-0.04	-0.04	0.11	0.13	-0.06	-0.08	0.0	-0.1	0.0	-0.1
Canada												
Actual	2.94	3.39	3.92	3.63	4.39	4.93	3.85	3.91				
Predicted	2.78	3.00	3.45	3.84	3.81	4.64	4.69	3.49				
Residual	0.15	0.40	0.47	-0.21	0.57	0.30	-0.84	0.42	1.7	-0.4	0.3	-0.2
Discretionary measures	0.00	0.06	0.05	-0.01	-0.03	-0.03	-0.07	-0.28	0.0	-0.3	0.0	-0.2
Total direct taxes												
United States												
Actual	12.81	13.49	14.13	14.70	14.98	15.48	14.04	11.59				
Predicted	12.79	14.17	13.99	14.36	14.32	14.36	13.85	12.76				
Residual	0.01	-0.69	0.14	0.34	0.65	1.12	0.18	-1.17	1.6	-1.0	0.3	-0.5
Discretionary measures	0.50	1.31	0.48	0.36	-0.22	-0.33	-1.08	-1.09	2.1	-2.2	0.4	-1.1
France												
Actual	8.27	8.66	9.17	11.42	12.06	12.31	12.55	11.51				
Predicted	8.31	7.60	8.87	11.47	11.29	11.88	11.91	11.95				
Residual	-0.03	1.07	0.31	-0.06	0.77	0.43	0.65	-0.44	2.5	0.2	0.4	0.1
Discretionary measures	-0.05	-0.44	0.15	-0.14	-0.17	-0.46	-0.35	-0.40	-1.1	-0.7	-0.2	-0.4
United Kingdom												
Actual	14.59	14.52	14.99	16.26	16.22	16.88	16.89	15.52				
Predicted	14.43	14.89	14.64	14.68	16.07	16.50	16.25	16.02				
Residual	0.17	-0.37	0.34	1.58	0.15	0.38	0.64	-0.49	2.3	0.2	0.4	0.1
Discretionary measures	0.24	0.00	-0.09	-0.33	-0.22	-0.33	-0.75	-0.60	-0.7	-1.4	-0.1	-0.7
Canada												
Actual	15.88	16.65	17.38	17.55	18.14	18.58	17.02	16.05				
Predicted	15.56	15.79	16.68	17.43	17.49	18.09	17.65	15.57				
Residual	0.32	0.86	0.70	0.12	0.64	0.51	-0.63	0.47	3.2	-0.2	0.5	-0.1
Discretionary measures	0.00	0.12	-0.01	-0.21	-0.33	-0.47	-0.76	-1.34	-0.9	-2.1	-0.1	-1.0

Source: OECD.

$$bY = b(Y^*-Y) + bY^*$$

where (Y^*-Y) is the output gap *(GAP)* and Y^* is potential output. The equation then becomes:

$$PR_{i,j} = R_{i-1,j}*[1 + (b(GAP_{i,j} - GAP_{i-1,j}) + b(Y^*_{i,j} - Y^*_{i-1,j}))$$

$$* e_j/bGAP_{i-1,j}+bY^*_{i-1,j}] + D_{i,j}$$

13. Cyclically-adjusted revenues are calculated by setting the term $[GAP_{i,j} - GAP_{i-1,j}]$ to zero. There are several possible sources of error linked to the computation of output gaps. Well-known measurement issues relate to the pro-cyclical bias of estimates of potential output, and hence of the output gap. Potential output may be overestimated and the cyclical component of revenue growth $(b(GAP_{i,j} - GAP_{i-1,j}))$ underestimated. At the same time, the nature of any change in the tax base with respect to income may be misinterpreted as structural, when it actually derives from an underestimate of the cyclical tax elasticity: *i.e.* the "excess" revenues due to unforeseen tax buoyancy would appear as part of the cyclically-adjusted component of the deficit. [9] The calculations are rebased each year, so that the total error over any period is the sum of the annual residuals.

14. Using this methodology, it emerges that the United States experienced autonomous increases in revenues from direct taxes on households (*i.e.* over and above what could have been expected from cyclical and announced discretionary factors) amounting to almost ½ per cent of potential GDP *per annum* in the late 1990s. This rose to over 1 per cent in 2000, but was followed, in 2002, by an undershoot of more than ¾ per cent of GDP. In France and Canada, the growth of direct household tax revenue consistently overshot projected values by an average of ½ and ¼ per cent of potential GDP *per annum* during the 1995-2000 period respectively, before returning closer to the predicted value during the downturn.[10] In the United Kingdom, however, direct taxes on households have been moving more in line with the values which would have been predicted during the upturn while they have overshot projected values by ¼ per cent of potential GDP *per annum* during the downturn.

15. On the other hand, corporate income tax revenues have been quite close to the values which would have been predicted given actual profit outturns, throughout the whole cycle, with a slight tendency to over-prediction. This may be indicative of the fact that movements in profits were less affected than personal incomes by asset price movements. Indeed, earnings/price ratios were falling during much of the stock market boom. The main exception is the United Kingdom, which experienced autonomous increases in revenues from business taxes amounting to almost ½ per cent of potential GDP *per annum* in the late 1990s. This was followed, in the downturn, by an undershoot of about ¼ per cent of GDP *per annum*.

16. Aggregating both household and corporate taxes, the total autonomous direct tax growth windfall from one year to the next for the United States averaged ¼ per cent of potential GDP during the 1990s upturn, and the corresponding shortfall averaged ½ per cent of potential GDP in the subsequent downturn. France, the United Kingdom and Canada experienced a slightly larger average positive error in the upturn (close to ½ per cent of potential GDP) but appear to have been less affected in the downturn.

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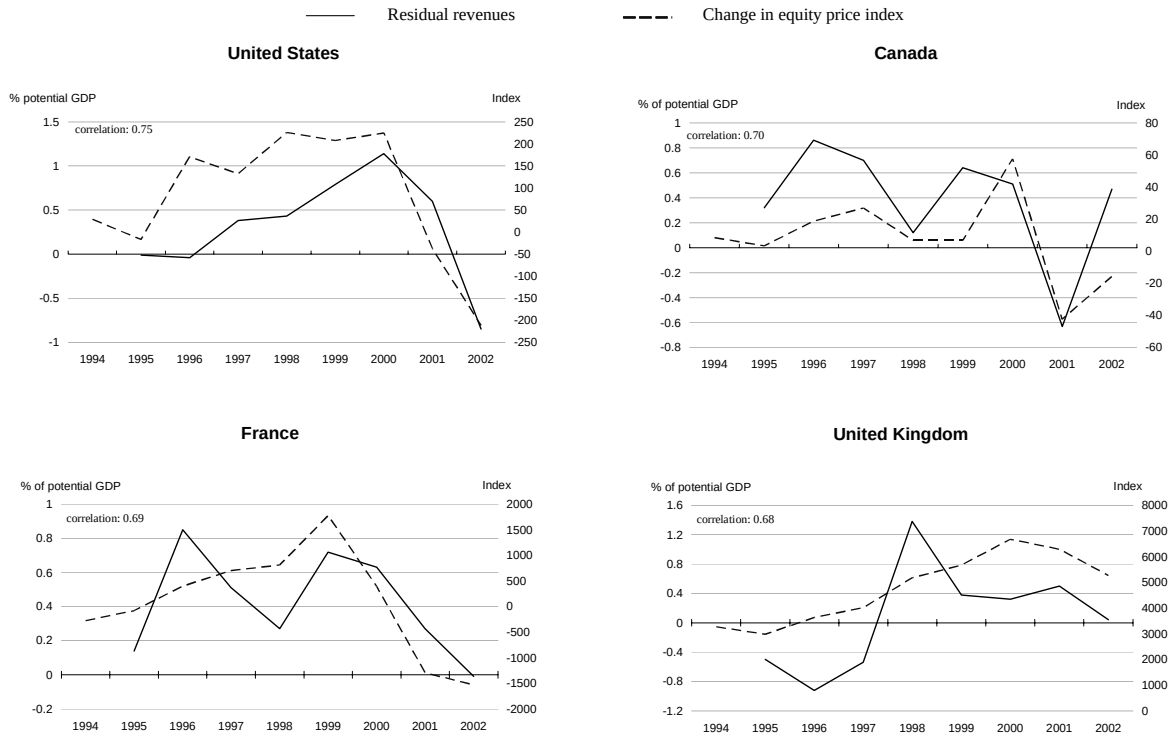
9 . A review of the limitations and interpretations of the cyclically-adjusted budget balance could be found in Bouthevillain *et al.* (2001), Cotis *et al.* (2003), Gonzales-Minguez *et al.* (2003), Larch and Salto (2003) and Murchison and Robbins (2003) .

10 . The results for the United States and for Canada are in line with other studies. See Congressional Budget Office (2002) for the United States, King and McMorran (2002) and Kennedy and King (2003) for Canada.

17. Since the calculations are based on actual outturns for GDP and the output gap, the implications are that exogenous factors were acting to push up the tax base, or that the tax elasticities changed. Figure 1 suggests that the source of the unexplained residuals might be traced, at least in part, to asset price changes, as tax windfalls/shortfalls have been correlated with the asset price cycle.

Figure 1. Residual revenues and the stock market



Note: Households residual revenues have been used for the United States and the United Kingdom (with a one year lag) and for France. Total residual revenues have been used for Canada. Equity price indexes are S&P 500 for the United States, CAC 40 for France, FTSE 100 for the United Kingdom and TSE 300 for Canada. See the Appendix for methodological details.
Source : OECD.

Implications for the interpretation of the fiscal policy stance

18. Cyclical adjustment traditionally serves two major roles: as a measurement of "discretionary" fiscal stance and as an instrument of medium-term budget planning, based on various normative views about what the structural deficit should be for the budget to be sustainable.[11] The first focuses on changes in the cyclically-adjusted balance, the second on its level. The autonomous revenue shifts have implications for both interpretations.

19. In the United States, announced discretionary policy measures have generally amplified autonomous (residual) revenue shifts (Table 2), adding to receipts in the upturn, and lowering revenues in the downturn due to the tax cuts legislated in mid-2001 and to the stimulus package passed in March 2002. By contrast, in France, discretionary tax cuts offset about half of the autonomous rise in revenues during the upswing -- a pro-cyclical response. The offset was more partial in the United Kingdom and Canada. However, during the downturn, discretionary policy measures in France, the United Kingdom and Canada have been pro-cyclical by further lowering receipts.

11 . See Price and Muller (1984) for a discussion of the origins of the OECD measure, its interpretation and usage.

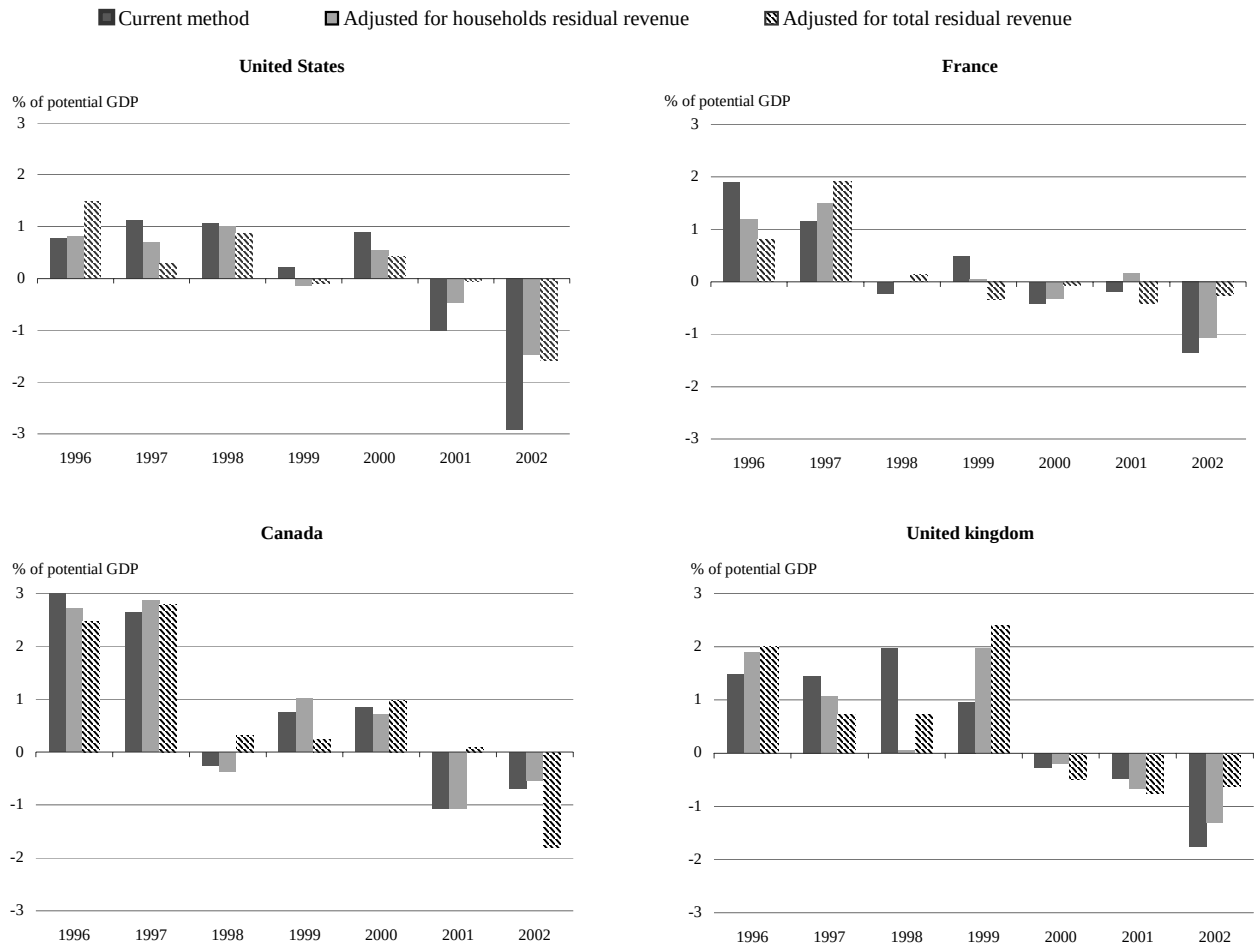
20. A similar picture emerges in Figure 2, which compares changes in the traditional cyclically-adjusted fiscal stance with cyclically-adjusted measures which exclude autonomous revenue shifts:

- For the United States, fiscal policy appears less deliberately restrictive between 1995 and 2000 and the subsequent fiscal loosening appears less important than calculated with the traditional fiscal indicator.

- For France, fiscal policy in 1999 appears less restrictive and the subsequent fiscal loosening between 2000 and 2002 is smaller than calculated with the traditional fiscal indicator, but to a lesser extent than for the United States.

- For the United Kingdom, fiscal policy in 1997 and 1998 appears less deliberately restrictive and the following fiscal deterioration between 2000 and 2002 is smaller than calculated with the traditional fiscal indicator, the effect being concentrated in 2002.

Figure 2. Change in different measures of the cyclically-adjusted balances
Per cent of potential GDP



Sources : US Congressional Budget Office, Canadian Ministry of Finance, French Ministry of Economics, Finance and Industry, and OECD.

- For Canada, the fiscal expansion in the late 1990s and the following fiscal loosening are roughly of similar magnitude when calculated with both indicators. However, the year-to-year pattern is different.

21. Perhaps the most important implication is for the calculation of the underlying *level* of the structural budget balance. In that case, it is the cumulative effect of the autonomous budget changes that matters (penultimate set of columns of Table 2). During the upturn, if the extra revenues had been treated as wholly cyclical, for the United States the "structural" surplus of near to 1¼ per cent of potential GDP in 2000 would have been reduced to a deficit of close to ¼ per cent of potential GDP. The French structural deficit of close to 1¾ per cent of potential GDP would actually have been negative to the amount of about 4¼ per cent. In the United Kingdom, the structural surplus of close to 1 per cent of potential GDP would have turned into a deficit of about 1½ per cent of GDP. The Canadian structural surplus of 2¼ per cent of potential GDP would have also been reduced into a deficit, reaching around 1 per cent of potential GDP. These calculations evidently presuppose that in the base year, 1994, the revenues associated with asset prices and similar effects were at a "normal" level.

The effects of asset-price cycles on different revenue components

22. This section looks at the impact of individual sources of tax revenue related to asset markets and their role as a source of autonomous fluctuations.[12] There are several avenues, of which the principal one investigated is capital gains taxes. Using a statistical approach, an attempt is made to adjust structural balances for the non-structural element of capital gains tax. The sample of countries analysed in this case is somewhat wider than in the previous section.

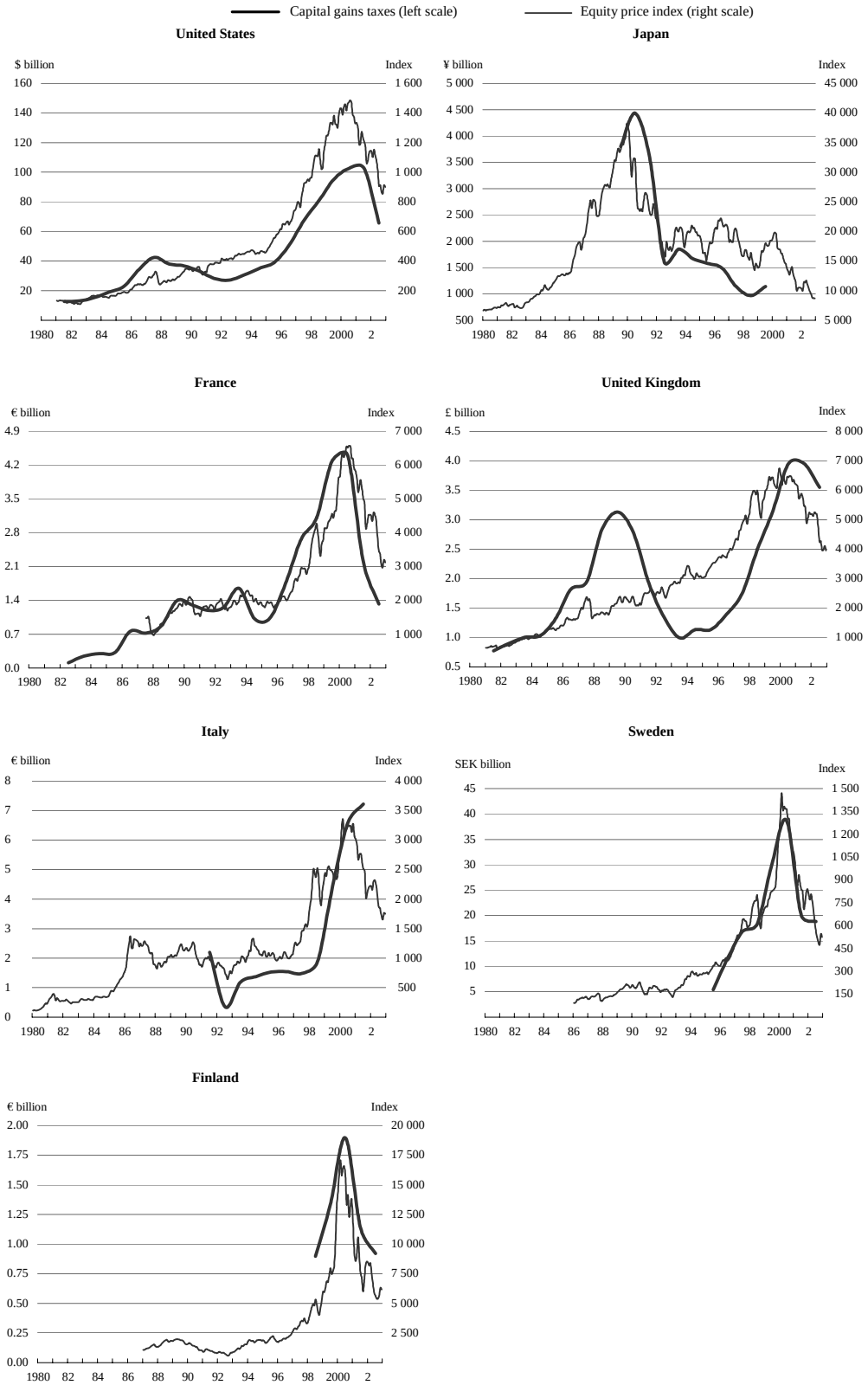
Capital gains tax receipts have fluctuated

23. The boom in stock markets in the late 1990s led to an extraordinary increase in capital gains tax collections (Figure 3). In the United States, taxes on household capital gains doubled between 1995 and 2000, reaching slightly over 1 per cent of GDP before falling to around ½ per cent of GDP in 2003. In Finland, taxes on capital gains rose from ½ per cent of GDP in 1998 to 1½ per cent of GDP in 2000 before falling back to the 1998 level in 2002. In Sweden, capital gains taxes also recorded large swings, from ¾ per cent of GDP in 1995 to 1¾ per cent of GDP in 2000 and back to ¾ per cent of GDP in 2002. Comparable fluctuations, although smaller, were recorded in the United Kingdom. In France, Italy and Australia, large increases were also registered, but data including the subsequent falls are not yet available. By contrast, in Japan, capital gains revenues have been on a declining trend throughout the 1990s. It is capital gains realisations that are taxed rather than capital gains accruals (Box 1), and movements in realisations tend to lag movements in asset prices.[13]

12 . See also Eschenbach and Schuknecht (2002a).

13 . In both rising and falling markets, large amounts of accrued gains are available for realisation and taxation, awaiting taxpayers' decisions as to the selling of their assets. Indeed, after a bull market such as that of the 1990s, a sizeable amount of accrued gains remains to be realised and equity sales in a falling market can still result in taxable gains, albeit reduced. In the United States for example, realisations in 2000 increased by 16 per cent despite the fall in the Standard & Poor's 500 stock price index during that year (Congressional Budget Office, 2002).

Figure 3. Capital gains tax receipts



Note: Equity price indexes are S&P 500 for the United States, Nikkei 225 for Japan, CAC 40 for France, FTSE 100 for the United Kingdom, MIBTEL for Italy, OMX for Sweden and HEX general index for Finland.

Sources: Datastream, US Congressional Budget Office, the Japanese Ministry of Finance, the French Ministry of Economics, Finance and Industry, HM Treasury in the United Kingdom, the Italian Ministry of Finance, the Swedish Ministry of Finance and the Finish Ministry of Finance.

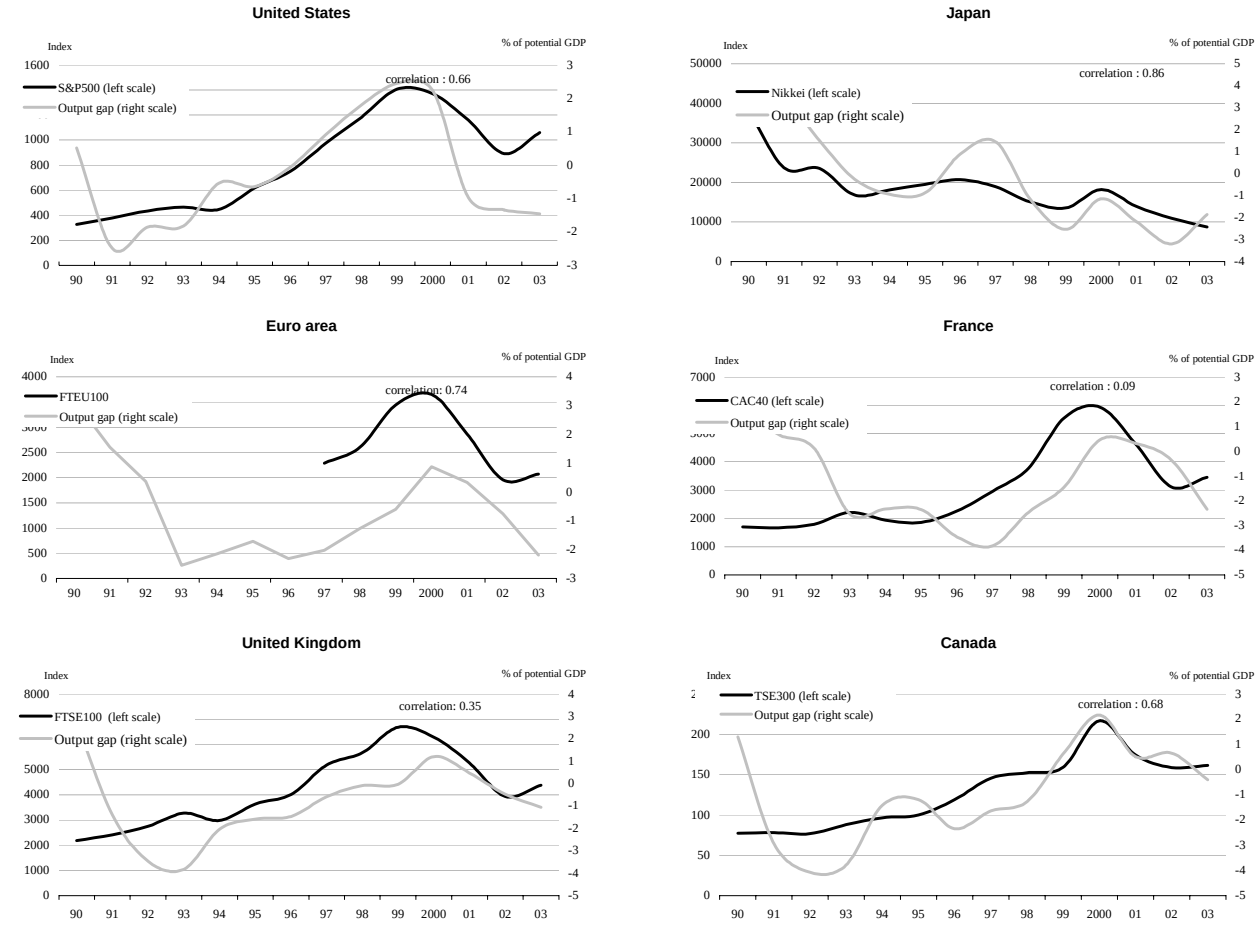
Box 1. **Capital gains taxations**

A comparison of the tax laws of the OECD Member countries shows that the taxation of capital gains varies considerably from country to country (see Annex table). In some countries, capital gains are not deemed to be taxable income. In other countries, capital gains accrued to an enterprise are taxed, but capital gains made by an individual (outside the course of his business) are not taxed. Even where capital gains made by an individual (outside the course of his business) are taxed, such taxation often applies only in specified cases such as the sale of real estate. Moreover, capital gains may be taxed as ordinary income and therefore added to the income from other sources or subjected to special taxes such as taxes on profits from the sale of real estate or general capital gains taxes OECD (2003a). Rules for loss carry-forward or backward add further complexity to the reading of tax revenue.

Given such tax treatment, the uncertainty surrounding the elasticity of capital gains tax revenues is large and to that degree the surge in such receipts during the boom would have been difficult to predict accurately even if output and asset prices had been properly forecast.

24. The output and asset price cycles seem to have been only partly correlated since the early 1990s, at least as far as equity prices are concerned (Figure 4). The capital gains component of the tax base has thus not varied systematically with the cycle. Moreover, during periods of structural change, there will

Figure 4. Stock and output cycles for selected OECD countries



Source: Datastream; OECD.

always be difficulties in separating permanent from temporary determinants of asset prices, and different tax treatment means that uncertainty as to capital gains tax revenue elasticities is rather large. Altering the cyclically-adjusted process to allow for variations in capital gains relative to other income would thus seem to be a relatively unpromising way forward.

Adjusting structural balances for capital gains revenue

25. However, a partial correction for the asset price cycle can be made by separating capital gains tax revenues into trend and cyclical components. At the limit, such revenues could be treated in the same way as debt interest payments, which are netted out to obtain a cyclically-adjusted primary balance, which is regularly published by the OECD.[14] But alternatively, where data permit, the adjustment can be achieved using a statistical approach, the underlying (structural) trend in capital gains revenue being isolated with the Hodrick-Prescott (HP) filter method.[15] The trend component can be interpreted as structural revenue, while the deviations from trend are attributable to the asset price cycle.

26. Figure 5 compares the cyclical component attributable to capital gains tax variations due to the asset cycle with the normal correction attributable to the output cycle. The order of magnitude is smaller than the "excess" revenue adjustment implied by Table 2 -- about one half for the United States and one fifth for France between 1997 and 2000 -- reflecting the fact that capital gains tax revenues are only a part of the overall story. However, the additional correction would still have led to a reappraisal in the structural budget stance at the peak of the cycle. In the US case, the cyclically-adjusted budget would have been only marginally in surplus in 2000, while the UK budget would have been reduced by about ¼ per cent of GDP between 1998 and 2000 (Figure 6, panel A). In France, the deficit would have been only marginally lower over the same period. In the recent downturn, US fiscal policy appears to have been less deliberately expansionary than calculated with the traditional fiscal indicator. There is less of an effect in France and the United Kingdom.

27. Figure 6, panel B, illustrates the effect of directly excluding capital gains tax revenues from the cyclically-adjusted balance in several OECD economies where data did not permit a statistical adjustment. With this methodology, the overall pattern of fiscal consolidation still holds during the late 1990s, given the level shift effect of excluding all the capital gains tax revenues. Nevertheless, losses of revenue after the 2000 peak are substantial for Sweden and Finland, where the effects are largest. The Finnish budget remained in substantial surplus under both measures, but in the Swedish case it is seen to have been in balance in 1999-2000, rather than in surplus. For Australia, the fiscal balance remained in deficit in the late 1990s when excluding capital gains tax revenues. For Italy and Japan, the effects of removing capital gains taxes on cyclically-adjusted balances are limited.

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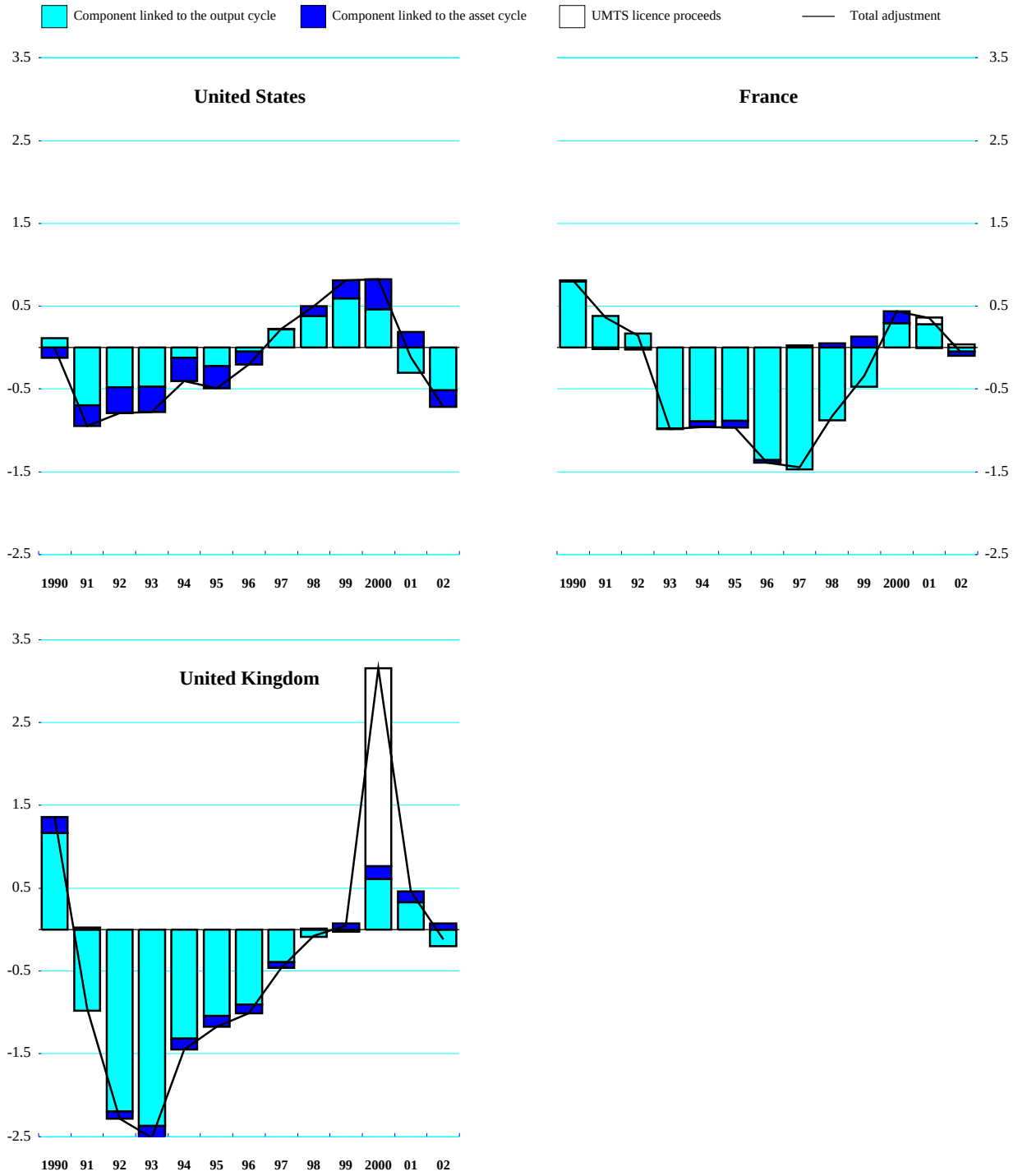
14 . The cyclically-adjusted measure suffers from conceptual deficiencies with respect to the interpretation of interest payments and the impact of inflation. In a high-inflation environment it may be necessary to adjust the deficit for the "inflation tax" on government debt holders. See Price and Muller (1984).

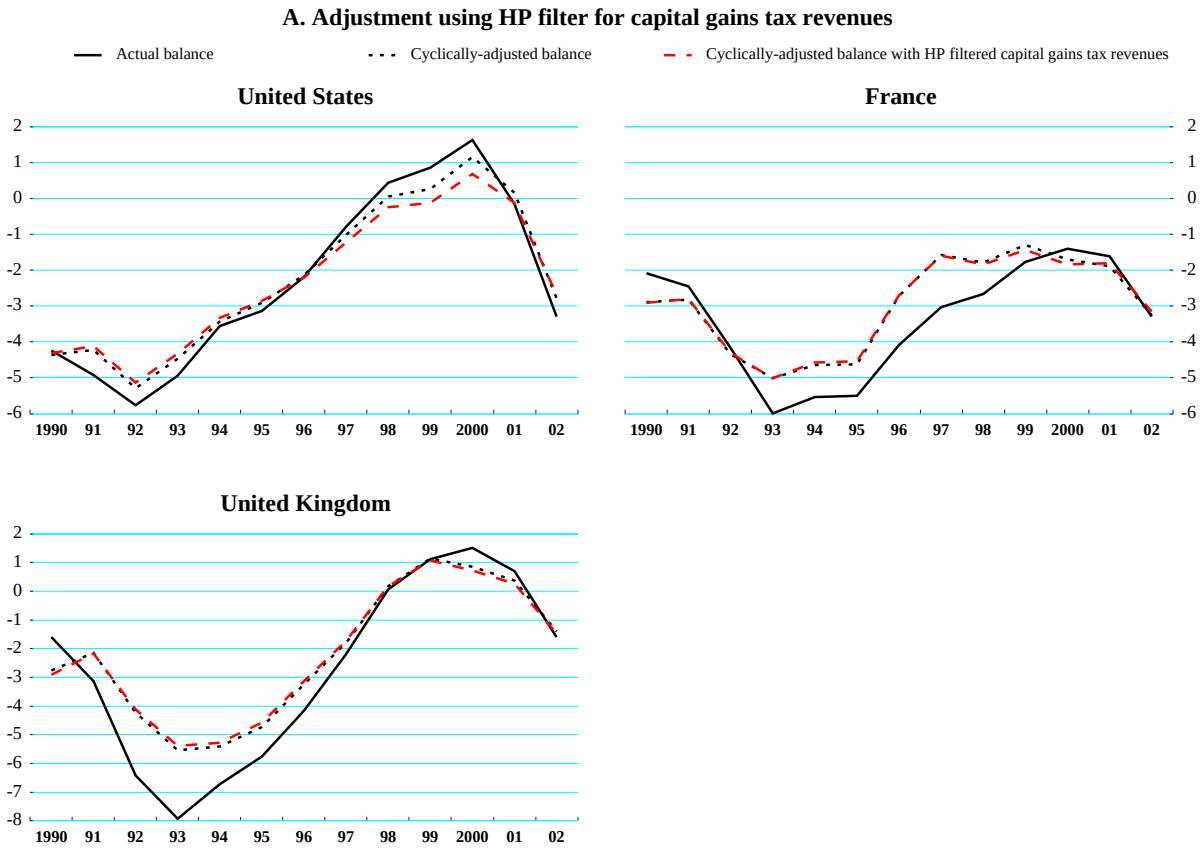
15 . See Richardson *et al.* (2000) for a critical discussion of filtering methods. For the purpose of filtering the time series, data have been extended to 2010 in order to mitigate potential bias at the end point. The extension of the data set for the United States comes from the Congressional Budget Office medium-term projections, while those for the United Kingdom have been constructed by replicating the growth path of the 1977 to 1995 period. For France, it has been assumed that revenues from the capital gains tax revert rapidly to their long-term average level after the 2000 peak.

Figure 5. Cyclical and one-off components of fiscal balances
Per cent of (potential) GDP



Note: The component linked to the asset cycle refers to capital gains tax variations due to the asset price cycle. For France, capital gains revenues have been estimated for 2001-02. They are expected to revert rapidly to their long-term average level after the 2000 peak.
Source: OECD Economic Outlook, June 2004.

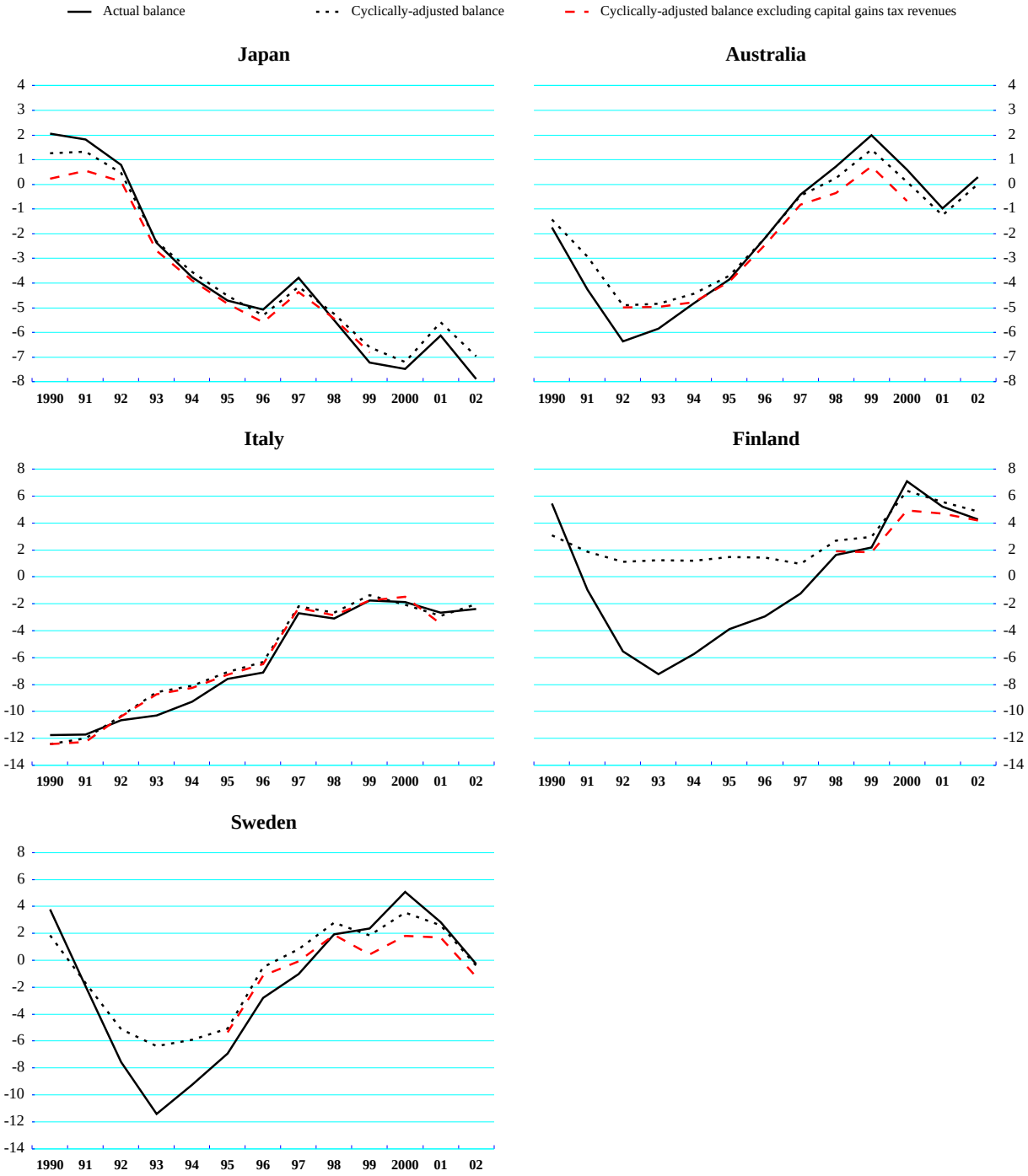
Figure 6. Fiscal balances adjusted for capital gains tax revenues
Per cent of (potential) GDP[1]



Note: For France, capital gains tax revenues have been estimated for 2001-02. They are expected to revert rapidly to their long-term average level after the 2000 peak.
1. Actual balance excludes universal mobile telecommunication system licence proceeds and is in per cent of GDP; the cyclically-adjusted balance is in per cent of potential GDP.
Source: OECD.

Figure 6. Fiscal balances adjusted for capital gains tax revenues (continued)
Per cent of (potential) GDP[1]

B. Adjustment excluding all capital gains tax revenues



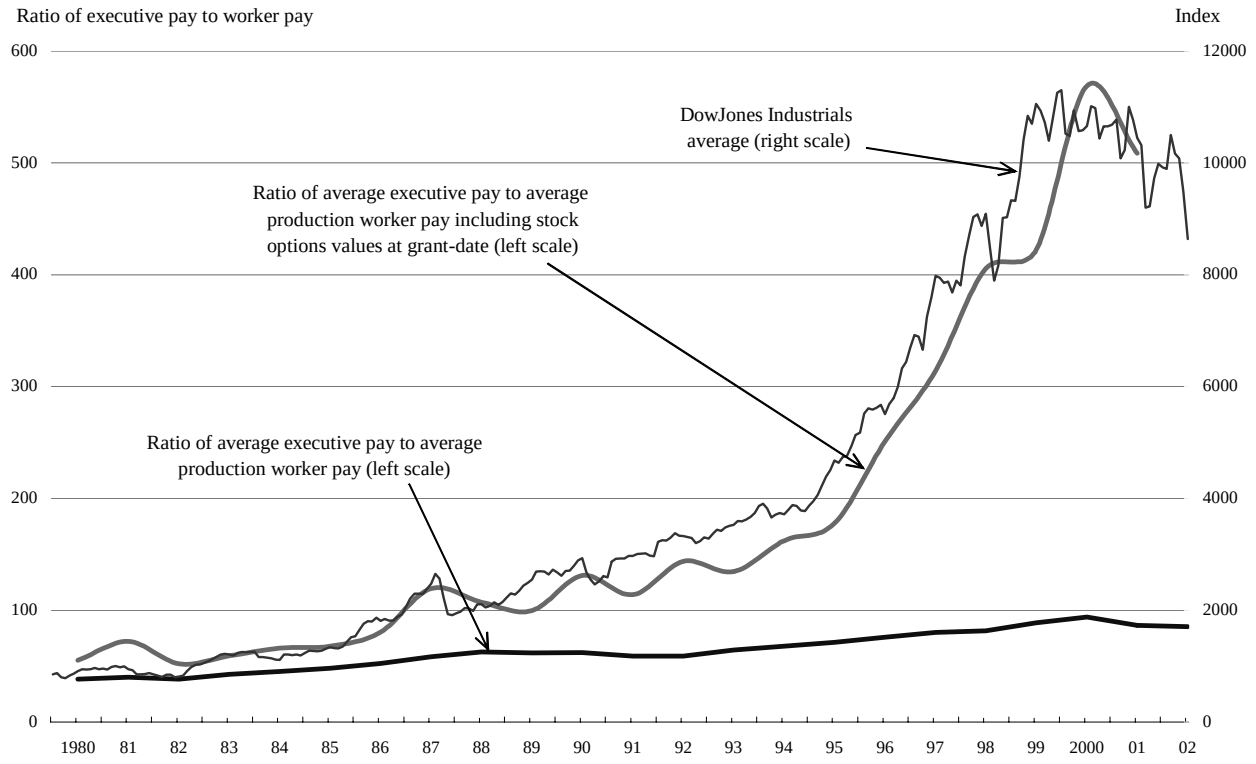
1. Actual balance excludes universal mobile telecommunication licence proceeds and is in per cent of GDP; the cyclically-adjusted balance is in per cent of potential GDP.
Source: OECD.

28. Capital gains tax receipts may be the most important single asset-price related revenue item, but a number of other avenues exist through which asset price fluctuations could affect the budget: stock options, tax revenues from defined-benefit private pension schemes, the impact of buoyant housing markets on transaction taxes, property taxes and inheritance taxes. These are generally less important quantitatively, but land and property transactions taxes can have a significant impact where prices are rising rapidly.

Stock options

29. The strength of the stock market until 2000 encouraged firms to rely more heavily on performance-linked compensation and stock options became an important component of executive pay in some countries (Figure 7). Estimates for the United States show that income from stock options rose from negligible amounts in the early 1990s to about 2 per cent of total wages and salaries in 2000 (Hall and Murphy, 2003). This yielded individual income tax receipts of around ½ per cent of GDP, most of the income being concentrated among the highest earnings taxpayers and thus taxed at higher rates. Similarly, in the United Kingdom and Canada, the level of bonus payments in the form of stock options rose significantly at the end of the 1990s making up an increasing proportion of total earnings. Preliminary data suggest that income from stock options may have halved in 2001 and fallen even further in 2002 (Saez and Veall, 2003 and HM Treasury, 2003). In Finland, direct taxes from stock options increased from almost zero in 1998 to ½ per cent of GDP in 2000 before falling back to close to zero in 2002 (OECD, 2003b).

Figure 7. Contribution of stock option to executive pay in the United States



Source: B. Hall and K. J. Murphy (2003) and Datastream.

30. In most OECD countries, gains from stock options are considered as labour income and are deductible from the corporate income tax (the main exceptions being Belgium, Canada, Germany and the Netherlands, where they are considered as capital income and are not a tax-deductible expense for companies).[16] Thus, for the United States, every dollar of option income realised by individuals generates an offsetting dollar reduction in corporate profits. Given these offsetting effects on profits, changes in equity prices and income tend to generate much smaller changes in total taxable income and total tax revenue than capital gains. Depending on the marginal rates of tax paid by individuals and companies, these effects could neutralise one another, suggesting that any adjustment that attempts to correct for stock options is in fact likely to make little or no difference.[17]

Corporate pension plans

31. Tax revenues from defined-benefit pension plans, which were boosted by high investment returns in the late 1990s, are now affected by subsequent depressed returns. During the bullish capital market of the 1990s, many corporate sector defined benefit pension plans accumulated huge surpluses and several companies benefited from "funding holidays", during which it was possible to reduce or entirely avoid contributions. This situation led to additional tax revenues as contributions are generally tax deductible. However, with the downward correction of equity prices in 2000, pension plans suffered important falls in funding levels and contributions from both employers and employees had to rise to reduce part of the funding gap, thus lowering tax revenues.[18] The extent to which the replenishment of pension funds will diminish tax revenues is, however, difficult to quantify, and incorporating such a correction into the cyclically-adjusted budget is impracticable.

Property, transaction and inheritance taxes

32. The administrative assessment of property values is often inaccurate, especially for owner-occupied housing, and property tax revenues follow housing market cycles only approximately, with a lag (Figure 8). In the United States and Canada, these revenues are important and account for about 3 per cent of GDP. However, in European Union (EU) countries, tax on property as a share in GDP is small, with the notable exceptions of Luxembourg, the United Kingdom and France, and their fluctuations have only a minor impact on fiscal balances. In Japan, revenues from the taxation of property hardly moved during the boom period of the late 1980's, remaining at around 1½ per cent of GDP until 1991, reflecting significant administrative undervaluation of property. This gap between the market prices and the assessed value shrank as the market prices went down during the second half of the 1990s.

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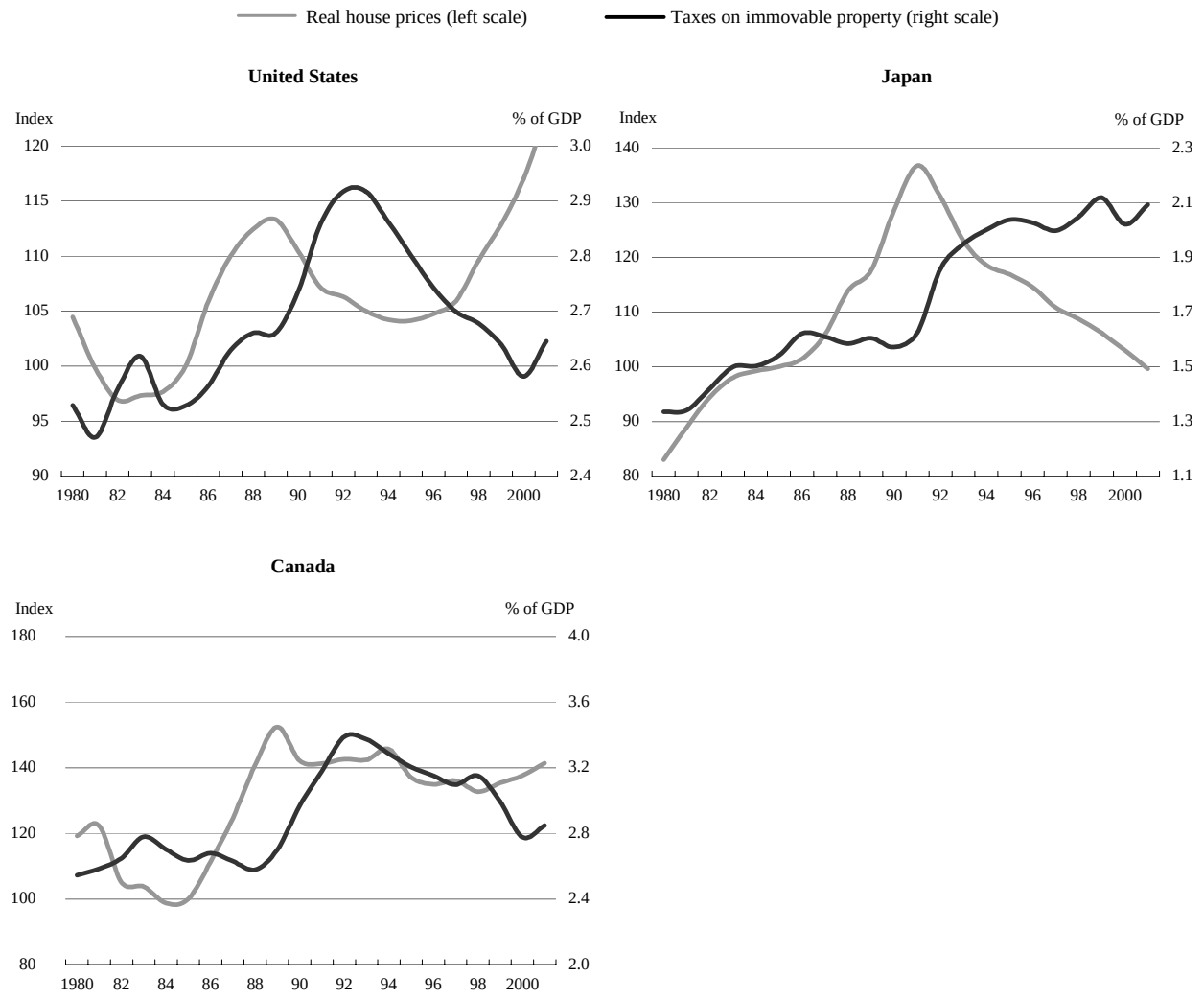
16 . Companies generally receive a corporate income tax allowance corresponding to the assessed personal income of the employee derived from the option, to ensure the symmetric treatment relative to alternative forms of compensation (van den Noord and Heady, 2001).

17 . However, these options may be exercised by employees of unprofitable firms, whose corporate tax liability is zero, yielding a net tax revenue gain (Congressional Budget Office, 2002).

18 . For example, in Canada, the value of assets in employers pension plans was down 11½ per cent at the end of 2002 and contributions more than doubled in 2002, decreasing tax revenues. In the Netherlands, second-pillar pension contributions, which are tax deductible, are expected to rise by some 4 percentage points to cover the underfunding of pension funds, worsening the fiscal balance by a cumulative 1¼ per cent of GDP by 2007 (Van Ewijk and Van de Ven, 2003). In Denmark, a year when stock market developments are "normal" generates taxation from the returns on pension fund investments of around 1 per cent of GDP (Finansministeriet, 2002), but the fall in equity prices and a change in tax rates on the return on assets resulted in fall in revenue from 1¼ per cent of GDP in 1999 to virtually zero in 2001-03.

Figure 8. Taxes on property



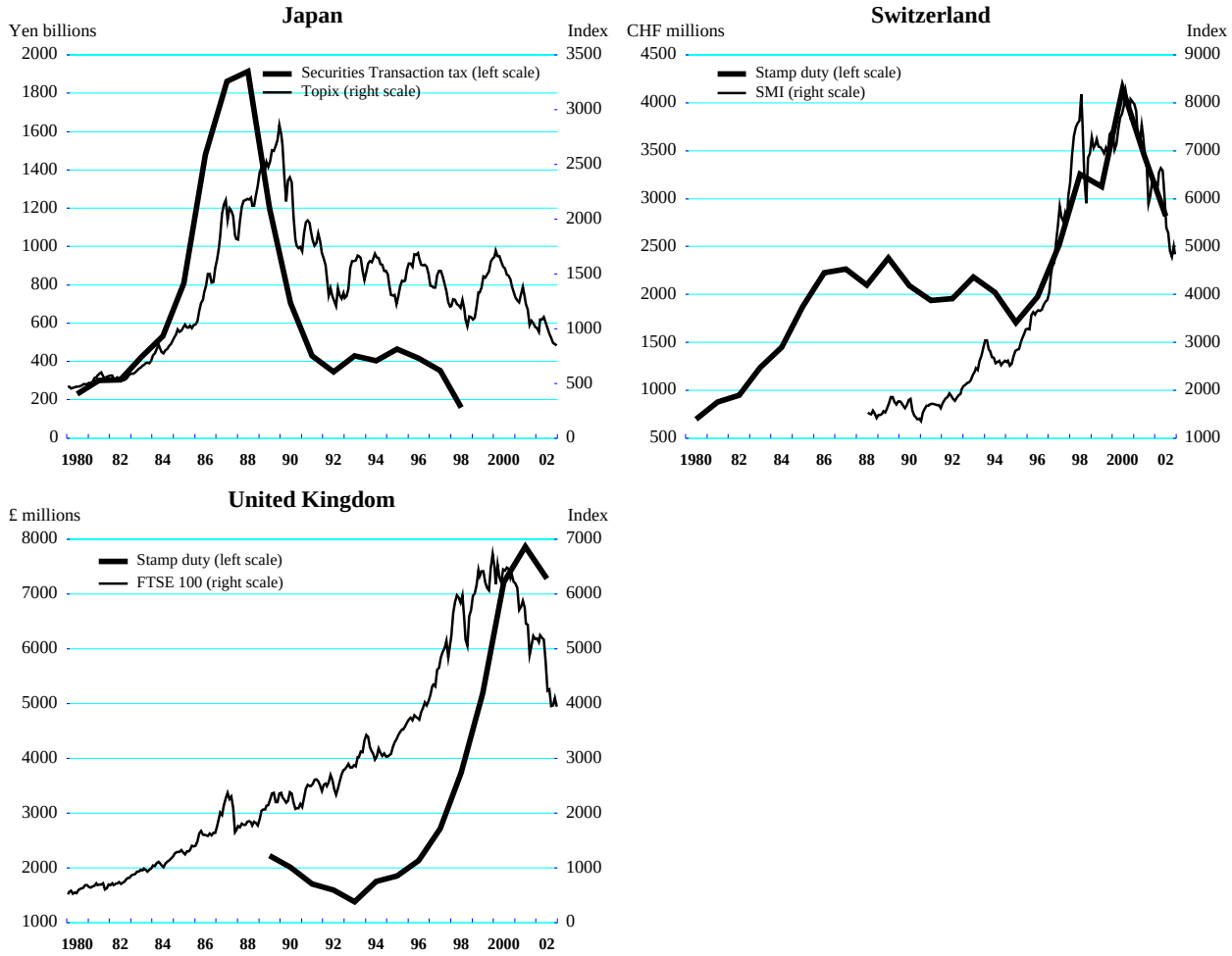
Source: BIS, Japan Real Estate Institute, US Office of Federal Housing Enterprise Oversight and OECD.

33. Many governments draw revenues from transactions in assets, including taxes on the issue, transfer, purchase and sale of shares. In several countries, such tax revenues have followed movements in the stock market (Figure 9). As they represent a small share of GDP (about ¾ per cent of GDP for the OECD unweighted average), movements in transaction taxes generated small effects on fiscal balances. Countries experiencing the largest swings include Japan, where revenue from the transaction tax rose from close to zero in the early 1980s to ½ per cent of GDP at the peak of the stock market cycle before collapsing to almost zero following the bursting of the bubble (the transaction tax was abolished in fiscal year (FY) 1999). In the United Kingdom, revenues from the stamp duty -- a tax on land and property transactions and on share transfers[19] -- increased from ¼ per cent of GDP in early 1990s to more than ¾ per cent in 2000 and 2001, owing to buoyant property and stock markets and, to a lesser extent, to past

19 . Two thirds of receipts are related to property transactions and the remainder derived from shares.

increases in tax rates. Revenues have flattened since, reflecting the offsetting impact of house and share price changes. In Switzerland, revenues from the stamp duty doubled between the mid-1990s and 2000 reflecting the large number of new stock emissions as well as buoyant trading volumes. These revenues have reverted to close to previous levels with the end of the stock market boom.

Figure 9. Taxes on financial and capital transactions



Source: Datastream; OECD.

34. The taxation of the transfer of wealth has undergone some fluctuations in revenue due to asset price cycles. However, these revenues are small (the OECD unweighted average tax accounts for ¼ per cent of GDP) and tend to be accrue over a long period, as a rise in share prices may not bring additional revenues rapidly as it must await death. In the United States, revenues from the income of estates, inheritance and gift taxes increased from $15 billion in 1990 to $37 billion or close to ½ per cent of GDP in 2000 before falling to ¼ per cent of GDP in 2003. While changes in the tax laws in recent years make it difficult to determine the sensitivity of the estate tax to the stock market, in all likelihood, some additional

revenues collected with this tax stemmed from rising asset prices. In the United Kingdom, the inheritance tax revenue has been very stable since 1990 at around 2 per cent of GDP as the impact of lower share prices has been offset almost entirely by the effect of higher house prices.

35. Normally, the overall contribution of the above components to government receipts is quite small, but at times when there are large asset price swings the contribution to the annual change in revenues can be large. For the United States, for example, the Congressional Budget Office estimates that the share of asset-related receipts in total revenues rose from 6½ per cent to 14 per cent between 1994 and 2000, but they accounted for two-thirds of the increase in the ratio of federal receipts to GDP over the same period, contributing in major part to the overall revenue surprise (Congressional Budget Office, 2002). And of this, capital gains taxation accounted for about one third.

Dealing with exceptional sources of budget change

36. The above analysis is based on the proposition that an accurate assessment of the underlying fiscal stance requires that short-term fluctuations apart from those associated with the cyclical output gap should also be netted out of the budget picture. This principle can be generalised to other "one-off" factors, such as sales of operating licences to telecommunications providers, securitisation operations, exceptional dividends, payments to government by corporations in the context of transferred pension obligations, and public real estate asset sales.[20] All of these expedients have been used, at times, temporarily to augment government revenues.

37. At the same time, deficit and debt positions are affected by initiatives to move expenditure and loan operations off-budget, the impact becoming evident as *ad hoc* periodic adjustments are made to outstanding government debt. These may occur in connection with the revaluation of financial assets and liabilities (including those associated with privatisations and exchange rate changes), or the writing-off of loans and the exercise of government guarantees. In practice, adjustments are not made to the deficit for such "one-off" debt adjustments. However, large and persistent discrepancies between deficit flows and changes in outstanding debt should give cause for concern, especially if recorded deficits systematically understate debt rises.

"One-off" revenue operations

38. The treatment of "one-off" revenues associated with sales of Universal Mobile Telecommunications Systems (UMTS) licences has become an important issue for fiscal reporting and analysis since the amounts involved were substantial for some countries.[21] The OECD follows the internationally agreed approach where the allocation of the licence is treated as a sale of an asset when the licence is granted for a long term and when the transaction amount is known with certainty from the beginning. Under these conditions, the sale proceeds are recorded as negative investment on the expenditure side of the accounts and are reflected in a "one-off" improvement in the general government financial balance, equal to the total amount of the disposal and recorded at the time the licence is allocated.

20 . See for example Milesi-Ferretti (2000) for a discussion of creative accounting and fiscal rules.

21 . In 2000, UMTS revenues accounted for 2.5 per cent of GDP in Germany, 1.2 per cent of GDP in Italy, 0.7 per cent of GDP in the Netherlands and 2.4 per cent of GDP in the United Kingdom.

39. In recent years, some EU countries governments have increasingly securitised financial or non-financial assets and revenue flows,[22] and the size of some of these operations has been large. In 2002, the Statistical Office of European Communities (Eurostat) released guidelines identifying the conditions under which the receipts from securitisations could be used to reduce the general government net borrowing.[23] The implementation of the new guidelines has been reflected in an upward adjustment of the fiscal deficit for Italy by about ¾ per cent of GDP in 2001 and the debt position for Austria and Greece (by 3½ per cent of GDP in 2000-01 for Greece) (Eurostat, 2002a and 2002b).

40. Exceptional dividends, arising from sales by state-owned entities of assets or realised capital gains at the request of government, have been used to reduce general government net borrowing in several countries. However, the European System of Accounts (ESA95) rules imply that "one-off" payments from such transactions, should not be recorded as dividends. As a consequence, the Portuguese general government deficit for 2002 was revised up by Eurostat, to exclude the proceeds received by the government at the occasion of the liquidation of the industrial development fund of the European Free-Trade Agreement (EFTA). Similarly, the ESA95 rules imply that exceptional payments made to general governments by central banks, following transactions in reserve assets (gold, foreign exchange assets) that are not part of the normal activity of monetary authorities, should have no impact on government net borrowing. In some EU countries, seignorage revenues from the euro cash changeover had been considerable. In Greece for example, the reclassification of the proceeds from coinage required by Eurostat has lowered government revenues by an amount equal to almost ½ per cent of GDP (European Commission, 2003).

41. By contrast, "one-off" compensation payments, registered to the government when pension obligations are transferred from corporations to the state, can be used to reduce financial deficits in some EU countries. These payments, which are recorded as government revenue at the time they occur, will be offset in the future by the payment of pension benefits for which the government becomes responsible (Eurostat, 2004). In France, the 1997 deficit was reduced by a payment of ½ per cent of GDP for the partial takeover of pension liabilities by the government prior to France Telecom's privatisation. In Portugal, following the transfer of postal services pension fund, the deficit was reduced by ¾ per cent of GDP in 2003.

42. Sales of non-financial assets such as buildings or land can be treated as capital receipts in the national accounts and as such may have a positive impact on the net lending of the general government. In Italy, sales of public real estate assets amounted to about ½ per cent of GDP in 2002. In Belgium, the improvement in the cyclically-adjusted balance was due, in part, to a sharp reduction in net government capital outlays between 2000 and 2002. Following the boom in local public investment, which had eroded the general government balance in 2000, public asset sales boosted it by ¼ per cent of GDP in 2002 (OECD, 2003c).

Financial transactions and debt adjustments

43. Just as fiscal deficits may be understated by treating one-off "below-the-line" receipts as current revenues, they may also be reduced by treating capital injections into state-owned enterprises as "below-the-line" items when they really represent subsidies. A financial transaction which arises when the

22 . Securitisation is defined as an arrangement where the owner of an asset transfers the ownership to another unit, often called a Special Purpose Vehicle, which borrows to pay the seller, generally in the form of securities issued on its own account.

23 . In particular, the price paid for the assets by the Special Vehicle to the government needs to be at least 80 per cent of the market price.

government, acting as a shareholder, provides funds and expects to receive dividends in return should, indeed, have no impact on the government fiscal balance But a capital transfer is deemed to occur when the government, acting for public policy purposes, provides funds to a corporation without receiving financial assets and without expecting property income. This should be recorded as government expenditure and included in the government fiscal balance. In France, the fiscal deficit has been revised upwards by Eurostat to include the capital injection from the French State to the Railway System. The revision amounted cumulatively to close to ½ per cent of GDP between 1999 and 2002 (INSEE, 2003). Chronic deficits of coal industry (*Charbonnage de France)* have also been covered through capital injections that were spuriously treated as financial transactions.

44. Imprecise recording of budgetary operations can lead to large *ex post* upward revisions in deficit and debt levels.[24] In Portugal, in recent years, there has regularly been a difference between the general government borrowing requirement and changes in the public debt, which have been larger than would have been implied by budget deficit flows. This difference has reflected off-budget operations, privatisations, or the absorption of unexpected debts (such as the recent case of the health sector) and is estimated to have reached more than 2½ percentage points of GDP in 2002 (OECD, 2003d). In Italy, Greece and Belgium, the behaviour of the stock of debt has also been negatively affected by stock-flow adjustments (European Commission, 2003).

Making adjustments for the impact of non-structural factors

45. Adjustment for the above influences has to proceed on an *ad hoc* and case-by-case basis and no systematic classification yet exists. As far as the OECD budget indicator is concerned, adjustments are made in important instances, such as UMTS licence receipts and the securitisation of financial or non-financial assets.[25] Most countries do not attempt to smooth the budget balance series for such influences. However, a number have begun to make adjustment for "one-off" revenue shifts as well as some asset-price effects.

- In the United States, the Congressional Budget Office calculates a structural budget balance (the so-called standardised-budget balance) which removes temporary factors not directly connected with changes in policy as well as the effects of the business cycle. Those factors include unusually large discrepancies between tax payments and liabilities, swings in collections of capitals gains taxes, changes in the inflation component of the government's net interest payments, temporary legislative changes in the timing of revenues, and outlays and receipts from the government sale of assets and from auctions of licences to use the electromagnetic spectrum. Removing those tax receipts avoids the misleading effects that can arise, for example, when a cut in the tax rate on capital gains temporarily encourages the realisation of taxable gains by enough to increase revenues. That rise in revenues causes the structural budget measure to indicate -- incorrectly -- that a tax cut implies budgetary restraint on the growth of real income in the short term.

- In France, the concept of "structural effort" was proposed in the 2004 draft Budget to help capture the true discretionary component of fiscal policy (Duchène and Levy, 2003). It permits a decomposition of the structural balance into discretionary and non-discretionary components.

24 . It should be noted that these flow-stock discrepancies apply to a notion of government debt which excludes public pension liabilities.

25 . Other factors accounted for by the OECD but not discussed here include deferred tax payments on matured postal saving accounts in Japan, revenue from oil and gas activity on the continental shelf and the petroleum fund in Norway and tax amnesties introduced in several countries.

The "structural effort" -- or discretionary component -- identifies a "structural spending effort", specified by the gap between public spending growth and potential growth, and a "structural receipt effort" defined as new tax measures. The decomposition illustrates that tax elasticities were temporarily above 1 between 1999 and 2001, helping to improve the structural balance without any new discretionary measures. Conversely, tax elasticities were below 1 in 2002 and 2003, contributing to a deterioration in the structural balance.

- In the United Kingdom, the assumptions underlying the Treasury's economic projections include a growth path for share prices. In the 2002 Budget for example, the share prices assumption was that the FTSE All-Share index would rise in line with nominal GDP. However, share prices turned out to be 23 per cent lower than the Budget forecast for 2002-03 and 25 per cent lower for 2003-04. Outturns dependent on these assumptions can be separately identified and the decomposition of forecast errors permits a distinction to be made between fiscal developments related to the economic cycle and those which are not.

- In Canada, a methodology for estimating an indicator of budgetary position has been developed addressing in particular, the problem of simultaneity between economic and fiscal variables (Murchison and Robbins, 2003). Results indicated a larger cyclical component in absolute terms under the new methodology which corrects bias in estimates by using Generalised Method of Moments estimation.

- In Switzerland, a method to filter out irregular revenue components has been proposed (Bodmer and Geier, 2003). It is based on revenue ratios for which a normal or structural level is determined using "expert insight" rather than a purely mechanical approach. The structural part of expenditure is also determined taking into account the earmarked part of a number of federal taxes.

- In Hungary, the central bank uses an analytical indicator for budget accounting which represents a transition between the statistical approaches of the IMF's Government Finance Statistics and the European Commissions' European Standard Accounts (Kiss and Szapary, 2000). The main adjustments include: exclusion of "one-off" revenues and off-budget activities financed by ex post capital injections.

- In Portugal, the methodology recently adopted by the central bank to estimate cyclically-adjusted balances captures the impact of different growth patterns on the revenues and expenditures. The tax elasticities are related to proxies of the individual tax bases and not to overall output. Thus, the cyclical adjustment is not independent of the composition of GDP. The new methodology excludes the final withholding tax levied on most capital income categories received by households from the personal income tax revenues to be cyclically-adjusted. It also introduces an asymmetric lag on the cyclical component of the corporate income tax to take into account the effects on fiscal revenue of prepayments made by companies (Neves and Sarmento, 2001).

46. Thus far, such approaches are quite disparate, and the creation of a set of internationally consistent indicators which adjusts for all the factors listed in this paper is prohibited by uneven fiscal data coverage between countries. However, the experience of the past cycle, when inaccurate estimates of the structural budget position gave misleading signals to policy-makers, emphasises the need for underlying budget measures to be more accurately assessed for temporary influences in the next upturn.

Annex Table. **Tax treatment of capital gains on shares**

2002, Resident taxpayers

	Taxation of capital gains (top personal rate of taxation: per cent)[1]
Australia	Rate: 48.5. Treated as ordinary income.
Austria	Rate: 0. In general capital gains are not included in taxable income.
Belgium	Rate: 0. Capital gains realised by individuals not engaged in a business activity are in principal not taxable.
Canada	Rate: 53. Only 50% of capital gains, net of capital loses, are included in income.
Czech Republic	Rate: 0. Gains from the disposal of securities held for 6 months are exempt from taxation.
Denmark	Rate: 43. This rate applies to a taxable base arising from the disposal of shares exceeding DKK 39700.
Finland	Rate: 29. Income from capital is subject only to a national income tax levied at 29%.
France	Rate: 26. In all cases, capital gains on securities are taxed at a flat rate of 2%. This comprises the basic rate of 16% plus social surcharges (CSG, 7.5%; CRDS, 0.5% and Social Levy, 2%).
Germany	Rate: 0. Capital gains realised through private transactions of resident individuals are generally not subject to income taxation.
Greece	Rate: 0. Gains derived from the sale of movable property (other than unquoted companies and limited liability companies) are not taxed.
Hungary	Rate: 20. Capital gains on securities and on quoted derivatives are taxed at a flat rate of 20%. In absence of documentation of acquisition price, 25% of the proceeds are taxed.
Iceland	Rate: 10. Capital gains from the sale of shares are subject to the general 10 per cent withholding tax.
Ireland	Rate: 20. Capital gains arising from certain government and local authorities and from certain state sponsored bodies are exempt.
Italy	Rate: 12.5. Net capital gains on shares and other securities are subject to a substitute tax which replaces the individual income tax. For gains on non-substantial holdings, this rate is 12.5%.
Japan	For listed companies a central rate of 15% augmented by a local rate of 5% applies. A special reduced tax rate of 10% (7% central and 3% local) apply for the next 5 years (effective 1 January 2003).
Luxembourg	Rate: 38. There is no separate capital gains taxed in Luxembourg, income from movable capital is part of the individuals aggregate income.
Mexico	Rate: 0. Gains on specified shares or other securities traded through an authorised stock exchange or similarly active market are tax exempt.
Netherlands	Rate: 0. In general capital gains are not included in taxable income.
New Zealand	Rate: 0. Capital gains are tax exempt.
Norway	Rate: 28. There is no separate capital gains tax, but capital gains are included in taxable income. With respect to the computation of gains on disposal of shares of resident company, special rules apply to avoid double taxation of company profits and gains to the shareholder.
Poland	Rate: 40. Capital gains are included in the taxable base as part of income from investments or business income.
Portugal	Rate: 10. Net annual gains from the disposal of shares (category G of income) is in principle subject to a tax at a final rate of 10% unless the taxpayer opts for its inclusion in his taxable income.
Spain	Rate: 48. Treated like ordinary income.
Sweden	Rate: 30. In general, all capital gains realised by an individual are included in the category income from capital. Income from capital is taxed separately at a flat rate of 30% nationally, (no municipal taxes apply).
Switzerland	Rate: 0. Capital gains are exempt.
Turkey	Rate: 45. Capital gains arising from the disposal of shares are part of taxable income.
United Kingdom	Rate: 40. Capital gains of an individual are aggregated with his income and are taxed at income tax rates.
United States	Typical Rate: 20. Assets must be held for more than one year, otherwise gains are taxed as ordinary income.

1. These rates apply to capital gains that arise from the disposal of securities, excluding speculative (or short holding periods) transactions, disposal of substantial interest holdings, or to gains realised in the course of a regular business activity.

ource: Adapted from OECD Tax Data Base. Capital gains tax rates from national sources and from European Tax Handbook (2002).

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