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March 2000

Online at <https://mpra.ub.uni-muenchen.de/33208/>

MPRA Paper No. 33208, posted 07 Sep 2011 12:26 UTC

THE PRIVATE AND PUBLIC SAVING GAPS IN MALTA AND THEIR IMPACT ON THE CURRENT ACCOUNT

by Aaron George Grech¹

Abstract

Any difference that arises between the level of domestic saving and investment is reflected in the nation's current account position. Both domestic saving and investment can be sub-divided into private and public sector components, and gaps between these two variables can be easily computed. This paper analyses the relationship between the private and public saving gaps in Malta during the 1970-1997 period and then proceeds to discern their respective impact on the current account position. In particular, it finds that the deterioration in the current account in the 1990's was the result of higher government net borrowing, and that there was no statistically significant relationship between the private and public saving gap during the period. Given that in the coming decades economic restructuring and the ageing of the population will probably lead to higher investment and a drop in saving, the article concludes that public finances must be strengthened significantly if a further deterioration in the country's external imbalance is to be prevented.

Introduction

The current account of the balance of payments is 'both a broad reflection of the stance of macroeconomic policies and a source of information about the behaviour of economic agents' (Knight & Scacciavillani, 1998). In particular, the current account reflects the investment and saving patterns of the different sectors of the economy, including the fiscal policy adopted by the government. In turn, investment and saving decisions reflect an economy's output and consumption performance over time.

In an open economy the levels of domestic saving and investment during any period may not be, and usually are not, equal to each other. Any difference arising between these two variables is reflected in the current account of the balance of payments². Hence a country can invest more than it saves by increasing its external borrowing and/

or depleting its foreign assets. Investment can also be higher than saving if the nation is receiving private or official capital transfers from abroad. Nonetheless, in order for the country to avoid debt accumulation, the current account position must be sustainable. A consistent large negative saving gap³ would thus necessitate a re-adjustment of economic policies, including changes in the exchange rate.

The cause of a saving gap also has important implications. If the cause of a negative saving gap is a decline in saving, the country would be incurring a current account deficit in order to finance more consumption. Such a situation of credit-financed consumption cannot be sustained indefinitely. The country will eventually have to make a consumption sacrifice far greater than the original additional consumption undertaken, as foreign lenders

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² This macroeconomic identity is portrayed in Table 21 of the National Accounts of Malta as:
 $\text{Saving} + \text{Depreciation} - (\text{Current Account} - \text{International Transfers}) = \text{Gross Fixed Capital Formation} + \text{Change in Inventory Levels}$

³ Throughout this article, a positive 'saving gap' is defined as saving being higher than investment, whereas a negative gap indicates that saving is lower than investment.

will demand a higher return on their saving. A current account deficit can be self-propagating, as foreign borrowing would increase investment income outflows. On the other hand, if a negative saving gap is incurred as a consequence of higher investment, the concurrent external deficit will be more sustainable because foreign borrowing would be generating an increase in productive capacity. However, a large and widening current account deficit may, irrespective of its origins, lead investors to lose confidence in a country and to redirect their funds elsewhere.

Private and Public Saving Gaps

Another interesting aspect of this debate is the division of total saving⁴ and investment between the public and the private sectors. This article follows the definitions of the private and public saving gaps as outlined in Malta's National Accounts (i.e. those found in Table 18 of the National Accounts: 'Capital Account of the Private Sector', and Table 20: 'Capital Account of the Government Sector')⁵. In Table 18, private gross investment⁶ is shown to be financed out of net saving originating from households and corporations, capital transfers from abroad to the private sector, and capital transfers given to the private sector by government. On the other hand, government's capital expenditure is financed out of its saving⁷, taxes imposed on capital and official foreign grants. In this exercise, the state's transfers to the private sector are treated as government dissaving rather than public investment⁸.

Thus:

$$PS = NPS + PD + PFT + GT - TC \quad [1]$$

where *PS* is total private gross saving, *NPS* is net saving by private and corporate sector, *PD* is the provision for depreciation on private sector capital formation, *PFT* are capital transfers from abroad received by the private sector, *GT* are capital transfers from government⁹, and *TC* are taxes on capital.

Furthermore,

$$GS = NGS + TC + OFT + GD - GT \quad [2]$$

where *GS* is total government gross saving, *NGS* is net saving by the state, *OFT* are official transfers from abroad, and *GD* is the provision for depreciation with respect to public sector capital.

On the other hand,

$$PI = PFC + PIC \quad [3]$$

$$GI = GFC + GIC \quad [4]$$

where *PI* and *GI* denote total private and public investment respectively, *PFC* and *GFC* stand for the gross capital formation of the private sector and government (including state enterprises) respectively, while *PIC* and *GIC* are the inventory changes attributable to private and public capital formation.

The saving gap can thus be broken down into a

⁴ Throughout this article 'total saving' denotes that part of the gross national disposable income (GNDY) which is not consumed. The GNDY is the sum of the gross domestic product, net investment income from abroad and net current unrequited transfers.

⁵ In these tables the saving gaps are denoted as 'net lending'.

⁶ Private gross investment includes depreciation attributable to private capital.

⁷ Government saving is defined as the surplus of government revenue over recurrent expenditure.

⁸ The government deficit reported in the National Accounts is not the same one reported in the annual budget speech, in that the latter is based on a cash methodology which records payments and receipts when they are made or received by government ministries. The National Accounts on the other hand record receipts and expenditures when they are invoiced.

⁹ Mainly subventions to the Malta Drydocks, tour operators, and small and medium enterprises.

private sector gap (*PSG*) and a public sector gap (*GSG*). Hence the National Accounts identity can be re-defined as:

$$PSG = PS - PI \quad [5]$$

$$GSG = GS - GI \quad [6]$$

$$CA = PSG + GSG \quad [7]$$

where *CA* is the Current Account Balance.

This re-definition shows that the current account may be influenced by both the government's fiscal policy and by the saving and investment decisions of the private sector. The private saving gap has two channels of influence on the current account. First, a lower amount of saving, i.e. an increase in consumption, is likely to lead to higher imports of consumer goods. Second, a higher level of private investment usually implies an increase in imports of capital goods. The same can be said with respect to the public saving gap. A decline in the state's primary fiscal balance may be caused either by higher spending or by lower taxes. Government spending can affect the current account either through higher imports by the state itself, or, if it is due to higher wages paid to state employees or higher transfer payments, through an increase in imports by the recipients of these outlays. Similarly, lower taxes increase disposable income and therefore lead to higher imports, especially in view of the Maltese economy's high marginal propensity to import¹⁰. It should be noted that public investment also contains a significant import content.

The private and the public sector saving gaps may also be inter-linked. There are, in fact, three economic theories that indicate that the saving and investment decisions of the private and the

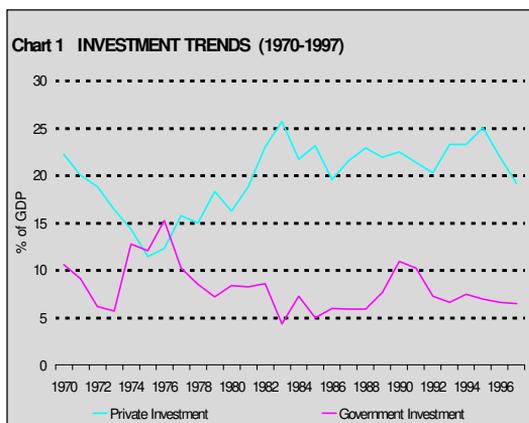
public sector are interdependent. First, according to the Ricardian equivalence hypothesis developed by Barro, if the public does not perceive government bonds as net wealth, then whenever there is an increase in the fiscal deficit, households increase their saving in the anticipation of a future rise in taxes¹¹. The crowding-out hypothesis also implies a negative relation between the private saving gap and the public saving gap, in that a fiscal deficit, especially when the economy is operating at or over full capacity, brings about a fall in private investment and a rise in private saving. In the standard theory, this reaction is brought about by the rise in the interest rate induced by the issuing of new government stock. An inverse relation between the private and public saving gaps would also arise if the fiscal authorities were consciously to use budgetary operations to sterilise any change in the private saving gap in order to prevent capital inflows or outflows. If this were the case, then, if ever a disequilibrium were to arise between private saving and private investment, government would intervene to fill the gap in order to prevent capital inflows or external borrowing.

Saving and Investment in the Maltese Public and Private sectors

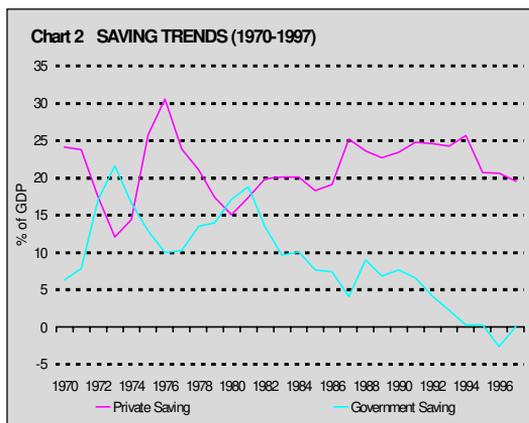
As can be seen in Chart 1, during the 1970-1997 period both public and private investment clearly exhibited cyclical behaviour. Due to the small size of Malta's economy, large one-off investments, such as the purchase of aircraft by the national airline, increase the randomness of investment figures. Underlying investment is also affected by the cyclical nature of the construction industry and by the investment decisions made by the foreign parent companies of local manufacturing firms. Private investment as a percentage of GDP

¹⁰ This would be even more the case if the lower tax revenue were to result from a cut in indirect taxes on imports, as was the case when VAT was introduced in 1995.

¹¹ If there is Ricardian-equivalence type behaviour, a rise in private investment has a larger effect on the current account than an equivalent increase in the fiscal deficit (Masson & Knight, 1986). This occurs because part of the effect of the larger fiscal deficit is offset by higher private saving. No such reaction occurs when private investment rises.



was nearly always higher than public investment throughout these years, with the largest difference occurring in the early 1980's. In fact, during most of the 1980's public investment was quite low. This contrasted with the mid 1970's when public investment overtook that undertaken by the private sector (reaching 15.2% of GDP in 1976) as a result of increased construction expenditure by the state. During the late 1980's and the 1990's, public investment increased once again, as government embarked on a number of major infrastructural projects. However, public investment never returned, in relative terms, to its



1970's level. On the other hand, private investment during the 1980's and the 1990's was always higher than in the 1970's, although in the last two years of the period under review there were considerable falls in its level, reflecting lower investment in machinery.

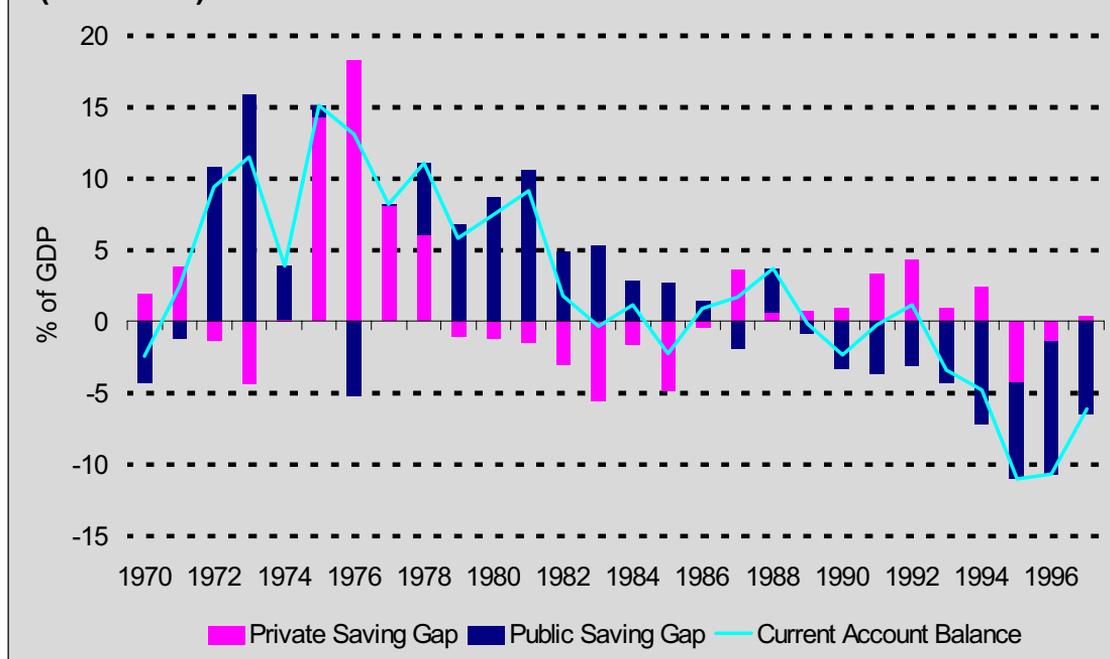
As with investment, there were wide fluctuations in the levels of both public and private saving during the period surveyed¹². Between the 1970's and the early 1980's, government saving was quite high, mainly as a result of large official grants from abroad. In fact, during most of these years, the Maltese government was receiving a considerable annual rent payment for the use of the military base from the British government. These rent payments stopped in 1979, but were replaced in the 1980's by official grants from Italy and other countries. Thus, in 1980 and 1981 the public sector saved more than the private sector. This trend was subsequently reversed, and in recent years the public sector has been dissaving. On its part, private saving also exhibited a downward trend in the late 1990's. Whereas personal income growth slowed in nominal terms, from 9.1% in 1994 to just 5.2% in 1997, and taxes on income in the same period rose from 14.1% to 15.4% of total personal income, growth in consumption expenditure only slowed down in 1997.

Chart 3 shows how the private and public saving gaps developed over time. As can be seen in the Chart, the sum of these two gaps is equal to the current account position, which was in surplus between 1971 and 1982. In the first half of 1970's, this occurred in spite of government primary deficits and high levels of private investment. These were mostly financed out of capital transfers from abroad, which were quite high in those years, amounting to just over 17% of GDP in 1973¹³. The current account surpluses

¹² Interestingly though, the non-consumed fraction of GDP was rather more stable than 'total saving' as defined in this article. This reflects the extremely random nature of net investment income and net current transfers from abroad during the period.

¹³ By 1997 these official transfers had fallen to 1.6% of GDP.

Chart 3: DECOMPOSITION OF CURRENT ACCOUNT POSITION (1970-1997)



recorded between 1975 and 1978 were the result of large positive private saving gaps, which in turn reflected a hike in household saving. Household disposable income, in fact, grew by 50.9% during these years, due to a substantial rise in wages and in social security benefits. Corporate saving also expanded considerably, from Lm6.8 million in 1974 to Lm19.5 million in 1978, as a result of higher profits. Thereafter, between 1978 and 1982, the cause of the current account surplus was the considerable positive public saving gap which developed due to an improvement in government's primary fiscal balance and the decrease in public capital expenditure.

To counter the effects of the repeated revaluations of the Maltese lira during this period, government enforced strict quantitative controls on imports. Moreover, since government also

wanted to maintain low interest rates and, at the same time, prevent capital flight, severe restrictions on capital flows were introduced. Hence Malta 'became an unusual case of fiscal conservatism coexisting with financial repression and rigid controls on capital movement and trade' (Findlay & Wellisz, 1993). While import controls constrained the level of consumption, capital controls prevented Maltese saving from being invested abroad. In this way, the current account surpluses recorded during these years did not result in the Maltese private sector increasing its holdings of foreign assets, but rather boosted the level of the official reserves¹⁴.

Between 1983 and 1992, the current account position alternated between slight deficits and small surpluses. However, if one were to exclude

¹⁴ In fact, the external reserves held by the Central Bank of Malta rose from Lm74.4 million in 1971 to Lm456.8 million in 1982.

capital transfers from abroad¹⁵, the current account would have been persistently in deficit after 1981. It appears that the main cause of this deficit was the steadily deteriorating public saving gap, which fell from 10.5% of GDP in 1981 to -9.3% of GDP in 1996. By contrast, the private saving gap appears to have narrowed during this period, rising from -5.6% of GDP in 1983 to 0.4% of GDP in 1997. The largest current account deficit was recorded in 1995, and amounted to 11% of GDP. This was the consequence of a sharp widening of the private saving gap in that year, due to an extraordinary drop in the private saving ratio that was accompanied by a large increase in private investment. Another large deficit, equivalent to 10.7% of GDP, was recorded in 1996 and reflected the large increase in the fiscal deficit registered in that year.

At first glance, this empirical evidence seems to invalidate the hypothesis that the private and public saving gaps are inversely related in Malta, as indicated in the three theories outlined previously. The validity of the Ricardian equivalence hypothesis is questioned in view of

the widespread tax evasion and a common perception that government can run deficits for a long time. In fact, during recent years when the fiscal deficit grew at an unprecedented pace, the level of household saving has actually fallen. The relevance of the crowding-out hypothesis also appears to be limited since interest rates in Malta were fixed for most of the period under review. Furthermore a substantial part of the investment carried out in Malta was made by foreign firms, and thus was not financed from domestic sources. Finally, since there were stringent controls on capital flows during most of the period, government had no reason to sterilise private saving gaps. A more thorough empirical analysis of these issues follows.

The Public Saving Gap as the Main Cause of the Maltese Current Account Position

The current account has been defined as the sum of the public and private saving gaps. Thus, if the current account position is stable over time, movements in these two components must be cancelling out (Centeno, 1995). For example, when there is a continued rise in the public saving gap, the private gap must fall by the same magnitude over time if the current account position is not to deviate from its long-term position. This long-term position should either be a sufficiently low average deficit or a surplus if the country is not to accumulate ever-increasing external debt, a situation that would in the end lead it to either continuously devalue its currency or default on its external obligations.

However, econometric tests (shown in Table 1) indicate that Malta's external accounts did not exhibit stationary behaviour between 1970 and 1997. This implies that the current account as a percentage of GDP was not stable over the period. In fact, the Dickey-Fuller test showed that this variable was trend stationary throughout these years. That is, it fluctuated around a negatively

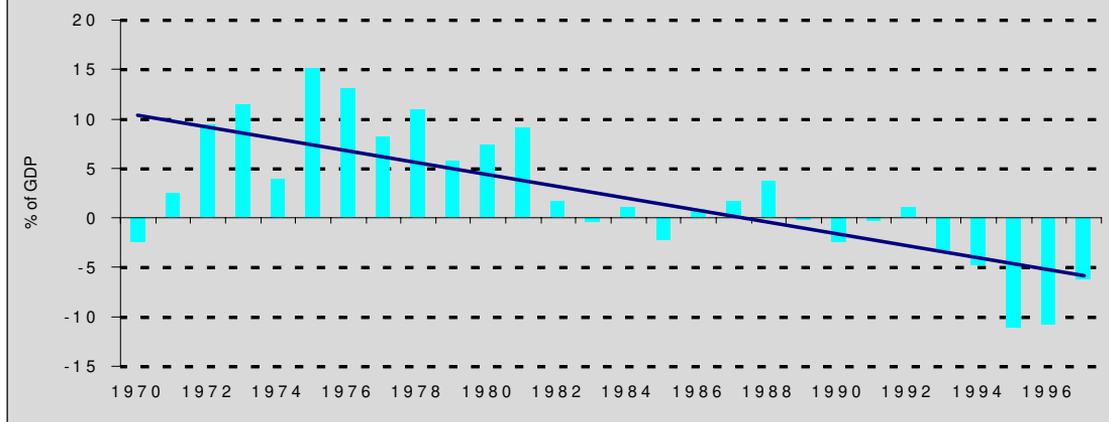
Table 1
TESTS FOR STATIONARITY

Variables (as % of GDP)	Integration Order
<i>PSG</i>	Stationary (-3.06)
<i>GSG</i>	Non-Stationary (-2.31)
<i>CA</i>	Non-Stationary (-1.06)

Note: The ADF test critical value for 26 observations at the 95% confidence level is -2.98.

¹⁵ As recommended in the fifth edition of the IMF's Balance of Payments Manual published in 1993.

Chart 4 CURRENT ACCOUNT BALANCE (1970-1997)



sloped linear trend. The current account position was deteriorating by 0.6 percentage points of GDP every year.

This finding is quite important, since stationarity is a necessary (although not a sufficient) condition for avoiding sustainability problems in external accounts. The existence of such a negative trend in Malta's balance of payments implies that during the period studied the Maltese economy exhibited unsustainable consumption and investment patterns, since movements in the public and private saving gaps did not cancel out each other. Thus, it provides statistical evidence for the conclusions reached by Demarco (1999), where, utilising a sustainability indicator developed by the author, the Maltese current account position was deemed to have been unsustainable since 1993. Furthermore, the non-stationary current account position indicates that there was no stable long-term negative relationship between the private and the public saving gaps between 1970 and 1997, as implied by the three economic theories delineated earlier in this article.

Table 1 shows that while the private saving gap exhibited stationary behaviour during the 27 years covered by this article, the public saving gap was non-stationary. Thus if we re-define the national

accounts identity as:

$$PSG = CA - GSG$$

[8]

we have an identity which shows that the residual between two non-stationary variables is itself stationary. This implies that there exists a long run causal relationship between the current account and the government saving gap. The stability of *PSG* over time may thus be the result of the government saving gap causing offsetting reactions in the current account of the balance of payments. The nature of this relationship is investigated further by means of regression analysis.

According to economic theory, a relationship between economic variables is governed by an equilibrium condition. This implies that at any time there is a state where this relationship will be retained if there are no external forces acting against it. When external factors, such as economic shocks or policy changes, disturb this equilibrium condition, there are forces that will automatically try to reinstate the equilibrium state. Hence, movements of economic variables are of two general types – either the variable is moving towards its long-term equilibrium state, or it is reacting to a short-term shock that moves it away

from its equilibrium path. The error-correction mechanism is an econometric specification that captures these two different causes of movements.

For example, consider:

$$\Delta CA_t = \alpha_1 \Delta GSG_t + \alpha_2 (CA_{t-1} - \alpha_3 GSG_{t-1})$$

This equation indicates that if the current account is related to the government saving gap, part of its movement at time t is due to the change in the government saving gap during the same period. The sensitivity of this change is given by the coefficient α_1 . The remaining unexplained part of the current account movement is due to the fact that at time $t-1$ the variable was not at its long-term equilibrium state, namely $\alpha_3 GSG_{t-1}$. This implies that at time t , forces will act on the variable to eliminate part of the previous period's disequilibrium. This adjustment (denoted as α_2) can take any value between 0 and -1, with 0 implying no movement to long term equilibrium and -1 meaning full adjustment. An invalid value for the adjustment term implies that there is no equilibrium relationship between the two variables.

Utilising error-correction equations, with the private saving gap standing for the long-term condition¹⁶, two equations are estimated to test for the direction of causality between the other

two variables:

$$\Delta CA_t = \alpha_0 \Delta GSG_t + \alpha_1 PSG_{t-1} \quad [9]$$

$$\Delta GSG_t = \alpha_2 \Delta CA_t + \alpha_3 PSG_{t-1} \quad [10]$$

Equation [9] presumes an equilibrium relationship between the current account and the government saving gap, which would imply that part of the private saving gap will be reversed by changes in the current account position in the following year. On the other hand, equation [10] presumes a reverse causal relationship, that is, the current account position affects the public saving gap. The validity of these two competing hypotheses is established from the regression results shown in Table 2.

These results indicate that the current account reacts to changes in the government saving gap, whereas there seems to be no long-term causality from the current account to the government saving gap, since the long-run adjustment coefficient of equation [10] is not between 0 and -1. In fact, it appears that in the short-term, whenever the government saving gap increases by 1 percentage point, the current account surplus as a percentage of GDP rises by 0.6 percentage points. Furthermore, the long-term adjustment term indicates that one fourth of the recorded private saving gap is reversed by movements in the current account position in the following year.

Table 2

REGRESSION RESULTS¹⁷

Equation [9]	Equation [10]
$\Delta CA_t = 0.601 \Delta GSG_t - 0.268 PSG_{t-1}$	$\Delta GSG_t = 0.779 \Delta CA_t + 0.338 PSG_{t-1}$
(3.03) (-2.50)	(4.60) (2.86)
$R^2 = 0.608$ F-test = 18.64	$R^2 = 0.523$ F-test = 13.15
DW-statistic = 2.31	DW-statistic = 2.45

¹⁶ Note that, since $PSG = CA - GSG$, then $PSG_{t-1} = CA_{t-1} - GSG_{t-1}$

¹⁷ In both equations, the 1975 observations were eliminated since they were deemed to be outliers.

Thus a rise in the private saving gap brings about a future widening of the current account deficit, and vice versa¹⁸.

Given that the private saving gap was relatively stable throughout the period studied, the growing imbalance between government revenue and expenditure inevitably led to a deterioration in the current account position. The regression results once again provide corroborating statistical evidence for the conclusions of Demarco (1999), where it was argued that '*fiscal policy was following an unsustainable path, and that the fiscal deficit became increasingly unsustainable after 1994*'. Moreover, these results illustrate the relative inefficacy of fiscal policy in Malta as a tool to generate economic expansion. In fact, a full 60% of the change in the fiscal stance seeps out of the domestic economy through a higher external current account deficit as early as the following year.

Knight and Masson (1986) argue that a fiscal shock, if not totally offset by an increase in private saving due to Ricardian equivalence behaviour by private agents, necessarily makes the economy rely more on foreign saving. This implies that there must be higher inflows on the capital account, since the current account is pushed into a deficit. This deterioration of the current account will occur via an appreciation of the real exchange rate, either through a rise in the nominal exchange rate or through a higher rate of inflation than in trading partner and competitor countries. This implies that the fiscal behaviour of government may be responsible for both the increase in the current account deficit and the loss of Malta's external competitiveness since 1994¹⁹.

Expected Trends in Saving and Investment

The preceding analysis of the relationship between saving, investment and the current account has considerable implications for the future development of the Maltese economy. In the coming decades, Malta will have to face two main structural challenges: the challenge of economic restructuring and the challenge of an ageing population. These two developments will have a significant impact on the level of saving and investment in Malta.

Economic restructuring has to take place in response to the challenges posed by globalisation and the need to correct present macro-economic imbalances. This restructuring process will require higher levels of investment. However, private sector saving may not rise in line with investment requirements because of a number of negative short-term factors that may affect the household and corporate sector during the period of restructuring.

At the same time, Malta's population will be ageing rapidly. Demographic projections indicate that the support ratio, i.e. the number of working-age persons per retired citizen, will fall from 3.7 in 2000 to just 2.3 in 2020. During these two decades, the section of the population aged between 15 and 59 will drop on average by 0.15 % every year. The decline in Malta's labour supply may lead to labour shortages in some sectors and thus create a need to introduce more capital intensive forms of production. Once again this situation calls for more investment. However, there may be no expansion in available domestic funds. If anything, economic theory suggests that household saving will be adversely affected

¹⁸ This might indicate that Maltese households aim at saving or investing a constant amount of their income. When there are temporary shocks that affect these two variables, in the following year consumption is increased or decreased to restore the long-term constant ratios. This could be an indication of liquidity constraints.

¹⁹ This decline in external competitiveness is clearly reflected in the NEER and REER indices compiled by the Central Bank of Malta. The NEER index which captures changes in the exchange rate of the lira against the currencies of Malta's main competitors, in fact, rose from 99.63 in the first quarter of 1994 to 104.25 in the last quarter of 1997. The REER index, which adjusts the NEER index for relative movements in consumer prices, rose from 94.94 to 104.9 during the same period. A rise in these indices signifies a decrease in Malta's external competitiveness and vice-versa.

by the ageing process²⁰. Moreover, if public pensions are not reformed, this demographic shock will also boost government spending, thereby further reducing gross national saving.

These developments imply that Malta will have to incur a sustained large current account deficit, thus increasing its dependence on foreign direct investment or on borrowing from abroad. This dependence problem will not arise if the gross national saving rate increases. Since both household and corporate saving will probably be contracting in the near future, the needed expansion in gross national saving can only result from an improvement in government finances.

Conclusion

The current account position is a very important indicator of economic activity, as it reflects the saving and investment decisions of households, firms and government. A country cannot persist in running a deficit on its current account, particularly if this reflects higher levels of consumption. On the other hand, if the main cause of an external imbalance is rising investment, the situation may be more sustainable, as long as this investment contributes to productive capacity.

Malta's current account has been in deficit since the early eighties, if foreign grants are excluded from the compilation. The regression analysis carried out in this article indicates that the main cause of these recurrent deficits was the continued deterioration in government finances during this period. On the other hand, the gap between the private sector's saving and investment was broadly more stable during the period covered by this analysis. If Malta's external accounts are to be brought to a more

sustainable position, especially in view of a potential decline in private saving and the necessity of undertaking higher investment, the fiscal deficit must be curbed significantly.

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²⁰ According to the life cycle hypothesis, rational individuals try to maintain a constant level of consumption throughout their lives. Given that they earn an income only during their working life, this implies that they dissave when they are young and when they retire from the labour force. A higher proportion of elderly brought about by ageing, therefore implies a lower amount of saving.

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