

THE FISCAL IMPACT OF UNEMPLOYMENT INSURANCE PROGRAMMES AS AUTOMATIC STABILISERS: THE SOUTH AFRICAN EXPERIENCE

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ABSTRACT

Theoretically, unemployment insurance (UI) contributions and benefits act in tandem to serve as counterbalances to the direction of the economy. Government transfers to households to cover costs related to unemployment are usually the principal source of automatic fluctuation in government expenditure. This article investigates the interaction between such transfers and economic performance with the South African economy as a case study. The main finding is that UI contributions destabilised economic activity most of the time, but that the stabilising effect resulting from UI benefits was sufficient to offset these destabilising effects so that the UI balance acted as an automatic fiscal stabiliser over the period 1970 to 2000. The article points out that although UI benefits demonstrate countercyclical properties, the same could not be said with confidence about other components of general government expenditure in South Africa. Furthermore, the stabilising effect of the South African Unemployment Insurance Fund can be expected to be relatively insignificant due to its small share in the total public finances. However, the possible psychological benefits of the UI system and the evidence provided in this paper emphasise the potential of the Unemployment Insurance Fund as an effective automatic fiscal stabiliser also in South Africa.

Key words: Fiscal policy, unemployment insurance, automatic stabilisers, output gap

JEL Code: C10, E32, E63, H55

* The views expressed in this paper are those of the authors and do not necessarily represent the viewpoint of any institution that they may be involved with. All errors or omissions are for the account of the authors.

Fiscal policy can play an important countercyclical role in a small open economy such as South Africa where external shocks may arise due to its vulnerability to global economic downturns. Fiscal policy can be used as a stabilising tool of economic activity either through the work of built-in automatic stabilisers, through discretionary tax; expenditure measures; or through both.

There are many practical economic and political difficulties encountered in discretionary fiscal stabilisation policy. The combined problems of time lags, crowding out effects, political constraints, irreversibility, inflexibility, practical problems in measuring and forecasting the state of the economy and determining how much fiscal stimulus is needed at any particular point in time, all present very serious challenges for discretionary fiscal policy to have the desired stabilisation effect. Against this background, most economists have become highly sceptical about the potential benefits of *fine tuning* the economy.

Automatic fiscal stabilisers get around these problems because economic conditions cause government expenditure and revenue to change without any deliberate government action ensuring that they can act in a much quicker and timelier fashion compared to the use of discretionary measures. Tax receipts and social transfers, for example, increase during recessions and show reversed movements during expansions. These changes in the budget balance induced by cyclical fluctuations in turn, have a stabilising influence on economic activity by automatically moving the budget balance toward a deficit during a recession and toward a surplus during an expansion.

Swanepoel and Schoeman (2002) investigated the relevance of tax revenue as an automatic fiscal stabiliser in South Africa. Their results show a small positive response of tax revenue to the output gap over the period 1970 to 2000. The authors argue that the role of automatic stabilisation was much smaller than that of discretionary fiscal policy and that there were deliberate attempts to smooth out automatic fluctuations during particular periods. However, the authors maintain that the potential of tax revenue as an automatic fiscal stabiliser in South Africa cannot be overlooked. The research results showed a high correlation between the output gap and cyclical tax revenue. From the study it is also clear that automatic stabilisers were active over the business cycle with cyclical changes in tax revenue becoming increasingly more evident towards the end of the sample period.

Unemployment Insurance (UI) programs attenuate the hardships of involuntary job losses while individuals are searching for alternative employment. However, UI programmes may also serve wider economic goals. While the UI programme can effectively limit the decline in consumption for those who become unemployed, it can also dampen the severity of a recession by sustaining consumption so that total spending during periods

of high unemployment does not decline as much as would otherwise be the case (Orszag 2001:9 and Dunson *et al* 1991:4). Theoretically, the UI system operates as an automatic fiscal stabiliser due to its effect on the consumption patterns of those who receive UI benefits and its effect on contributions to UI funds (Dunson *et al* 1991:12). These automatic effects in turn tend to reduce the severity of recessions, lower the level of unemployment, dampen the strength of expansions and thereby reduce the rate of inflation. Thus, the hypothesis tested is whether the South African Unemployment Insurance Fund, through its payroll taxes and benefits scheme, contributes towards stabilising the business cycle.

The next section documents the main theoretical aspects and international empirical evidence regarding the cyclical behaviour of government expenditure and Unemployment Insurance programmes. Section 3 takes a closer look at the South African business cycle, highlights the main fiscal policy objectives since the 1970s and draws some conclusions regarding consolidated general government expenditure in South Africa. This section also provides a background on the South African UIF and evaluates its size and importance in the finances of the consolidated general government. The significance of the South African UIF as an automatic fiscal stabiliser is analysed in Section 4 while Section 5 concludes.

THE CYCLICAL BEHAVIOUR OF GOVERNMENT EXPENDITURE

Unemployment insurance schemes as automatic stabilisers – a theoretical synopsis

Fluctuations in economic activity influence government revenue and expenditure automatically. During an economic upswing, tax bases grow and unemployment decreases while the opposite happens during recessions. As a result, tax revenue and unemployment-related social security expenditure fluctuate according to the business cycle and the budget balance responds automatically to the cyclical movements of the economy. Government transfers to households to cover costs related to unemployment are usually the principal source of automatic fluctuation in government expenditure. With the general level of government expenditure only marginally responsive to cyclical fluctuations in economic activity, the marginal sensitivity of government spending to GDP is usually significantly lower than that of budget revenue, where most of the revenue categories are sensitive to the cycle.

Two features of the unemployment insurance system qualify it as an automatic fiscal stabiliser. Firstly, when unemployment increases, total unemployment insurance payments increase. Secondly, contributors stop paying the unemployment insurance premiums when they are unemployed. Thus, in an economic downturn accompanied by fewer jobs, the total payroll tax in the form of unemployment insurance contributions, immediately

declines while at the same time increased payments in unemployment insurance benefits inject some purchasing power back into the economy through an automatic increase in government spending.

The size and volatility of the budget's cyclical component are determined by the size and volatility of cyclical fluctuations in output and by the sensitivity of government revenues and expenditures to the cycle. Auerbach and Feenberg (2000:19) maintain that the relationship between output fluctuations and changes in the level of unemployment benefits is complex, largely determined by the relationship between output and unemployment; the extent of unemployment covered by unemployment insurance; the rate at which benefits are required by those eligible; and the level to which that fraction of lost wages is replaced by unemployment insurance. Simulations by Dungan and Murphy (1995:32) show that the power of the unemployment insurance system as a stabiliser in the Canadian economy naturally varies over time with the size of the unemployment insurance system. The authors found that the unemployment insurance system has a greater stabilising effect in years with a higher level of unemployment and concomitantly higher levels of unemployment benefits paid.

The structure of government revenue and expenditure is crucial in determining the capacity of government to use the budget as an effective tool for macroeconomic policy. Structural reforms may alter the size and efficiency of automatic stabilisers over time. According to the European Commission (2001:53), a reduction in the duration of unemployment benefits may have several effects: on the one hand, they would make a dent in the current income of people with high consumption propensity; on the other hand, they might render employment supply more responsive to economic fluctuations, thereby limiting the rise in unemployment during economic downturns. Structural reforms may lead to lower fiscal stabilisation if they entail a reduction in progressivity of tax systems and less generous unemployment benefits. As different types of shocks to output have different effects on unemployment, transfers related to unemployment benefits will fluctuate in proportion to the impact on unemployment. Dungan and Murphy (1995:33) found that unemployment insurance rate increases undercut unemployment insurance's ability to stabilise the economy during downturns.

Unemployment tends to lag the business cycle, so that the fluctuations in output and benefits are usually not contemporaneous. In the case of the Canadian economy, Dungan and Murphy (1995:3) found that the dampening effect is relatively small in the first year and that it takes more than three years to have the maximum impact on income and employment. Employment and unemployment levels do not change immediately after a change in the level of economic activity. Therefore, unemployment insurance contributions and payments do not adjust without a lag following upon changes in the business cycle. Thus, the stabilisation properties of the unemployment insurance system are blunted somewhat in the shorter term. This lag undercuts the effectiveness of unemployment insurance as an automatic stabiliser in the event of output shocks. Moreover,

because of benefit rules regarding maximum weeks of coverage that can be relaxed by government during periods of elevated unemployment, not all the fluctuations in unemployment benefits can be regarded as automatic.

Chimerine *et al* (1999:12) maintain that the UI system provides a positive psychological and stabilising benefit to the macro-economy. This psychological impact is, however, not quantifiable, so that the overall stabilising impact of the UI system are underestimated. The UI safety net gives all stakeholders (potential recipients, employers, consumers, investors and policymakers) the confidence to maintain their consumption and investment patterns and as a result, relieves stress, mitigates against overcautiousness in spending and prevents large increases in the savings rate in periods of economic volatility. This is important in the case of an economic downturn where sustained confidence and expectations prevent the recession from feeding on itself.

Empirical evidence

Van den Noord (2000) maintains that the built-in elasticity of government expenditure in OECD countries (which reflects cyclical variations in unemployment-related expenditure only) is relatively minor given the small share of such spending to total spending. For most countries the author found elasticities in the 0 to -0,25 range. The European Commission (2001) also reports that automatic stabilisers in the European Union predominantly work on the revenue side as the revenue sensitivity to the output gap is more important than the expenditure sensitivity because most revenues fluctuate with growth while only unemployment expenditure, which forms only a small part of overall government expenditures, is assumed to respond to cyclical fluctuations.

Dungan and Murphy (1995) found that the UI program acted as a powerful and important automatic stabiliser in the Canadian economy in the 1981-1982 as well as the 1990-1991 recessions. It reduced the GDP loss by about 13 per cent in 1982, and by 14 per cent for 1983. Moreover, the losses in unemployment that were prevented by the UI program were of a similar magnitude. In contrast to the findings for the European Union and the OECD countries, virtually the entire stabilising effect of the UI system came from the benefit payments side. The results also showed that the stabilising effect of the UI system was larger compared to other fiscal stabilisers such as Canada's federal personal income tax system. Simulations also showed that Canada's UI system had a significantly larger stabilising effect than the UI system in the United States of America.

In the case of the US economy, simulations by Dunson *et al* (1991) show that in the 1980s, the unemployment insurance system was only two-thirds as effective in stabilising the economy after a monetary shock, than what it had been in the 1970s. The study found that the unemployment insurance system does act as an automatic stabiliser, although to quite a minor extent and that its importance has diminished over the years. Chimerine *et*

al (1999) provides further historical and analytical evidence that demonstrates that the UI system acted as an automatic fiscal stabiliser in the United States during the three recessionary periods (1973-1975, 1980-1982 and 1990-1991), with evidence of some weakening of effectiveness in the 1980s, but with a rebound of effectiveness in the 1990s.

The level of cyclicity of government expenditure varies across spending categories, countries and over time. Government expenditure in the G-7 countries appears to be broadly countercyclical, while government expenditure in developing countries is highly procyclical. Talvi and Vegh (2000) found in a sample of 56 countries (20 industrial and 36 developing countries) that the correlation between the cyclical components of government consumption and output in the G-7 countries is close to zero, while the correlation is positive in every single one of the 36 developing countries. The authors argue that procyclical fiscal policy arises as an optimal response to tax base volatility and political pressures for overspending. Using GMM estimation techniques for dynamic panel data models, Braun (2001) also found that government expenditure in a sample of 35 developing countries is particularly procyclical. The author maintains that 40 per cent of the difference between OECD countries and developing countries can be explained by the larger size of government in the former, and by the larger proportion of transfers in expenditure. Moreover, the author provides evidence that political competition among powerful groups has a stabilising effect in OECD countries and a destabilising effect in developing countries and that the debt crises of the early 1980s contributed significantly to procyclical fiscal policy in developing countries. According to Budnevich (2002), fiscal policy in Latin American countries has not played a substantial countercyclical role since, fiscal policy in times of recessions, is typically oriented towards maintaining financial solvency, while during booms expenditure tends to expand with the cycle.

FISCAL POLICY AND THE SOUTH AFRICAN BUSINESS CYCLE

The South African business cycle

The South African Reserve Bank publishes turning-point dates for the South African business cycle. According to the South African Reserve Bank's latest *Quarterly Bulletin*, 6 upswing and downswing phases occurred during the period 1970 to 2000. The course, strength and duration of the South African business cycle since 1970 are depicted in Figure 1, while Figure 2 portrays the business cycle against economic growth and the output gap.

The output gap was calculated as the percentage deviation of observed real GDP from trend real GDP. In a similar way, the strength and duration of the business cycle are illustrated by means of a trend line and deviations from trend expressed as a percentage. Trend output and the trend in the business cycle was estimated by a Hodrick-Prescott (HP) filter ($\lambda = 100$)¹. According to Cerra and Saxena (2000:4), trend output (y^*) derived using the HP filter is obtained by minimising a combination of the gap between

actual output (y) and trend output and the rate of change in trend output for the whole sample of observations (T):

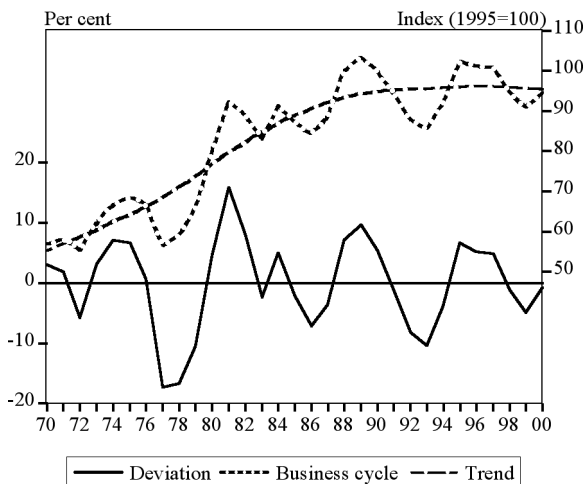
where the detrending parameter λ determines the degree of smoothness of the trend.

$$\text{Min} \sum_{t=0}^T (y_t - y_t^*)^2 + \lambda \sum_{t=2}^{T-1} [(y_{t+1}^* - y_t^*) - (y_t^* - y_{t-1}^*)]^2$$

Differences in both the duration and the upswing and downswing momentum of each cycle is evident from Figure 1, while Figure 2 illustrates similar trends for the business cycle, economic growth and the output gap.

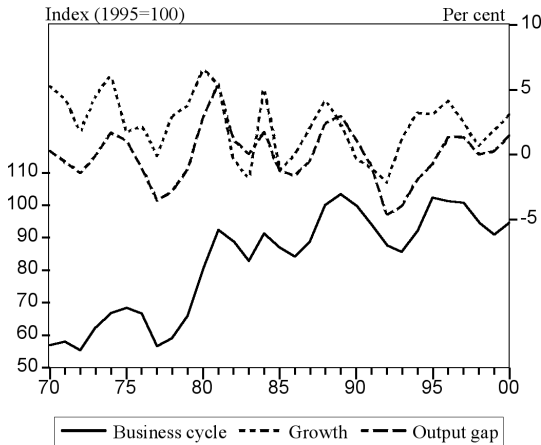
Figure 1 The South African business cycle

Source: South African Reserve Bank and own calculations



The output gap and economic growth reached their peaks of 5,5 per cent and 6,6 per cent in 1980 and 1981 respectively, a period that was marked by a surge in the gold price. The lowest values of -4,6 per cent and -2,1 per cent in the output gap and economic growth were reached in 1992, during one of the worst recessions since the Great Depression. The main macroeconomic events and developments that impacted on the South African business cycle are documented in Van der Walt and Pretorius (1995), Pretorius, Venter and Weideman (1999) and Venter and Pretorius (2001). These include, amongst others, structural economic reforms, the domestic political transition, weather conditions, international economic developments and labour market turmoil.

Figure 2 *The business cycle against economic growth and the output gap*



Source: South African Reserve Bank and own calculations

This section illustrates the course, strength and duration of the South African business cycle. The duration and momentum of upswing and downswing phases are evident from fluctuations in real GDP growth and deviations from trend as measured by the output gap. The volatility in economic activity and the fact that some changes in the business cycle resulted from exogenous factors and exceptional circumstances leave ample room for automatic fiscal stabilisers to smooth the cycle.

Fiscal policy objectives since the 1970s

Fiscal policy in South Africa during the 1970s and early 1980s centred around demand management, including frequent variations in the size of the national budget deficit in the interest of macroeconomic stability in the relationship among growth, inflation and the balance of payments. According to Heyns (1999:70), official stabilisation policy in South Africa during the 1970s was premised on the Keynesian requirement of flexibility and the assumption that government could and should influence the level of economic activity through short-term fiscal adjustments in spending and taxes. Heyns (1995:309) argues that since the 1980s, the focus of South African budgetary policy has increasingly shifted from the earlier Keynesian emphasis on short-term stabilisation to the longer-term implications of the budget. Swanepoel and Schoeman (2002) provide empirical evidence that supports the findings of Heyns, highlighting the prominent role of discretionary fiscal policy during particular periods of the sample period.

After several years of consolidation, bringing the national government budget deficit down to 2,0 per cent of GDP in the fiscal year 1999/2000, fiscal policy in South Africa is now decidedly growth-oriented. The 2001 Budget provided impetus towards a growth-oriented fiscal policy stance of improved spending, significant increases in infrastructure allocations and ongoing tax reform, within the sound framework of fiscal management established over the last five years (National Treasury, *Budget Review* 2001:1). The 2001 Budget had a renewed focus in public policy on microeconomic and structural reforms. The series of growth-oriented microeconomic reforms will complement and sharpen the broader structural changes that have taken place through the economy. The 2002 Budget reinforced the growth-orientated stance of the 2001 Budget (National Treasury, *Budget Review* 2002:1).

Discretionary fiscal policy, therefore, played an important role in South African fiscal policy over the period 1970 to 2000. No explicit role was defined for automatic fiscal stabilisers, no estimates were published and its impact on the budget and economy was not properly accounted for.

Size and composition of government expenditure in South Africa

Table 1 shows that more than half of total consolidated general government expenditure in South Africa is spent on goods and services. Over the sample period, an average of 12,0 per cent of total expenditure was spent on servicing state debt cost. Current expenditure (83,5 per cent of total expenditure on average) outweighs capital expenditure by far. Since the fiscal year 1996/97, there has been a continuous decline in general government expenditure as a ratio of gross domestic product. This ratio (which averaged 30,8 per cent over the sample period) declined from 34,0 per cent in fiscal 1996/97 to 31,5 per cent in fiscal 2000/01 after reaching a maximum value of 37,0 per cent in the fiscal year 1993/94.

Table 1 Consolidated general government expenditure in South Africa, fiscal 1972/73 to 2000/2001

Expenditure components as a ratio of GDP	Low	High	Average
Goods and services	13.3	20.7	17.7
Interest payments	1.8	6.0	3.8
Subsidies and other current transfers	2.7	6.5	4.4
Current	17.9	31.8	25.9
Current primary	16.0	26.9	22.1
Capital	2.9	8.0	4.9
Total	23.9	37.0	30.8
UI benefits	0.1	0.4	0.2
Social ^P security and welfare	1.8	4.8	2.7
Expenditure components as a ratio of total expenditure	Low	High	Average
Goods and services	51.4	63.1	57.4
Interest payments	7.2	18.1	12.0
Subsidies and other current transfers	11.2	16.6	14.1
Current	70.0	91.3	83.5
Current primary	62.8	76.0	71.5
Capital	8.7	30.0	16.5
UI benefits	0.3	1.2	0.7
Social security and welfare	5.9	11.1	8.0
Contributions of levels of government	Low	High	Average
National government	37.7	55.6	45.1
Extra-budgetary institutions	8.1	20.6	13.9
Social security funds	0.9	2.6	1.5
Provincial governments	21.4	40.4	27.4
Local authorities	9.7	20.6	13.8

Source: South African Reserve Bank and own calculations

National government expenditure averaged 45,1 per cent of total general government expenditure over the sample period. The role of the provincial governments, however, became increasingly more important since the fiscal year 1995/96. As a result, the average contribution of national government (provincial governments) for the last six years was 40,1 (38,7) per cent. The contributions of extra-budgetary institutions and municipalities are more or less of equal size.

As illustrated in Table 1, social security funds of which the UIF is the most important, only comprises a small portion of the income and expenditure flows of the consolidated general government. On average, UI benefits represent only 0,2 per cent of gross domestic product and 0,7 per cent of total consolidated general government expenditure. For the

last ten years, however, the average ratio of UI benefits to gross domestic product (total expenditure) was 0,4 (1,1) per cent. UI contributions as a ratio of gross domestic product (general government revenue) averaged 0,2 (0,8) per cent. The corresponding ratio for the last ten years were 0,3 (1,2) per cent. The relative smallness of social security funding is also illustrated by the functional classification of expenditure, where social security and welfare provision, on average, absorb only 8,0 per cent of consolidated general government expenditure³.

Table 2 A comparison of consolidated central government expenditure

Expenditure components as a ratio of GDP									
	South Africa			Chile			Indonesia		
	Low	High	Average	Low	High	Average	Low	High	Average
Goods and services	7.3	16.5	11.5	5.1	12.3	7.6	3.5	7.2	4.8
Interest payments	1.3	5.8	3.5	0.0	2.6	1.1	0.3	3.9	1.6
Subsidies and other current transfers	6.8	16.9	9.6	7.0	18.1	11.0	2.0	7.9	3.8
Current	16.3	30.6	24.6	15.0	28.0	19.8	8.0	15.4	10.2
Current primary	15.0	25.5	21.2	14.6	27.6	18.6	6.3	11.5	8.6
Capital	1.2	4.2	2.7	1.9	8.0	3.2	4.8	12.0	8.0
Social ⁴ security and welfare	0.6	1.2	1.0	3.5	12.6	7.6	0.0	1.1	0.2
Total	19.4	32.6	27.3	18.0	30.0	22.9	14.6	23.3	18.2

Table 2 compares the consolidated central government expenditure of South Africa with six other developing countries. South Africa's expenditure on goods and services and total current expenditure are much higher than the average for the six other selected developing countries, while South Africa's capital expenditure is much lower. The most striking difference between South Africa and the six other developing countries is the fact that social security and welfare provision in the other developing countries by far exceed that in South Africa. The average share of unemployment related expenditure in total current primary expenditure in South Africa is 1,0 per cent, which is significantly below the average of 6,5 per cent for OECD countries as estimated by Van den Noord (2000:25).

The South African Unemployment Insurance Fund

The South African UIF was established in terms of section 6 of the *Unemployment Insurance Act, 1996* (Act 30 of 1966). The operational policy of the Fund is determined mainly by the Director-General of Labour and the Unemployment Insurance Commissioner, in consultation with the Unemployment Insurance Board. The vision of the South African UIF is to contribute to the alleviation of poverty by providing effective short-term unemployment insurance to all workers who qualify for it and assisting them in their re-employment. The UIF endeavours to establish effective measures to insure contributors against loss of income resulting from unemployment, illness, pregnancy or the adoption of children, and to provide for lump-sum payment to the dependants of deceased contributors.

India			Romania			Mexico			Mauritius		
Low	High	Average	Low	High	Average	Low	High	Average	Low	High	Average
3.3	4.8	3.9	4.8	15.4	10.2	3.5	7.0	5.0	9.4	12.1	11.2
1.0	4.8	2.9	8.4	24.9	14.9	0.8	18.6	4.8	2.7	6.4	4.6
3.6	7.4	6.2	4.9	10.6	7.6	2.2	11.4	4.9	3.4	9.0	6.9
8.1	15.6	13.0	15.9	36.5	26.3	7.6	24.8	14.7	14.6	26.6	21.3
7.1	11.9	10.1	15.3	36.3	25.1	6.8	12.2	9.9	12.8	23.0	18.1
1.3	2.4	1.7	2.8	17.9	9.1	1.6	4.9	3.0	2.6	6.8	4.3
-	-	-	4.9	10.6	7.6	2.0	3.6	2.9	2.7	7.9	4.6
9.5	17.4	14.7	27.3	53.4	38.2	10.7	30.5	17.6	18.1	31.7	25.6

Source: IMF, GFS CD-ROM (November 2002) and WEO Database (September 2002); and own calculations

The new *Unemployment Insurance Contributions Act, 2002* (Act 4 of 2002) and *Unemployment Insurance Act, 2001* (Act 63 of 2001) came into effect on 1 April 2002. The new legislation provides for enhanced benefits to beneficiaries and improved contribution collection with the objective to optimise the efficiency of the Fund. The new Act is expected to eradicate some of the systemic problems that caused the Fund to experience financial difficulties in the past. The new Act has created a larger pool of contributors (has widened the contributor base) from which the UIF is able to provide significantly improved benefits for all its beneficiaries.

Economic stabilisation is not an explicit objective of the South African UIF. However, as has already been pointed out, international evidence shows that unemployment insurance benefits usually serve as the principal source of automatic stabilisation through its impact on public expenditure (OECD 1993:38 and European Commission 2001:159).

EMPIRICAL INVESTIGATION INTO THE CYCLICAL BEHAVIOUR OF THE SOUTH AFRICAN UNEMPLOYMENT INSURANCE FUND

Following the methodology of Dungan and Murphy (1995), aggregate data on the South African UI system was firstly used to determine its effectiveness to act as an automatic fiscal stabiliser. By using UI-account data, Dungan and Murphy (1995:7) examined the role of UI benefits in determining Canadians' personal income given the level of UI premiums collected in order to determine whether these trends helped to offset recessionary and inflationary trends.

According to Dungan and Murphy (1995:7), one would expect UI benefits to constitute

a greater proportion of total personal income during downturns in the economy if the UI system is working effectively as a stabiliser and that this proportion would decline as the economy improves. Conversely, the ratio of UI premiums collected, as a ratio of GDP, is expected to fall in downturns and to increase as the economy improves.

Figure 3 shows how well the ratio of UI benefits to household disposable income in South Africa responded to changes in the economy. In 1980, when the highest economic growth rate was recorded, UI benefits represented 0,2 per cent of household disposable income. By 1992, this ratio increased to 0,7 per cent when the lowest economic growth rate was recorded. Over the sample period, the average ratio of UI benefits to disposable income was 0,4 per cent. The countercyclical cushioning impact of UI benefits in South Africa is also illustrated in Figure 4, which portrays UI benefits as a ratio of total general government expenditure against the coincident business cycle indicator.

Figure 3 Unemployment insurance benefits as a ratio of household disposable income against economic growth

Source: Department of Labour and South African Reserve Bank

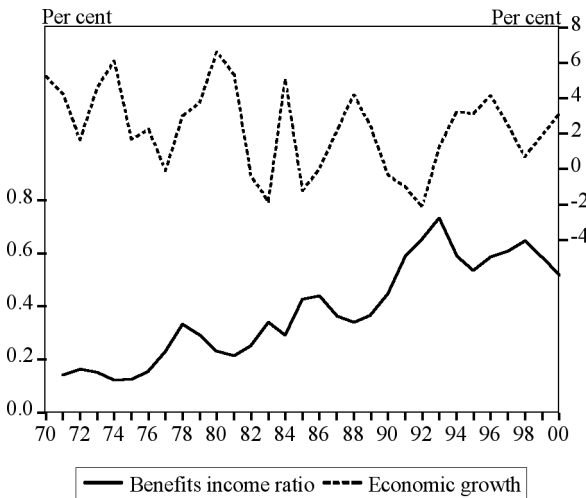
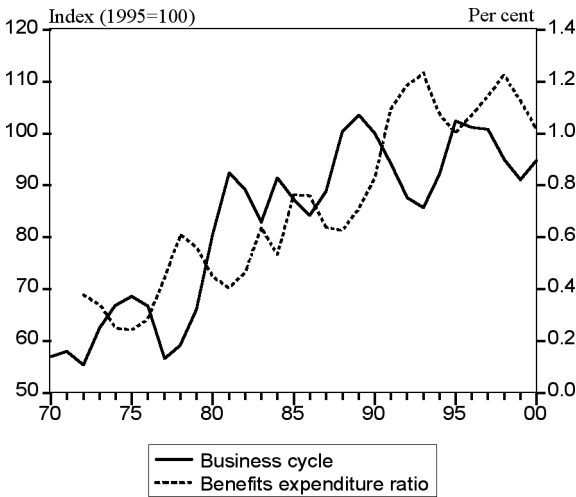


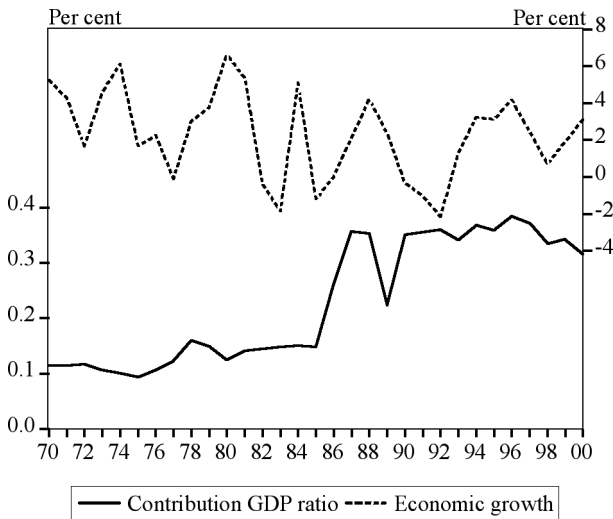
Figure 4 Unemployment insurance benefits as a ratio of total expenditure against the business cycle



Source: Department of Labour and South African Reserve Bank

Figure 5 indicates that the ratio of UI contributions to GDP did not respond as well to changes in the economy as in the case of UI benefits. With an economic growth rate of 6,6 per cent in 1980, the ratio of UI contributions to GDP was 0,1 per cent. While the ratio was suppose to be lower in 1992, when the lowest economic growth rate of -2,1 per cent was recorded, the ratio in fact increased to 0,4 per cent. The weak automatic stabilising response of UI contributions is also highlighted by Figure 6, which shows UI contributions as a ratio of total revenue against the business cycle. UI contributions only dampened fluctuations in the level of economic activity for about a third of the time period used in the analysis.

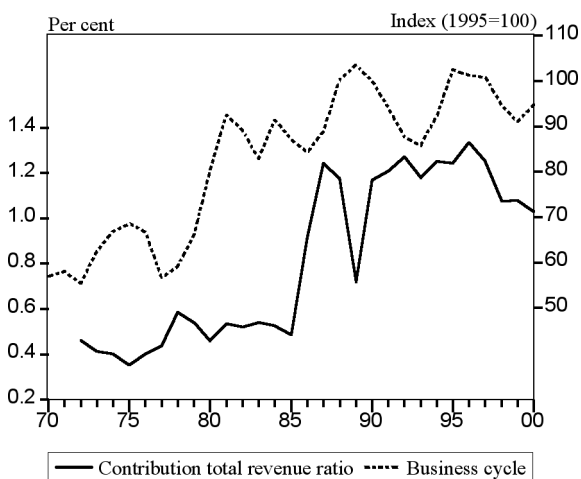
Figure 5 Unemployment insurance contributions as a ratio of GDP against economic growth



Source: Department of Labour and South African Reserve Bank

An alternative measure of the UIF's response to the direction of the economy is illustrated in Table 3, which shows UI benefit payments, UI contributions, UI balances and the various peaks and troughs of the business cycle for the period 1970 to 2000. During the height of an expansion (peak) UI benefit payments should be less than the benefits paid in the related trough year that follows the peak year, in order for it to exhibit the countercyclical responses that characterise an automatic stabiliser. UI contributions should be higher in peak years than in the related trough years. In total, the corresponding UI deficit should be larger during the trough year or the year immediately following the trough.

Figure 6 Unemployment insurance contributions as a ratio of total revenue against the business cycle



Source: Department of Labour and South African Reserve Bank

Table 3 Unemployment insurance and business cycle peaks and troughs

Year	Peak/Trough	UI Benefits		UI Contributions		UI Balance	
		Nominal	Constant	Nominal	Constant	Nominal	Constant
1971	Peak	14.0	241.0	16.2	278.6	2.2	37.7
1972	Trough	18.0	295.7	18.6	305.4	0.6	9.7
1975	Peak	21.1	248.1	25.7	302.9	4.7	54.8
1977	Trough	50.7	483.2	41.9	399.0	-8.8	-84.1
1981	Peak	88.2	513.0	102.7	596.9	14.4	83.8
1983	Trough	188.4	848.5	140.2	631.7	-48.1	-216.8
1984	Peak	196.0	790.2	166.8	672.7	-29.1	-117.5
1986	Trough	386.5	1143.4	392.2	1160.3	5.7	16.9
1989	Peak	563.0	1097.4	562.2	1095.9	-0.7	-1.4
1993	Trough	2021.3	2392.0	1454.4	1721.2	-566.8	-670.8
1997	Peak	2670.5	2288.4	2538.7	2175.4	-131.8	-113.0
1999	Trough	2984.8	2273.3	2722.6	2073.6	-262.2	-199.7

Source: Department of Labour and South African Reserve Bank

From Table 3 it is clear that UI benefits were almost always higher in the trough years that followed the related peak years. With the exception of the peak of June 1984, and the

following trough of March 1986, the UI balance was also always lower in the trough years that followed the related peak years. Thus, based upon the timing of the UI balance, it can be regarded as an automatic fiscal stabiliser. Figure 7 highlights the cyclical movements demonstrated by the real⁵ UI balance and real UI benefits.

Figure 7 Real unemployment insurance benefits, real unemployment insurance balance and the business cycle

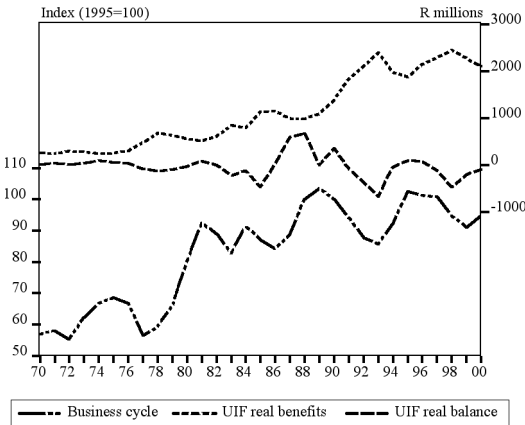
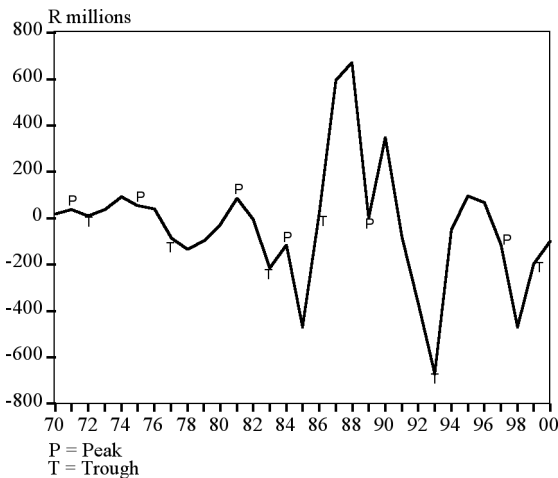


Figure 8 Real unemployment insurance balance and business cycle peaks and troughs



However, it is clear from Table 3 that UI contributions limit the effectiveness of the UI system as an automatic fiscal stabiliser. In total, the average benefits (in constant 1995 prices) during trough years, amounted to R376,4 million more than in peak years, which was sufficient to offset the R194,8 million destabilising effect originating from UI contributions. Thus on average, the UI deficit in trough years exceeded the deficit in peak years by R181,6 million. This is illustrated in Figure 8, which shows that (with the exception of the peak of 1984 and the trough of 1986) the UI balance has always been lower in trough years than in peak years. The largest difference in the UI balance (in constant 1995 prices) between subsequent peak and trough years (R669,4 million) was recorded between the peak of 1989 and the trough of 1993. This comes as no surprise as the largest negative economic growth rate and output gap was recorded in the early 1990s, during one of the worst recessions since the Great Depression.

Table 4 Correlation coefficients and elasticities of expenditure components

Correlation coefficient between the cyclical components of government expenditure and output⁶		
	Nominal	Real
UI benefits	-0.15	-0.73
Total expenditure	0.35	-0.16
Current expenditure	0.43	-0.07
Current primary expenditure	0.36	-0.10
Elasticity of expenditure components with respect to output growth		
	Nominal	Real
UI benefits	-1.21	-5.00**
Total expenditure	0.77**	0.43
Current expenditure	0.18	0.26
Current primary expenditure	0.38	0.42

Although unemployment insurance benefits and the unemployment insurance balance convey stabilising properties, the same cannot be said with confidence about other components of general government expenditure. Table 4 shows correlation coefficients between the cyclical components of output and government expenditure. In nominal terms, only unemployment insurance benefit payments show countercyclical characteristics. All real expenditure components are countercyclical as measured by the correlation coefficients, with the coefficient of unemployment benefits much stronger compared to the other components of expenditure. The elasticity of nominal (real) unemployment insurance benefits with respect to output growth is -1,21 (-5,0) per cent, indicating that a 1 per cent decrease in nominal (real) output growth leads to a 1,21 (5,0) per cent increase in nominal (real) unemployment insurance benefits. The rest of the expenditure components act in a procyclical manner.

Table 5 A comparison of correlation coefficients and elasticities

Correlation coefficient between the cyclical components of government expenditure and output			
	Total expenditure	Current expenditure	Current primary expenditure
South Africa	0.43	0.60	0.54
Chile	0.56	0.45	0.45
Indonesia	0.92	0.87	0.79
India	0.76	0.64	0.66
Romania	1.0	1.0	1.0
Mexico	0.94	0.93	0.92
Mauritius	0.72	0.69	0.73
Elasticity of expenditure components with respect to output growth⁷			
	Total expenditure	Current expenditure	Current primary expenditure
South Africa	0.68*	0.62*	0.69*
Chile	1.06**	1.09**	1.06**
Indonesia	1.21**	0.89**	0.92**
India	0.08	-0.03	-0.07
Romania	0.97**	0.93**	0.89**
Mexico	1.0**	1.0**	0.74**
Mauritius	0.86**	-0.18	0.95**

Table 5 shows correlation coefficients between the cyclical components of nominal GDP and nominal central government expenditure for seven developing countries as well as elasticities of their expenditure components with respect to output growth. It is clear from Table 5 that the same conclusion of procyclicality of government expenditure can be made with respect to the six other selected developing countries (Chile, Indonesia, India, Romania, Mexico and Mauritius) as was found in the case of South Africa. This finding is consistent with the findings of Talvi and Vegh (2000) and Braun (2001).

The largest value of UI benefits and the UI balance might serve as a rough measure of the programme's importance. The UI benefits and the UI balance as a ratio of GDP (in constant terms) reached maximum values of only 0,46 and -0,13 respectively in the trough of 1993. A further exercise showed, for example, that an output elasticity of unemployment related expenditure of -10 per cent is needed to generate an output elasticity of current primary expenditure of -0,1 per cent which result in a maximum automatic fiscal stabilising effect of only 0,09 per cent of potential output⁸. Thus, although the UIF operates as an automatic fiscal stabiliser, its impact is insignificant due to its small share in the total public finances.

CONCLUSION

The primary role of the South African UIF is to provide a social safety net for the unemployed. However, this article explained how the UI system's contributions and benefits act in tandem to serve as counterbalances to the direction of the economy. The main aim of this paper was therefore to investigate whether the South African UI system responds to economic downturns and economic recoveries in ways that would stabilise the economy.

The article documented the main theoretical considerations and international empirical evidence regarding the cyclical behaviour of government expenditure and the Unemployment Insurance programme. International empirical evidence shows that the built-in elasticity of government expenditure (as reflected by cyclical variations in unemployment-related expenditure) is usually relatively small, given the small share of such spending to total spending. Thus, automatic fiscal stabilisers predominantly work on the revenue side of the budget where most revenues fluctuate with the business cycle. Government expenditure in the G-7 countries appears to be broadly countercyclical, while government expenditure in developing countries tends to be highly procyclical.

Six upswing and downswing phases occurred in the South African business cycle during the period 1970 to 2000. Differences were noticeable in both the duration of the upswing and downswing phases of each cycle. The volatility in economic activity and the various exceptional circumstances and exogenous factors that impacted on the South African economy, highlighted the need for effective automatic fiscal stabilisers in South Africa. However, an analysis of fiscal policy in this country shows little evidence of an explicit role defined for automatic fiscal stabilisers. To date no estimates have been published regarding its impact on the budget and the economy at large.

Absolute measures derived from analysing only the characteristics of the UI system over time showed that the UI system, through its benefit payments to the unemployed, acted in a countercyclical manner to moderate economic recessions and temper expansions. UI contributions, however, demonstrated a weak automatic stabilising response to the direction of the economy. In fact, UI contributions destabilised economic activity most of the time. Nevertheless, the net stabilising effect of UI benefits was sufficient to offset the destabilising effects of UI contributions so that the UI balance acted as an automatic fiscal stabiliser over the period 1970 to 2000.

Although unemployment insurance benefits and the unemployment insurance balance display stabilising properties, the same cannot be said with confidence about other components of general government expenditure. Correlation coefficients show that only unemployment insurance benefits show countercyclical characteristics in nominal terms. In real terms, all the selected expenditure components are countercyclical, but the coef-

ficient of unemployment insurance benefits are much stronger compared to other categories of expenditure.

A comparison of South Africa's consolidated central government expenditure with six other developing countries show that social security and welfare provision is much more important in the other developing countries than in South Africa. Moreover, the average share of unemployment related expenditure to total current primary expenditure in South Africa is 1,0 per cent, which is significantly below the average of 6,5 per cent found in studies for OECD countries. A comparison of correlation coefficients between the cyclical components of nominal GDP and nominal central government expenditure as well as elasticities of the expenditure components with respect to output growth for South Africa and six other selected developing countries, points to the procyclicality of government expenditure in developing countries. Some international studies explain how procyclical fiscal policies in developing countries resulted from tax base volatility and the interaction of political factors, combined with limited creditworthiness caused by the debt crises of the early 1980s.

The possible psychological benefit of the UI system and the evidence provided in this article emphasise the potential of the UI system as an automatic fiscal stabiliser in South Africa. South African policy makers must ensure that they design structural public finance reforms, which pursue economic efficiency and at the same time do not hamper the working of automatic stabilisers. Unemployment benefits should be designed in such a way to provide the beneficiary with partial and transitional wage replacement and at the same time to avoid creating disincentives either to work or to employment creation.

NOTES

- 1 This article does not attempt to evaluate the strengths and weaknesses of different techniques to calculate potential output or to compare results for different sets of potential output and output gap estimates. In order to overcome the drawback of the poor reliability of the end of sample estimates associated with the HP filter, the GDP series was extended by forecasts based on GDP growth assumptions taken from the National Treasury's *Budget Review 2002*.
- 2 Refers to the functional classification of consolidated general government expenditure.
- 3 According to Katz (1994:130), social grants account for about a fifth of the reported disposable incomes of the poorest 40 per cent of South African households. The largest and most important item in this category is the old age pension payable, based on means test, to women and men who have reached the ages of 60 and 65 respectively.
- 4 Refers to the functional classification of government expenditure.
- 5 Variables were converted into constant prices using the consumer price index.
- 6 Estimates are based on Hodrick-Prescott filtered data.
- 7 OLS estimation of $d(\log(\text{EXP}_{it})) = \alpha_i + \beta_{\text{EXP}_i} * d(\log(Y_{it})) + \varepsilon_{it}$ with AR(1) correction. ** (*) denote significance at the 1 (5) per cent levels respectively.

- 8 The output elasticity of current primary expenditure was defined as the output elasticity of unemployment related expenditure times the share of unemployment related expenditure in total current primary expenditure.

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