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THE CYCLICAL ADJUSTMENT OF THE AUSTRIAN BUDGET BALANCE BY THE EUROPEAN CENTRAL BANK

The Stability and Growth Pact connects the decentralised fiscal policy of individual countries of the euro zone with the fully centralised monetary policy conducted by the European Central Bank. The cyclically adjusted budget balance is a key indicator for the assessment of the fiscal policy stance and it will be used in the evaluation of stability programmes submitted by euro countries to the European Commission. By establishing a unified method to compute the cyclically adjusted budget balance the European Central Bank will be able to integrate own forecasts of budgetary numbers with its forecast of the economic environment.

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The development of public sector finances may be divided into two broad elements: policy induced changes in revenues and expenditures on the one hand, and responses of the existing legal framework to expected and unexpected changes in the economic environment, on the other hand. Discretionary fiscal policy is usually associated with the first component. The political will is transformed into new laws and induces changes in revenues or expenditures, which consequently affect the future underlying path of public sector finances. But since the already existing law forms the major body of budgetary relevant regulation, passive responses of the existing legal framework to economic development are the major determinants of fiscal balances. Discretionary action will always operate at the margin with comparatively small immediate effects on the budget.

International organisations like the IMF and the OECD have monitored the conduct of economic policy for decades and reported the results in their economic outlook and in country-specific surveillance reports. A key indicator in the assessment of the fiscal policy stance is the "structural balance" of the general government measured as a percentage of potential output. The structural balance corresponds to the public sector financial balance corrected for business cycle variations in output, i.e., corrected for the automatic response of the budget to short-term variations in economic activity. The elimination of cyclical influences from the budget balance leaves an indicator of both constant policy and discretionary action which can be interpreted as a cause of output fluctuations (OECD, 2000B).

A few years ago the European Commission also started to publish cyclically adjusted budget balances roughly following the procedure proposed by the OECD (Giorno *et al.*, 1995). This effort was a consequence of increased economic policy co-ordination among EU member countries. With the introduction of the Single Market and in preparation for the European Monetary Union the need for fiscal policy co-ordination grew stronger and finally culminated in the Stability and Growth Pact (European Council, 1997). The Stability and Growth Pact (SGP) was a necessary condition for achieving monetary union in Europe and obliges participants of the euro zone to keep their general budget balance close to zero or in surplus. It also includes a threshold for net lending of 3 percent of GDP and sanctions for violating this threshold.

The independent European System of Central Banks (ESCB) forms a single entity and is solely responsible for monetary policy in the euro zone. Without the SGP the conduct of fiscal policy would have been completely under the control of national fiscal authorities in euro countries. This would have created a potential for fiscal profligacy associated with fiscal externalities and doubts about the credibility of the no-bail-out rule¹ (Url, 1997). To avoid such side effects the SGP was enforced by Council regulations

¹ Art. 104b Treaty establishing the European Community (TEC) in accordance with the provisions of the Amsterdam Treaty renumbering Articles of the Treaties and Art. 21 of the Protocol on the European System of Central Banks.

1466/97 and 1467/97 which strengthen the surveillance of budgetary positions by the Commission and the Council, respectively, and speed up the excessive deficit procedure in the SGP.

The SGP requires each member country of the euro zone to submit a stability programme to the European Commission which describes the medium and long-term economic and budgetary conditions of a member state (*Federal Ministry of Finance, 2000*). The Council receives a recommendation from the Commission and delivers an opinion on each programme after consulting the Monetary Committee (Economic and Financial Committee). The Council may suggest strengthening the objectives and contents of a national programme and may invite the respective member state to adjust its programme if the implied medium-term budgetary position is not close to balance or in surplus. The latest Council Recommendation of 19 June 2000 (*European Council, 2000*) argues in general for a further acceleration of fiscal consolidation and, specifically in the case of Austria, demands a better deficit outcome than projected for 2000, the replacement of one-off measures taken in 2000 by measures with permanent nature, and a reform of the pension and health systems.

The concept of a public sector net lending which is close to balance or in surplus in the medium term allows some room for interpretation. For this reason, the Monetary Committee specified the medium term to be the length of a business cycle and bases its examination of the fulfilment of SGP criteria explicitly on the cyclical position of the economy and its effect on the budget: "the Committee takes the present Commission services' cyclical adjustment method as a useful approach for assessing budgetary developments" (*European Council, 1998*). The cyclically adjusted budget balance also provides an impression of the average net lending that does not violate the SGP threshold of 3 percent.

In addition to the Commission, the European System of Central Banks (ESCB) decided to compute cyclically adjusted budget balances. This activity does not derive from prescriptions in its statute, rather it was probably the result of the unique balance of power between ESCB, the European Commission, the European Council and national fiscal authorities in the European Union. Shortcomings of structural balance reports provided by international organisations like rare updates of elasticities, failure to account for fluctuations in the composition of aggregate demand and national income, and the missing consistency with internal forecasts of the ESCB have been put forward as arguments to launch a project aimed at calculating regularly updated, harmonised, cyclically adjusted budget balances.

The computations have been delegated to National Central Banks but the ECB provides harmonised and detailed guidelines for the two-step estimation of the cyclical component for public sector net lending (*European Central Bank, forthcoming*). In the first step elasticities of revenue and expenditure categories are computed either by econometric estimation or by the use of tax rules in combination with revenue statistics. The elasticities combine nominal macroeconomic indicators with individual taxes or expenditures. In the second step cyclical gaps for real macroeconomic indicators are computed by subtracting the Hodrick-Prescott filtered trend component from each indicator. Multiplying the percentage cyclical gap with the elasticity of individual tax and expenditure categories gives the cyclical component of individual tax and expenditure categories, respectively. Summing up individual items provides the estimated cyclical component of the budget balance. Subtracting the cyclical component from realised values results in the cyclically adjusted balance.

This report summarises the Austrian part of the ECB's project on the computation of cyclically adjusted budget elasticities. It presents the underlying data, the estimation results, the components of Austrian budget balances, and finally a comparison to recent EU, IMF, and OECD estimates.

The size of the Austrian public sector is impressive. In 1998 total revenues made up for about 52 percent of output and expenditures accounted for 54 percent (according to ESA 95 standards), reflecting the set-back of fiscal consolidation efforts by the Federal government. Table 1 shows details of the public sector account. The cyclical components selected by the ESCB are direct taxes on households, direct taxes on companies, indirect taxes, and social security contributions on the revenue side, and unemployment-related spending and pension benefits on the expenditure side. In addition to the ECB proposal, direct monetary pension payments of the social security system are included as a cyclical variable because § 108 ASVG² contains a legal formula for the annual pen-

The European Central Bank will apply a unified two-step procedure for the computation of cyclically adjusted budget balances of euro zone countries. The concept is close to the method proposed by the OECD. In a first step elasticities of revenues and expenditure categories with respect to macroeconomic indicators are either estimated or derived from the tax code. The macroeconomic indicators are close measures of the tax base or entitlement programme. The second step will combine these elasticities with measures for the cyclical gap in those macroeconomic indicators.

Data and estimation

² Allgemeines Sozialversicherungsgesetz, the law regulating social security affairs.

sion adjustment. The relation between the formula and the final pension adjustment has been enforced by the recent pension reform. The adjustment formula relates the pension dynamics to a combination of the growth of average net wages among covered employees and the change in the average pension of newly retired.

Table 1: The composition of public revenues and expenditures in Austria, 1998

PFR definitions ESA 95	Macroeconomic indicator ¹	Million Euro	1998 As a percentage of GDP
Total revenue		97,999	51.6
Total direct taxes		26,137	13.8
Direct taxes on households	Average compensation of employees, private sector employment	15,305	8.1
Direct taxes on companies	Operating surplus	8,577	4.5
Other direct taxes		2,255	1.2
Indirect Taxes		30,146	15.9
Taxes on goods and services	Private consumption	22,151	11.7
Paid to the EU		1,723	0.9
Other indirect taxes		6,272	3.3
Social contributions		32,490	17.1
Paid by private sector employees	Average compensation of employees, private sector employment	26,783	14.1
Paid by government sector employees		1,921	1.0
Imputed		3,786	2.0
Other revenue		10,856	5.7
Discrepancy due to publication lag ²		94	0.0
Total primary expenditure		95,511	50.3
Unemployment-related expenditure	Number of unemployed	1,940	1.0
Pension benefits ¹	Average compensation of employees	18,767	9.9
Other primary expenditure		74,803	39.4
Interest payments		7,161	3.8
Total expenditure		102,672	54.1
Deficit or surplus		– 4,673	–2.5
GDP		189,742	100.0

Source: Statistics Austria as of March 2000. – ¹ For those cyclical components depending on macroeconomic indicators. – ² Individual components as of December 1999.

The share of individual revenue components in GDP provides a first impression of their relative importance. The most important item is social security contributions which are subject to constant contribution rates up to the maximum contribution limit. Indirect taxes are the second biggest item and are also subject to constant tax rates.

Total direct taxes account for about 14 percent of GDP and thus form the smallest of the cyclical budget items on the revenue side. Wage and income taxes are subject to progressive tax schemes. Wage taxes are the major item in direct household taxes. Income tax makes up for about one third of direct taxes on companies. The high share of revenues with constant tax or contribution rates suggests an overall cyclical dependence close to 1. Thus, if the tax bases are closely related to output the dependency of the budget balance on output fluctuations is likely to be low despite the large extent of public intervention in the Austrian economy.

Table 1 also presents the macroeconomic indicators to which each of the cyclically dependent items will be related. Similar to the new approach suggested by Braconier – Holden (1999) and applied by the OECD (van den Noord, 2000) the individual revenue and expenditure categories are not related directly to output but rather are linked to close indicators of the relevant tax base or the entitlement programme. Furthermore, from each macroeconomic indicator all public sector activities are subtracted, such that only private activity remains as an indicator of business activity. This disaggregated approach captures changes in the composition of aggregate demand and national income. But this advantage comes at the cost of more detailed data and forecast re-

quirements. Moreover, only indirect inference on consequences of output movements on the budget balance is possible.

Cyclical variations in direct taxes on households depend on two macroeconomic indicators. First, the growth rate in the average private sector wage creates fiscal drag and pushes households into higher tax brackets. Due to rather narrow income brackets among low-income groups and wide income brackets in the middle-earning classes progressivity is steep among low-income earners and becomes near to proportional for middle-income earners. On the margin, however, the progressive tax scheme will create an elasticity above one. The second cyclical indicator for direct household taxes is the number of employees in the private sector. Tax revenues are supposed to vary proportionally to this indicator.

Direct taxes on companies have two major components: corporate tax which features a minimum payment for loss making companies and is subject to a constant tax rate of 34 percent and – already mentioned – income tax which is subject to the same tax scheme as the wage tax. The combination of proportional and progressive elements suggests an elasticity above 1 but below the elasticity for direct taxes on households. The macroeconomic indicator for direct taxes on companies is the operating surplus from the national accounts.

This choice certainly creates estimation problems for Austria because the operating surplus not only includes profits but also interest earnings and imputed rents. Rising financial wealth and increasing private home ownership will decrease the procyclical behaviour of the operating surplus and may create difficulties in the attempt to estimate elasticities on an econometric base. Moreover, serious differences to the tax base of a company arise from the distinctive treatment of depreciations³ and the build-up of reserves (Bildung von Rückstellungen) in tax declarations as compared to the system of national accounts. A more promising alternative as a macroeconomic indicator for company taxes in Austria would be the tax base as published in the tax statistics (Steuerstatistik).

Private consumption is the macroeconomic indicator for indirect taxes. The value-added tax as the most important item creates about 70 percent of the revenues. Nevertheless, a substantial part of indirect taxes is related to quantities rather than value-added. Typical examples are taxes on mineral oils, tobacco, and energy which vary less than proportionally with consumption. For this reason one may expect an elasticity below 1 for indirect taxes with respect to private consumption.

On the expenditure side the ECB uses the same reasoning as the OECD. Only unemployment-related outlays are supposed to be cyclical, except in cases when legal rules create a direct link of a budget item to a cyclical indicator. Since many unemployment related expenditures are subject to discretionary decision, e.g., spending on training programmes within the National Action Plan, it is more sensible to choose only monetary transfers to the unemployed – which are defined in entitlement programmes – as the cyclical component of unemployment related expenditures.

In the special case of Austria a second item of the public sector expenditures has to be included into the cyclically dependent balance. These are expenditures on pensions by the social security system. § 108 ASVG prescribes a rule for the annual adjustment of pensions. The rule links pension dynamics to the development of average wages among covered employees.

The estimation of elasticities for individual budget components in Austria is complicated by numerous changes in the tax code of which some had permanent and others only temporary effects on revenues. For example, the total social security contribution rate has been increased from 21.5 percent in 1954 to 38.1 percent in 2000. Additionally, several extraordinary adjustments of the minimum as well as the maximum contribution base have been implemented, increasing revenues further. It is worth mentioning that the unemployment insurance scheme is obliged to balance its budget with respect to direct unemployment compensations. Therefore, business cycle variations may result in counterbalancing changes in other expenditures of the labour market service or in an adjustment of the contribution rate.

Discretionary actions have also been undertaken in the area of wage, income, and corporate taxes, often shortly before general elections. The expenditure side, on the other hand, was governed by rather stable rules. Most of the discretionary changes in the tax code can be emulated by dummy variables or other exogenous variables in an

In the case of Austria the elasticities of revenue or expenditure categories with respect to macroeconomic indicators are estimated by error correction models. Because tax reforms very often cause either transitory or permanent changes in the relation between a budget item and its macroeconomic indicator several dummy variables have to be incorporated in those models.

³ ESA computes depreciations at replacement prices and by using the actual life span of an investment good.

econometric estimation of the budget elasticities. Table 2 presents the results from error correction regressions (see *Url*, 2000, for details).

Table 2: Comparison of elasticities in Austria

Fiscal variables with respect to macroeconomic reference variables		ECB	OECD
Direct taxes on households	Average wages	1.34	2.20
	Employment	1.00	1.00
Direct taxes on companies	Operating surplus	1.11 ¹	1.00
Indirect taxes	Private consumption	0.93	1.00
Social contributions	Average wages	0.90	0.80
	Employment	1.00	1.00
Unemployment-related expenditure	Number of unemployed	0.91	1.00
Pension benefits	Average wages	1.00	–

Source: WIFO calculations, *van den Noord* (2000). – ¹ Sum of first and second lag coefficients (0.58+0.53).

The elasticity of direct taxes on households with respect to private sector wages is rather low in comparison with previous estimates and only half the value published by *van den Noord* (2000) for Austria (Table 2). Previous results using Structural Time Series models for wage taxes also resulted in higher estimates (*Url*, 1997) but those are related to output rather than an indicator of the tax base. An explanation for this deviation may be that the explanatory variable in Table 2 refers explicitly to the progressivity of the tax scheme and the width of tax brackets is such that most of the individuals are within the 31 or 41 percent brackets⁴. Especially the 41 percent bracket is extremely wide so increases in income will have a proportional effect on tax payments throughout this income class (*Lehner*, 1980, 1984). The difference to OECD estimates may result from different estimation techniques and the detailed consideration of changes in the tax code.

The elasticity of social security contributions with respect to the private sector wages is slightly higher as compared to OECD estimates. Because only about 8 percent of the employees receive income above the maximum contribution limit and the limit grows automatically over time in line with the general pension adjustment a value far below 1 does not seem very plausible.

The third budget item depending on the development of the average wage in the private sector is the change in monetary pension payments. § 108 ASVG prescribes an annual adjustment of pensions by the rate of change in the average wage from the previous year. Rising average pensions of the newly retired reduce the adjustment factor as do increases in social security contributions. This may be the reason why the coefficient is slightly less than 1 (0.97). Since social contribution rates are at a level that already generates serious labour market frictions, further rate increases are unlikely. Thus for the computation of cyclical budget components the elasticity is fixed at 1 (Table 2).

The value of the elasticity for indirect taxes indicates less than proportional cyclical variation. The composition of indirect taxes as a mixture of about 70 percent V.A.T. revenues and 30 percent revenues from quantity-based indirect taxes makes the shortfall below 1 very plausible.

Tax declarations in Austria can be submitted to the fiscal authority with a delay of up to 15 months. Further time until the final payment of taxes elapses due to processing by the tax authority and afterwards the postponement of payment by firms. One to two years of delay are the rule rather than the exception. Tax statistics collected according to the accrual principle should not show any significant lag structure. The elasticity in Table 2, however, is the sum of the coefficients on first and second lag of the operating surplus (0.58 and 0.53). Only the lagged variable is highly significant, whereas the contemporaneous operating surplus has no explanatory power.

This lag structure has two explanations. One is that tax data contain only the years 1988 through 1998 according to ESA 95 rules. For earlier years a constant factor was applied for chaining, thus not complying with the accrual principle. Tests on time varying parameters do not hint at a break in the data generating process after 1988. Therefore, the second explanation that Statistics Austria is not yet fully able to implement the accrual principle may be more likely. The consequence for the computation of the cyclical

The results from the estimation of tax and expenditure elasticities broadly confirm the prior based on the structure of the Austrian tax code and the regulation covering the annual pension adjustment. Social security contributions and indirect taxes vary less than proportionally with their indicator. Pension transfers fluctuate in line with average wages. The only categories with elasticities above 1 are direct taxes on households and companies.

⁴ These are the actual rates as of 1 January 2000. The tax rates were set at 32 and 42 percent, respectively, before the income tax reform 1999.

component of direct taxes on companies is that one should use the first and second lag of the gap in the operating surplus. This is the strategy applied in the following. The introduction of interest payment on delayed tax declaration by the budget consolidation package 2000 is likely to change the future lag structure of company taxes because starting with 2001 firms will have a bigger incentive to declare their profits within one quarter after the end of the tax year.

The last remaining elasticity concerns unemployment related expenditures. In the case of Austria it is sensible to use only monetary transfers to the unemployed as a cyclical variable. For most of the years this was the dominant way to spend money on unemployment. The value of the elasticity below 1 seems plausible under the special conditions of the Austrian labour market and the unemployment benefit design. Although the inflow and outflow into employment is large, the number of long-term unemployed increased throughout the last decade. Because the law prescribes lower benefits for the long-term unemployed (Notstandshilfe) their rising share should reduce expenditure dynamics. Not correcting for the rise of long-term unemployment in the regression would result in an even lower value of the elasticity. Another reason for a coefficient different from 1 is a structural shift in the economy that causes a sudden influx of either high or low-wage earners into unemployment, depending on the sector. The decline of state owned enterprises at the beginning of the 1980s resulted in a severe lay-off of employees who subsequently benefited from preferential regulation with respect to the length of their unemployment record compatible with full unemployment compensation. When this large group of formerly high-income earners slowly disappears from the unemployment pool an elasticity lower than 1 will follow.

The computation of the cyclical position of the Austrian budget is based on the elasticities from Table 2 except the elasticities of direct taxes on companies which are split up into one and two-period lags (0.58 and 0.53, respectively). The macroeconomic indicators refer to the definitions of the ECB. Since the ECB requires real cyclical gaps for the computation of the cyclical fiscal balance consumption expenditures are deflated by the consumption deflator and average wages as well as the operating surplus by the GDP deflator. The forecasts of the macroeconomic indicators as well as for revenue and tax components come from the Oesterreichische Nationalbank, the only exception being forecasted outlays for monetary pension payments which are compiled from the forecast of the *Advisory Board for the Adjustment of Pensions* (1999).

The formula for the computation of the cyclical component of the i -th revenue or expenditure component B_c^i is as follows:

$$B_c^i = B^i \varepsilon_{B^i, V^i} v_{r,c},$$

where B^i is the actual value of the i -th budget category, ε_{B^i, V^i} is the elasticity of budget category i with respect to its macroeconomic indicator V^i drawn from Table 2, and $v_{r,c}$ is the cyclical deviation of the real macroeconomic indicator from its trend value measured in percentage points. The cyclically adjusted balance CAB is obtained by subtracting the cyclical component from the actual budget balance B :

$$CAB = B - \sum_i B_c^i.$$

All macroeconomic indicators are Hodrick-Prescott filtered with two alternative smoothing parameters ($\lambda = 100$ and $\lambda = 10$). Due to the rather smooth development of Austria's macroeconomic indicators the choice of λ has a small impact on the estimate of the cyclical position (Figure 1). The upper and lower turning points of the cyclical balances are roughly $\frac{1}{2}$ percentage point higher for a lower value of λ .

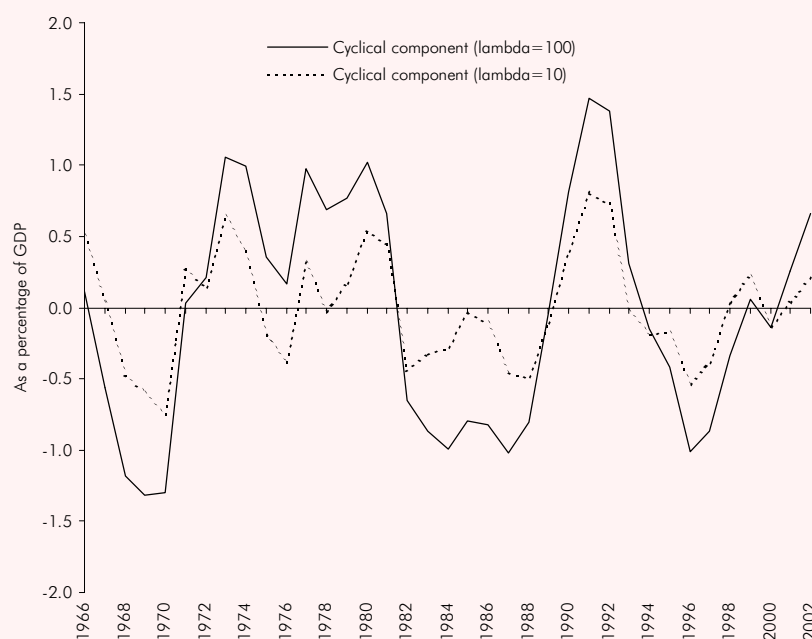
Figure 1 confirms previous results and provides an impression of the low cyclical dependency of Austria's fiscal balance (van den Noord, 2000, Url, 1997). Over the period 1995 through 2002 the fluctuations remain within a band of ± 1 percent of GDP ($\lambda = 100$) or ± 0.5 percent of GDP ($\lambda = 10$). The low degree of coincidence between the cyclical position of the fiscal balance and the conventional understanding of economic ups and downs in Austria is due to the lagged response of direct taxes on companies and of pension adjustments to business cycle variations. For example in 2000 the cyclical fiscal balance is slightly below potential indicating at first glance a growth rate of output below average. Actually 2000 is likely to be an upper turning point in the busi-

The cyclical position of the Austrian budget

The ECB approximates the cyclical position of the economy by applying the Hodrick-Prescott filter on real versions of the macroeconomic indicators. Two values for the smoothing parameter λ have been chosen: 10 and 100. The lower the value of the smoothing parameter is, the more closely will the trend line approximate the actual value and hence the smaller will be the cyclical gap, measured as the percentage deviation between trend and actual value.

ness cycle and has a growth rate of GDP well above average. The lags in direct company taxes and pension expenditures create the deviation of the cyclical fiscal balance from the business cycle.

Figure 1: Cyclical component of Austrian public sector net lending



The financial position of the Austrian budget experienced a sharp deterioration after the 1975 recession. From today's perspective this deterioration is due to an increase in the structural deficit component because actual and cyclically adjusted balances dropped to an average of -3 percent afterwards. Figure 1 shows that the cyclical component for $\lambda = 100$ does not even become negative in 1975 or in any of the next few years. The highest imbalance occurred in 1995 and triggered a consolidation package aimed at shaping the public sector enough to fulfil entry conditions to the European Monetary Union. The subsequent improvement in financial balances broke down in 1998, a pre-election year, and will, according to the forecasts of the Oesterreichische Nationalbank, remain at that level.

The elasticities from Table 2 cannot be directly compared to estimates of international organisations besides those of the OECD because usually budget items are related to total output rather than specific macroeconomic indicators. *Braconier – Holden* (1999) find that for nordic countries the disaggregation of the output gap into several gaps of macroeconomic indicators does not result in sizeable differences to the numbers published by the OECD.

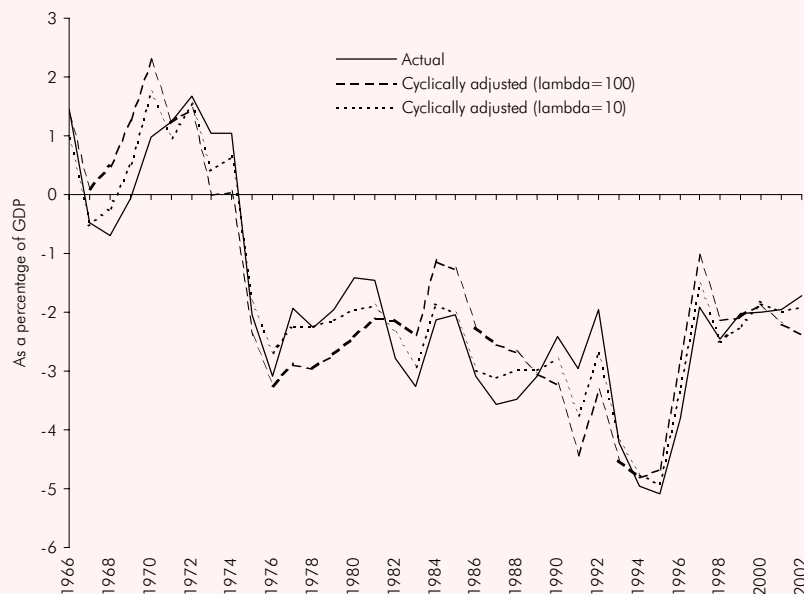
The comparison of the elasticities in Table 2 with those of international organisations requires further rearrangement and additional computations especially for elasticities of macroeconomic indicators with respect to output. These manipulations create extra uncertainty about the source of deviations but show in the case of Austria that the overall elasticity with respect to output fluctuation is 0.5, slightly higher than the 0.3 published by the OECD. The differences in the computation method between the ECB and the OECD cancel each other. What makes up for the difference in the aggregate is mainly the inclusion of pension payments as an additional cyclical variable on the expenditure side.

A simple alternative test for distinctive features of the ECB cyclical adjustment is to compare the final result with those of international peers. Figure 3 compares the most recent publications of the cyclical balance for Austria from the European Commission, the ECB, the IMF, and the OECD. The ECB variant with $\lambda = 100$ deviates distinctively from the other estimates in Figure 3 in terms of its amplitude, i.e., the upper and lower turning points are about 0.5 percentage point bigger. The IMF estimate comes closest to the $\lambda = 100$ version. On the other hand, the European Commission's and the OECD's es-

Comparison with international estimates of cyclical balances

timates coincide rather closely to the $\lambda = 10$ version of the ECB's cyclical balance. It is interesting to see that the upper turning point in 1991 is the same for the OECD and both ECB versions, whereas the lower turning point in the mid 1990s occurs in 1997 for all versions of the peers, but the ECB places the lower turning point already in 1996.

Figure 2: Financial balance of Austrian budget



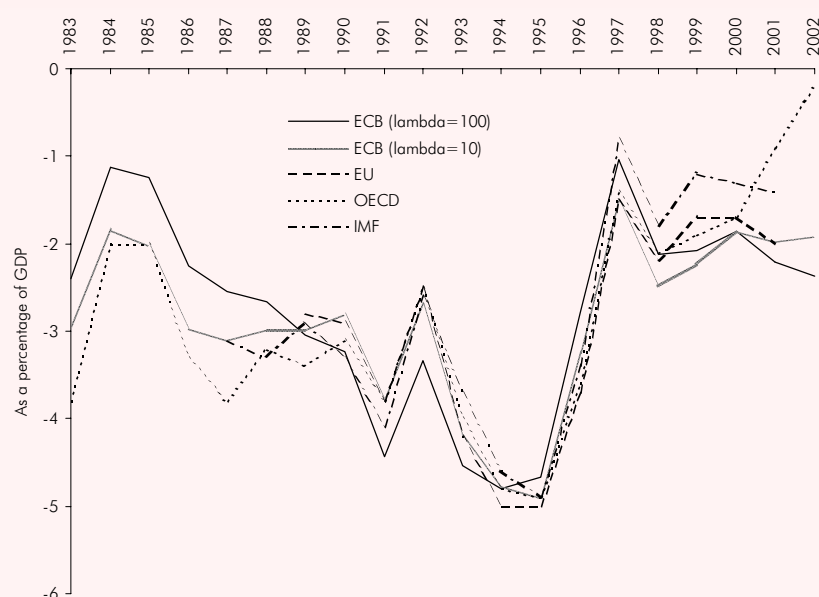
The computation of the elasticity of the general budget balance with respect to output fluctuations needs additional elasticities of the macroeconomic indicators with respect to output and a detailed reweighting procedure. In the case of Austria this elasticity is at 0.5, i.e., a 1 percent deviation of output from potential output creates a cyclical budget balance of 0.5 percent of actual GDP. The difference to the value published by the OECD (0.3) is due to the inclusion of pension payments into the cyclical component.

Figure 3: Comparison of the ECB estimate with cyclical balances published by international organisations



Source: OECD, (2000A), IMF, World Economic Outlook, October 2000; European Commission, May 2000; Oesterreichische Nationalbank, October 2000.

Figure 4: Comparison of the ECB estimate with structural balances published by international organisations



Source: OECD, (2000A), IMF, World Economic Outlook, October 2000; European Commission, May 2000; Oesterreichische Nationalbank, October 2000.

In either version the cyclical variability of the Austrian budget balance is small and this results in an amazing similarity of the estimates for the structural or cyclically adjusted balance (Figure 4). The only marked deviations result from forecasted actual budget numbers at the end of the sample. Most probably the biggest part of these differences is due to different forecasting dates of international organisations which can integrate the most recent figures on the Austrian budget. An alternative explanation would be the end point problem resulting from the application of the Hodrick-Prescott filter on macroeconomic indicators. Whether this factor indeed dominates remains open to future research.

The results from the estimation of cyclical elasticities with respect to macroeconomic indicators according to the guidelines of the European Central Bank confirm the prior derived from fiscal rules and are, with the exception of the elasticity of direct taxes on households, close to estimates presented by the OECD. The relation between financial balances and output cannot be derived without first carrying out some manipulations on the ECB-values. A comparison to figures from the OECD shows that the main difference is a more detailed specification of cyclically dependent revenue and expenditure components and most importantly the inclusion of the automatic pension adjustment into the ECB's calculation. Composition effects of aggregate demand and national income and the concentration on private sector activity do not have a systematic impact.

In between discretionary policy and passive response is the effect of wage negotiations in the public sector on the budget balance. The public sector wage settlements cannot diverge permanently from the rest of the economy. For some consecutive years, however, deviations in the relative wages of public and private sector are possible. Thus changes in the relative wage between public and private sector can be interpreted as discretionary action, whereas wage adjustments in line with the rest of the economy should be interpreted as cyclical response of expenditures. Taking account of such wage movements will increase the size of the cyclical component.

The deviations in the estimates of the most recent values of the cyclically adjusted budget balance show that the forecasts of the underlying Austrian budget make a considerable difference. Depending on the date of the forecast, recent developments in the Austrian budget are either included or ignored. This effect was especially important in 2000, when the Austrian government updated its budget programme to comply with the European Council recommendations in June. The topicality is therefore the main justification for the demand for a separate computation of cyclically adjusted budget balances by the European Central Bank.

Conclusions

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The Cyclical Adjustment of the Austrian Budget Balance by the European Central Bank – Summary

The Stability and Growth Pact connects the decentralised fiscal policy of individual countries of the euro zone with the fully centralised monetary policy conducted by the European Central Bank. The Pact prescribes a threshold for government net lending of 3 percent of GDP and puts a sanction on the violation of this value. Moreover, member countries have to submit Stability Programmes to the European Commission in order to provide a timely insight into their fiscal programme of the next few years.

The cyclically adjusted budget balance is a key indicator for the assessment of the fiscal policy stance and it will be used in the evaluation of submitted Stability Programmes. By establishing a unified method to compute the cyclically adjusted budget balance the European Central Bank will be able to integrate own forecasts of budgetary numbers with its forecast of the economic environment. Updates of the Stability Programme by national fiscal authorities can be quickly assessed. Furthermore, a refinement of the computation procedure allows a more accurate picture of the underlying budgetary position.

In the case of Austria the technical modifications in the computation of the cyclically adjusted balance for the general government result in a slightly larger cyclical component. Nevertheless, the deviation of the cyclically adjusted budget balance from estimates of other international organisations like the European Commission, the OECD, and the International Monetary Fund is small. The advantage of speedy integration of updated fiscal programmes into the estimate of the cyclically adjusted budget balance can be seen at the end of the sample in Figure 1. The most recent estimate from the OECD dates back to December 2000 and already shows the implication of a more restrictive budget programme over the years 2000 through 2002.