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Australia's fiscal surplus: child of a credit and real estate boom

Abstract

For several years leading up to the 2008 financial crisis, Australia registered a public surplus, and this was generally interpreted as the result of responsible fiscal policy. However, since the outbreak of that crisis, no such fiscal balance has again been attained, giving rise to a range of explanations from the political incapacity of governments to the weak economic behavior characterizing the post-crisis era. Noteworthy in any case is that analysts have failed to cite the importance of a factor that was key to reaching pre-crisis surpluses: the vertiginous growth of private debt. This work argues that it was precisely the intense granting of bank loans and consequent increased demand from the private sector that boosted economic activity and led to the generation of public income sufficient to feed the fiscal surpluses of that period. Indeed, according to the simple national income identity and the proposals of Wynne Godley, this would have been the only way to register a public surplus in a context of current account deficits, typical of the Australian economy. This paper considers whether Australian private debt played a significant role in achieving fiscal surplus by way of a review of the Australian real estate boom and public accounts from the 1990s onward, also estimating an econometric model of autoregressive vectors to explore the link between these two variables. The results obtained appear to corroborate the hypothesis: severe private borrowing contributed to Australia's fiscal surpluses. This finding has significant implications for budgetary policy.

Keywords: Australia, fiscal surplus, sectoral balances sheets, credit boom, endogenous money

Introduction

Australia recorded a government surplus in seven of the eight years from 1999 to 2007, and this distinguished the country from most other developed economies, which consistently registered government deficits during the same period (or at best surpluses in isolated years). This peculiar situation has been interpreted by most analysts as the successful result of a responsible fiscal policy – whether conducted in anticipation of future economic crises, a growing external imbalance, or the ageing of the population (Gruen and Sayegh, 2005; Commonwealth of Australia 2007a; OECD 2010) – while most analyses of the time period gave little attention to the fiscal surplus (Caballero *et al*., 2005; Stevens, 2008; Laurie and McDonald, 2008), seen as the natural state toward which the State should tend (that is, it was thought that economies needing to study and rectify their situation were those with public deficits, not those with surpluses).

The economic crisis of 2008 marked a major turning point in Australia's fiscal trajectory: the surplus vanished, and it has not reappeared since, placing this issue at the center of academic as well as political debate. The strongest political parties regardless of ideological position have repeatedly promised the electorate that a fiscal surplus would again be achieved, and this issue has gained such importance that, thanks to the social costs associated with policies of fiscal austerity, certain governments have been severely penalised at the polls for the failure to return to surplus (Commonwealth of Australia, 2010; Errington, 2012; Brenton and Pierre, 2016). In this context, debate around the factors that can explain the past era of fiscal surplus has revived and gained new relevance. On the one hand, some argue that Australia's fiscal position contributed to the economic growth of the period (Commonwealth of Australia, 2007b) and, above all,

served as a cushion that served to counteract the effects of the 2008 economic crisis with fiscal stimulus programs (Hill, 2009; Brown, 2010; OECD, 2010). On the other hand, some claim that the surplus in public accounts did not improve the economic situation at all (Brenton and Pierre, 2016) and may even have worsened it (Juniper and Mitchell, 2008; Keen 2018).

It is true that the outbreak of the pandemic caused by the Covid-19 disease and the high public deficits achieved to alleviate the most serious economic consequences of the health crisis have temporarily frozen this debate, since there is consensus in the academy in recognizing that certain levels of public deficits have been necessary during these years of emergency (Makin and Layton, 2021; Alberola et al., 2021). However, when the pandemic ends, concern about budget levels will return and, although many economists point out that it will be inevitable to reformulate and relax fiscal rules due to high levels of public debt (Bergsen, 2020; Srivastava et al., 2020; Bonatti et al., 2020), it is also true that many analysts will continue to demand public surpluses as tool to reduce the debt and provide stability to the economy; hence, the topic addressed in this work is more relevant than ever.

In this study, we start from the premise that the valuation of the public surplus cannot be separated from its originating cause. The record of fiscal balance is not positive or negative in itself but depends on the ways and circumstances in which it is achieved. From the perspective of this analysis, if Australia's public surplus was facilitated by the process of high private indebtedness that triggered the well-known sequence of financial and economic crises (Stapledon, 2009; Berry, 2010), then the valuation cannot be positive. Therefore, it becomes very relevant to determine whether the economic growth that allowed for Australia's fiscal surpluses in those years was driven by external demand or else by domestic demand financed through debt. Using the approaches of Wynne Godley

(1999) on national sectoral balances (which is based on the accounting identity that establishes that the sum of the sectoral balances of the public, private and external sectors is equal to zero) it is argued that the former case, characterised by a current account surplus, facilitates the achievement of fiscal surpluses that, moreover, may be more easily sustainable over time. In the latter case, characterised by a current account deficit, the only way to achieve a fiscal surplus is by registering a notable deficit in the private sector which (following Hyman Minsky's proposals) reflects a process of strong household and firm indebtedness that cannot be sustainable as it tends to lead to crisis.

Australia's almost uninterrupted public surpluses from 1999 to 2007 occurred in a context of remarkable economic growth, a high current account deficit, and strong increases in private debt that fueled the momentum of domestic demand. Considering that this growth dynamic culminated in the 2008 crisis, we can conclude that the Australian case may fit the theoretical phenomenon described above. Thus, the objective of this study is to corroborate whether as suggested by the interpretation of national sectoral balances the vertiginous growth of Australian private debt contributed to the existence of a fiscal surplus.

Should this prove to be the case, important conclusions could be drawn with regard to Australian budgetary policy, which lacks the strict and formal rules of other developed economies such as the U.S. or Eurozone and is vehemently oriented toward the objective of achieving fiscal surplus (Wyplosz, 2005; Gruen and Sayegh, 2005; Brenton and Pierre, 2016). It should be noted that guidelines on the priority of obtaining fiscal surpluses have been formulated without regard to the positive or negative sign of the current account balance. If in periods of current account deficit – practically all, except in 2019 and 2020 – the only way to achieve fiscal surplus is to experience high indebtedness by families and firms, then this orientation of fiscal policy would merely be driving the Australian

economy into processes of private leverage that risk significant financial and macroeconomic vulnerabilities. In fact, some analysts charge that Australian private debt returned to strong growth after the 2008 crisis thanks to government programs that encouraged the purchase of real estate, which generated new macroeconomic imbalances (Mitchell, 2013; Murphy, 2011; Keen, 2018). Consequently, and if this hypothesis is confirmed, it could be concluded that the design of fiscal policy should always consider the sign of the current account balance. Although Australia finally managed to register a current account surplus in 2019 – which could allow for fiscal surplus on a sustainable basis – what occurred in prior periods could ostensibly be repeated in the near future.

To corroborate whether the growth of private debt contributed to the fiscal surplus in the years cited, this article is organised as follows. After this introduction, the second section presents and develops the theoretical framework that links credit expansion with the improvement of public accounts. The third section offers a detailed review of the economic events that preceded the Australian fiscal surplus, emphasizing the increase in private debt within the context of a real estate boom, as well as the evolution of public accounts. Next, an econometric exercise is carried out to explore whether the private debt variable contributed to explaining the consolidation of public accounts. Finally, the main conclusions of the analysis are presented.

A sectoral balances approach: the link between fiscal surplus and credit booms

The approximation to economic reality based on Wynne Godley's approaches to national sectoral balances is carried out by focusing on financial flows between the economic agents (each income of one agent corresponds to an expense of another) and the impact that these flows have on the financial stocks (if agents receive more than they spend, they experience an increase in their financial assets, or a reduction in their financial

liabilities, and vice versa), so that the flows must be accounted as consistent with each other, and their variations consistent with those of the financial assets (Godley and Lavoie, 2007; Nikiforos and Zezza, 2017).

According to this approach, and by grouping all economic agents into three sectors – public, private (families and firms of the economy in question), and foreign (public and private sectors of other economies) – the balance of the public sector must be consistent with that of the private sector and, simultaneously, with the balance of the external sector (the inverse of the current account balance).

$$NLprivate + NLpublic + NLforeign = 0 \quad (1)$$

Where NL is the net lending balance of the corresponding sector. To verify that these three balances are connected to one another through said accounting identity helps to understand the existence of limits in the pursuit of any level of public balance: not all combinations of private balance and external balance are possible[1], and balances cannot be controlled by public authorities, as they depend on the decisions of autonomous economic agents independent of the government in question. Consequently, the public balance would not be a discretionary variable but would largely depend on the decisions of private agents, both national and foreign, as well as foreign public agents. This interpretation coincides with the one that contemplates a differentiation between the structural and the cyclical fiscal balance (Truger, 2015; McCausland and Theodossiou, 2016), but the difference between the two approaches is that in this one the focus is explicitly on the interrelation among the balances of the three sectors, instead of analysing of the public balance in isolation. There is also a certain parallelism with the twin deficits hypothesis (Miller and Russek, 1989; Abell, 1990), although there is a crucial difference:

the incorporation of the private balance in the equation, which substantially modifies the analysis (Garzón et al., 2021).

This particular macroeconomic approach has been frequently used to point out that economies which tend to run a current account deficit can only achieve a fiscal surplus through a negative private balance large enough to compensate for it, and the only way to achieve that level in the private sector balance is through episodes of credit expansions. However, this mechanism permitting the improvement of public accounts based on private leverage has an important drawback: it is not sustainable. Continued deficits by the private sector imply an increase in its financial liabilities (or a less probable reduction of financial assets) which at some point causes an unsustainable level of indebtedness as a percentage of income (Minsky, 1977; Godley, 1999; Nikiforos and Zezza, 2017). At that point, the private sector must stop leveraging itself and is consequently forced to take a path in the opposite direction characterised by attempts to reduce its indebtedness by widespread defaults and – ultimately, usually – by a financial crisis, thus leading to a period of recession that Irving Fisher (1933) described as "debt deflation" and Richard Koo (2011) called "balance sheet recession".

Godley himself worked with Francis Cripps on this aspect at the end of the 1970s (Godley and Cripps, 1983), and alone during 1998 and 1999, ultimately claiming that a financial crisis would erupt in the United States in less than five years (Godley and McCarthy, 1998; Godley, 1999); and this ultimately did occur in 2001. This prediction was based on use of the cited accounting identity of sectoral balances and the theoretical approaches of SFC models: according to Godley following the simple national income identity, the coincidence of current account deficits (the inverse of the external sector), public surplus, and private deficit reflected a process of high and unsustainable private indebtedness that would necessarily come to an end. This was inevitable because

economic expansion was made possible thanks to vigorous growth in private credit-funded spending that could not persist for long without driving the debt ratios on income impossibly high (Godley, 1999; Godley and Wray, 2000; Wray, 1998).

James Juniper and William Mitchell also used this sectoral balance approach to analyze and predict macroeconomic phenomena for the case of Australia, where for several years the same situation occurred (prolonged coincidence of a current account deficit, fiscal surplus, and private deficits), followed by a financial crisis due to huge private leverage. The most important conclusion of this work was that the pursuit of fiscal surpluses concurrent with current deficits required a phenomenon unusual in Australian economic history: an increase in the net flow of credit to the private sector along with increasing ratios of private debt over income; this was seen as destined to collapse (Juniper and Mitchell, 2008), as indeed proved to be the case (Mitchell, 2013).

Many more authors have reached the same conclusion. One of the most recognised is Steve Keen, although he uses a slightly different approach, focused on the banking system. The same reasoning can be noted in such works: if a State registers a surplus but does not have a current account surplus, the private sector will have to borrow; if this process is maintained over time, the increase in private debt relative to GDP will cause a financial crisis to occur at some point. Keen concludes that the only way for the State to register a fiscal surplus without borrowing from families (therefore allowing this situation to be sustainable) is through a current account surplus (Keen, 2018). Finally, Randall Wray, Bill Mitchell, and Martin Watts extrapolate this theoretical phenomenon to any advanced economy (Mitchell *et al*., 2019: 86), although they do not offer empirical evidence in this regard.

Beyond the accounting link between the different sectoral balances, the causality from private debt to fiscal surplus can be theoretically analyzed. According to the

endogenous money perspective, originally proposed by Nicholas Kaldor (1978)[2] and developed in detail by Basil Moore (1988), the granting of credits depends on the willingness and availability of private agents to borrow. Therefore, the supply of bank credit is determined by the demand for credit. The endogeneity of bank money implies that the amount of bank credits granted will depend on economic activity: when this is higher, more credits will be requested and granted, and vice versa (Culham and King, 2013). But this does not mean that the demand for credit by any household or firm will be satisfied always or anywhere. Banks can also refuse to grant credits depending on the characteristics of the client, their particular financial status, and the general economic situation (Tobin, 1963; McLeay, Radia and Thomas, 2014). The endogenous money approach simply indicates that an increase in the demand for credit *can* be satisfied by an increase in the supply of bank credit (Wray, 1991).

In any case, what is relevant for the purpose of this examination is to understand that all bank credit (granted in response to the demand for credit) increases the purchasing power of a borrower, be it a household or a firm, which in turn permits new purchases and/or investments (the rationale for the credit). These transactions will affect other economic agents: if a borrowing firm uses its greater purchasing power to make an investment, then other companies will see their income increase by the same amount; if a borrowing household increases its consumption, then other firms will see their income increase by the same amount (actual amount of increase is determined by the multiplier); etc.. If we divide the economy into private, public, and foreign sectors, then the aforementioned transactions do not have to alter the balances of these sectors, since the transactions take place between private sector agents. However, in advanced economies, these operations are usually taxed with consumption taxes that increase public sector revenues. Consequently, part of the taxable consumption would constitute a use of funds

belonging to households and firms, and a source of funds for the public sector, thus altering the balances of the private and public sectors as well as their respective financial assets. Of course, if the aforementioned transactions originating in the granting of credit affect agents of the foreign sector, then the balance of this sector would also be positively affected (although this particular effect is not the subject of our study)[3]. It is also important to bear in mind that the foreign sector can not only be the recipient of this transactions, but can also be the source of financing.

In any case, the aforementioned effect would be only an immediate one, following those purchases facilitated by loans granted; afterwards, other important effects would take place. First, any increase in the income of firms that sold their products would necessitate at some point, *ceteris paribus*, the payment of additional taxes for benefits, which would intensify deterioration of the private balance and improvement of the public balance. Second, any increase in economic activity derived from the aforementioned transactions might mean that companies hire additional workers in view of better profit expectations, or that households encouraged by a climate of economic improvement and optimism might consume more. New contracts and purchases would further strengthen the phenomenon described in the sectoral balances. If this process further entails an increase in the prices of both real and financial assets, then households and firms would be in a better financial position to demand new loans, which would accentuate the overall process repeatedly.

Third, more income and wealth would trigger more tax payments for the institutions that tax such manifestations of purchasing power, thus further reinforcing the effect described in sectoral balances. Fourth, and lastly, this improvement in economic activity would result in lowered unemployment and poverty and, therefore, in lessened need for public support for unemployment and for low-income households.

In summary, the granting of bank loans, issued in response to higher demand (especially in a context of increased asset prices), causes medium-term deterioration of the private balance and an improvement in the public balance (and the external balance - so a deterioration in the current account) through the channels described above, as summarised in Diagram 1. This mechanism can end in a fiscal surplus, but only temporarily, because the financial imbalances generated eventually put an end to private leverage and, therefore, to the fiscal position.

[DIAGRAM 1 HERE]

The Australian case from the mid-1990s to 2007 seems to fit this analysis because it registered a fiscal surplus while it experienced a significant credit expansion that ended with the economic crisis of 2008.

Credit and real estate boom in Australia (1996-2008)

Credit expansion and improvement of public accounts

As shown in Figure 1, Australia registered a public surplus between 1999 and 2007 (except in 2001), and it did so while its current account balance was negative. The same had occurred in 1988 and 1989, although due to lack of data we cannot offer a broader overview. Regarding the period in question, the public balance began to improve in 1993 and did so progressively until 2007, with an interruption between 2001 and 2002. The same occurred (although in the opposite direction) with the private balance and the current account balance (the latter from 1997).

[FIGURE 1 HERE]

In Figure 2, it can be seen that both periods of fiscal surplus coincided with the final years of a credit boom.

[FIGURE 2 HERE]

The specialised literature indicates that both credit booms were made possible thanks to the financial liberalization measures adopted in the 1970s, and especially from 1983, which allowed the use of foreign funds to finance the growing demand for domestic credit produced in the heat of an asset bubble. In 1973, controls on bank interest rates were removed, and in 1983 the Australian dollar was floated, the central bank's quantitative controls on bank credit were removed, the banking system was opened to foreign banks, and controls on foreign exchange were relaxed. These reforms were considered very radical, transforming the banking sector from one of the most controlled in the world to one of the least (Ballantyne *et al*., 2014; Battellino, 2007; Hill, 2009).

The period of indebtedness of the 1980s is less well documented in the literature because it was shorter; it was less intense, less nourished by external financing, and accompanied by a less prominent rise in real estate prices, giving rise to a relatively moderate banking crisis in 1990 and a less noticeable credit collapse (Gruen and Sayegh, 2005; Ballantyne *et al*., 2014; Caballero *et al*., 2005; Vila, 2011). Following this crisis, Australia once again experienced a cycle of economic growth, also driven by domestic consumption fueled by debt; but this time the cycle proved longer and more intense – between 1992 and 2007, real GDP increased by 68.4%, and 2008 was the seventeenth year of uninterrupted growth (Stone, 2009; OECD, 2010) – and this was slowed only temporarily by the international recession of 2001 (Berry, 2010; Pomfret, 2009).

This process of indebtedness was possible thanks to the significant inflow of foreign funds: in 1980, less than 1% of the domestic debt was in the hands of foreigners, but this changed radically thanks to the liberalization of the financial system, even reaching levels of 40% (Caballero *et al*., 2005; Murphy, 2011; Wood *et al*., 2006).

Households were the most important economic actors in this indebtedness (but not the only ones): household liabilities on income increased from 70% to 157% throughout this period. Credit to households grew rapidly to 67% of GDP in 2005, with 85% of this indebtedness in the form of mortgages and 5% in credit cards (Berry, 2010). This was so because the mortgage market was likewise strongly liberalised – in fact the International Monetary Fund came to consider it one of the most liberalised worldwide (IMF, 2008) – which led to the entry of new players and the introduction of new mortgage products, while the State ceased to be the main financier in the purchase of houses, yielding that position to banks (Berry, 2010; Murphy, 2011).

Certain institutional and idiosyncratic factors also help to explain this development in the mortgage market: Australia has traditionally enjoyed high levels of property ownership, reflecting a persistent policy of owner support. In fact, at the end of the 19th century, levels of ownership were at 40%, reaching 70% in 1970 and remaining at that level to the present day. This means that most personal wealth is stored in the form of housing, representing 58% of the net wealth of household accounts (ABS, 2008; Hill, 2009; Stapledon, 2009).

However, the purchase of houses by way of mortgage loans responded not only to the need to own a home but also to a speculative dynamic. In 2003, 45% of new mortgages were contracted by investors, while only 14% went to first-time home buyers (Berry, 2010; Berry and Dalton, 2004; Murphy, 2011), and these economic agents were attracted by the benefits that could be obtained in an asset-bubble context. The starting point of the real estate boom can be roughly located at 1996: between that year and 2007, house prices increased by 87% in real terms, raising the price-to-income ratio by 50% and demonstrating more intense growth than in previous cycles (Stapledon, 2009). Between 1994 and 2004, the average property wealth of Australian homeowners increased by 68%.

From 1996 to 2005, the number of homeowners with a mortgage increased by 40% (ABS, 2007; Berry, 2010; RBA, 2005). Because so many Australian households owned houses, the wealth effect allowed them to continue increasing their indebtedness, because banks accepted these houses of rising value as collateral (Berry, 2010; Murphy, 2011).

Australian house prices accelerated rapidly from 2000 to 2004. Thereafter, being aware of the risks of this phenomenon, the Reserve Bank of Australia raised interest rates, and consequently prices began to slow their growth. Between 2000 and 2006, the average annual rate of real home price increase was 7.1% (Murphy, 2011; Stapledon, 2009).

This boom, which also affected stock market prices – especially between 2002 and 2009 (Hill 2009; Pomfret 2009) – came to an end with the outbreak of the 2008 international financial crisis, which caused a closure of financing channels and a drop in real estate prices, in the stock index, and in economic activity in general. However, in February of 2009 the Australian government introduced a massive fiscal stimulus plan – one of the most powerful in all the OECD countries, behind only China and South Korea (OECD, 2010; Errington, 2012) – that attenuated the economic impact. Main elements of this plan included aid to indebted households and public investment in the real estate market (Mitchell, 2013; Murphy, 2011; Keen, 2018). Together with other factors such as more prudent banking regulation designed to prevent a repeat of the 1990 banking crisis (OECD 2010), this lowered exposure to toxic financial assets and allowed notable depreciation of the currency, which stimulated exports (especially of non-rural raw materials). Meanwhile, the economic power of China (which concentrated 50% of Australian exports) muted the crisis in Australia compared to other countries, in terms of both GDP and employment (Hill, 2009; Pomfret, 2009; Xiang *et al*., 2015; OECD, 2009). No banks were rescued, although the government did intervene at the height of the crisis by giving guarantees for the issuance of bonds and deposits, to boost confidence and to

meet financing needs (OECD, 2010). Taken together with previously existing institutional practices, all of this explains how potential conditions for a new real estate bubble were rapidly created (Murphy, 2011; Keen, 2018). Figure 2 illustrates how the growth of credit to the private sector regained strength in 2012.

The evolution of public income and expenses during the years of the credit and real estate boom was very particular. As seen in Figure 3, in the years of the first credit boom (1988 and 1989), the level of income remained very low, while that of expenditures was even lower, thereby yielding a public surplus[4]. However, the 1991 crisis activated the automatic stabilisers, driving expenses to 34%, while revenues fell even more. It was not until the mid-1990s that an in-depth tax reform began to markedly increase tax collection – notably the replacement of a series of indirect taxes by a broad-based tax on goods and services (Gruen and Sayegh, 2005; Commonwealth of Australia, 2007; Errington, 2012); and this together with the income derived from strong economic growth resulted in the achievement of a surplus in 1999.

[FIGURE 3 HERE]

In subsequent years, public spending as a percentage of GDP progressively declined, despite the fact that the government increased total spending by 54% from 2000 to 2007, and this increase intensified from 2004, fundamentally oriented toward welfare and social security and health (Laurie and McDonald, 2008; Hill, 2009). This is explained by even higher economic growth, while the level of public income remained at around 36% of GDP – except in the years 2000 and 2001, when a structural tax reform was applied that waived a large part of collection through the fuel tax, among other changes (Commonwealth of Australia, 2007a; Errington, 2012).

That this indicator of income over GDP remained stable in a period of intense growth of the denominator says a lot about the extraordinary growth of collection, which

in turn was highly correlated with nominal economic growth, because most tax bases that take root correspond broadly to major elements of GDP (Commonwealth of Australia, 2007a; Brenton and Pierre, 2016). In fact, this evolution occurred despite the fact that the government (in an attempt to restrain the surplus) notably increased fiscal benefits – specifically by 51% in real terms from 1997 to 2007 (Laurie and McDonald, 2008). From 2004, the authorities sought to reduce the public surplus by applying various tax cuts (especially in personal income tax and adjustments to family tax benefits) and by spending all extraordinary income (Commonwealth of Australia, 2007a; Laurie and McDonald, 2008; Brenton and Pierre, 2016). According to the Commonwealth Intergenerational Report (2007a), if no tax cuts had been applied, the tax burden would have been five percentage points higher in 2005. With the 2008 crisis, expenditures skyrocketed, and they have remained at around 37% of GDP ever since – well above income – maintaining this fiscal situation without significant change to the present day.

Econometric analysis

To study the relationship between the credit boom and public accounts, we resort to the variables of public balance over GDP in quarterly frequency s_t (constructed from public balance data in absolute values and GDP in current terms, from the Australian Bureau of Statistics) and private debt to GDP in quarterly frequency d_t (obtained from the database of the Bank for International Settlements). The analysis period begins in the first quarter for which there is data (1992q1) and ends in the last quarter of 2008, when the international economic crisis took effect in Australia and the public balance reversed its sign.

Using its graphical representation, correlograms, and the results obtained from the Dickey-Fuller method tests in its augmented version (see Annex), and using the method suggested by Pena *et al*. (1999), we find that s_t is stationary while d_t has a unit root. Due

to this, and because the variables are cointegrated (as shown below) and we are interested in identifying the sense of causality between the two variables taken together (within the same model, not in isolated models), we estimate a Vector Error Correction Model (VECM) using the first difference of d_t following the suggestion of Johansen and Juselius (1990) and Juselius (2006).

$$\Delta x_t = \alpha[\beta' \quad \beta_0] \begin{bmatrix} x_{t-1} \\ c \end{bmatrix} + \sum_{i=1}^{k-1} \varphi_i \Delta x_{t-1} + \phi D_t + \varepsilon_t,$$

where $x_t = [\Delta d_t \quad s_t]'$, β and α are the coefficients of the corresponding variables, D_t is a matrix of deterministic variables, c is the constant in the cointegration space, and ε_t is the vector of residues.

The equation describes a system in which each variable is a function of its own lag and the lag of the other variable in the system. We chose lags 1 and 7 according to the Wald test for the exclusion of lags – clearly the preferred test in the context of a VECM, unless the sample size is extremely small (Zapata and Rambaldi, 1997: 294), since all these delays are statistically significant. We verify through the cointegration test of Johansen (1988) that these variables are cointegrated with each other and therefore present a relationship of long-term equilibrium.

[TABLE 1 HERE]

The estimation of the complete model can be seen in the Annex. The estimation of the coefficients β and α of the model are presented below.

[TABLE 2 HERE]

The coefficient β has a negative sign and is statistically significant, as is the coefficient α in the case of the two variables, so the model indicates that the debt variable has a positive effect on the balance variable, although the opposite is also true. The impulse-response function of the Cholesky method allows us to see how this effect is distributed over time:

[FIGURE 4 HERE]

This model has an R^2 of 31.48%, and the residuals are not correlated according to the Breusch-Godfrey LM test (see Annex). Consequently, we can accept the validity of the model. Our results confirm that the increase in private debt makes it possible to explain the improvement in Australian public accounts during the period 1992q1-2008q4, although the public balance also affects private debt during those years – which is consistent with the approaches of Keen (2018) and Mitchell *et al*. (2019), who emphasise that the very existence of the public surplus detracts net financial assets from the private sector, thus stimulating private indebtedness.

Conclusions

The 2008 crisis ended a period in which Australia had achieved an almost uninterrupted fiscal surplus for eight years – a very rare situation. Since then, the different political parties have repeatedly promised to reorganise the public accounts, but no government has so far succeeded. According to the analysis presented in this paper, the systematic non-fulfillment of these electoral promises regarding fiscal policy can be largely attributed to an incorrect diagnosis of the factors that led to and permitted the public surplus of previous years. Most analysts believe that it was simply responsible fiscal policy that made it possible to avoid deficits in public accounts, while others place more emphasis on the intense economic expansion that the country experienced. In any case, all ignore the crucial element considered in this article: the vertiginous growth of private debt from the mid-1990s to 2008.

Based on Wynne Godley's post-Keynesian theoretical approaches to endogenous money and sectoral balances, as well as Hyman Minsky's hypothesis of instability, we have examined the extent to which this credit boom contributed to the appearance and

maintenance of the noted fiscal surpluses. After all, because Australia was consistently running a current account deficit, it could only achieve a public surplus through an intense process of private leverage that allowed the negative balance of the private sector to be higher than the negative balance of the current account. The empirical evidence and our autoregressive vector econometric model both corroborate this hypothesis: it is found that the staggering increase in private debt experienced by Australia from 1996 served to explain the improvement in public accounts and the achievement of fiscal surpluses from 1999 to 2007. This occurred despite the fact that total spending increased notably during these same years, while significant tax cuts were applied; without such measures, the public surplus would have reached even higher levels.

This finding has important implications for Australian budgetary policy, which remains strongly oriented toward the objective of reaching fiscal surplus, ignoring the sign of the current account balance. If, as is argued in this paper, the only way to achieve fiscal surpluses is through intense indebtedness of families and firms in the presence of continuous current account deficits, then the predominant orientation of fiscal policy while maintaining a current account deficit will likely push the Australian economy back into processes of private leverage that in turn feed significant financial and macroeconomic vulnerabilities. From this perspective, analyses warning that Australian private debt again grew strongly in the wake of 2008 crisis, thus generating new macroeconomic imbalances (Murphy 2011; Mitchell 2013; Keen 2018), must not be overlooked. In short, it would be convenient in the design of fiscal policy to consider the sign of the current account balance. It should be further noted that, although Australia did finally manage to register a current account surplus in 2019 – which in principle would permit a return to fiscal surplus without resorting to private leverage – the possibility that what occurred in past periods may be repeated in the near future cannot be ruled out.

Another relevant implication of this analysis is that the debate about debt and macroeconomic instability is misplaced; it's not public debt per se that can potentially cause macroeconomic instability: it's the private debt that is more problematic. This finding should contribute to reorienting the political and academic concern about debt from the public to the private.

Notes

[1] For example, since the three balances must add up to 0 for accounting identity, it is difficult to imagine that a State might reach a fiscal surplus of 20% over GDP, since such would imply a private sector or foreign sector deficit (or a combination of both) of equal magnitude.

[2] As Gillian Hewitson (1993) points out, the idea of endogenous money can be traced to at least the Banking School controversies of the mid-19th century. However, endogenous money was not explicitly addressed until the work of post-Keynesian economists, with Kaldor (1978) being probably the most important pioneering work with the greatest impact.

[3] To delve into the implications of the growth of private debt on external imbalances and on the type of growth model, see Barredo (2018) and Pérez and Vernengo (2015).

[4] Analysts such as Keating and Holmes (1990) and Gruen and Sayegh (2005) attribute this improvement in public accounts to the application of responsible fiscal policies which sought to comply with the medium-term fiscal rules approved in 1985; however, we suspect that the growth of private debt during those years was also a major contributor.

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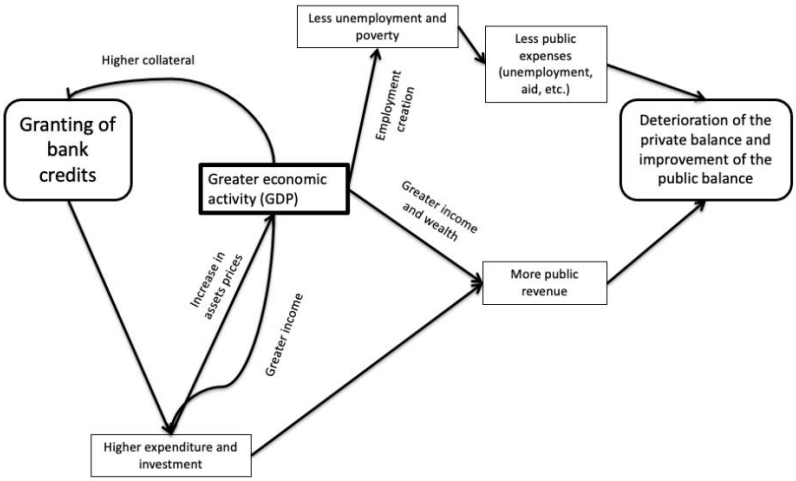
Tables and figures

Diagram 1. Theoretical link between the granting of bank loans and improvement of the public balance.



Source: authors' elaboration.

Figure 1. Australian sectoral balances. Data as a percentage of GDP. 1988-2019

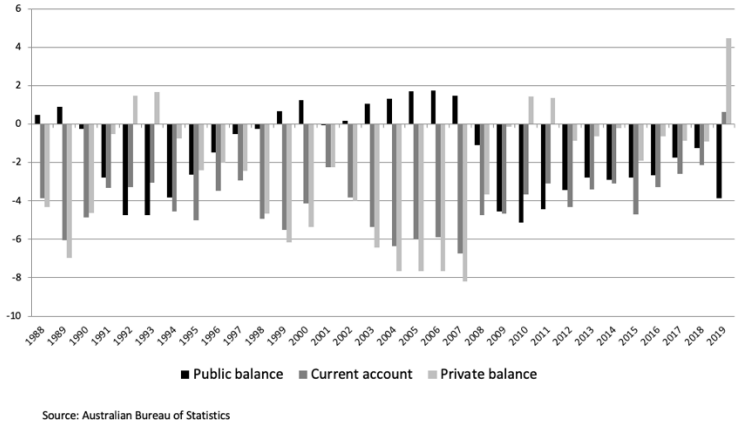
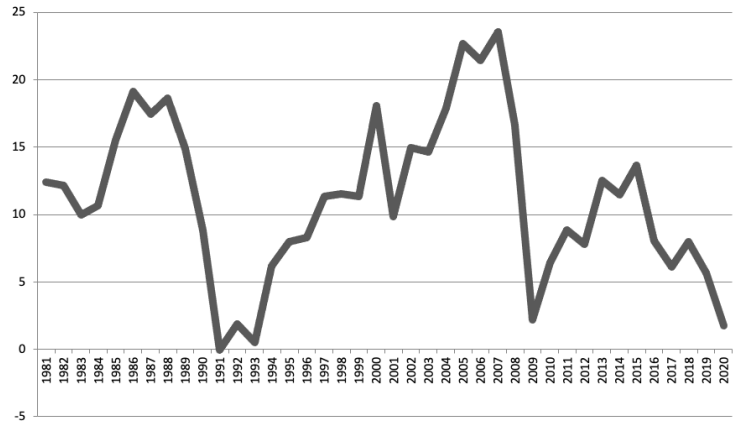


Figure 2. Annual change in private debt as a percentage of GDP. Data in percentages. 1981-2020



Source: Bank of International Settlements

Figure 3. Public expenditures and revenues as a percentage of GDP. 1988-2019

Source: Australian Bureau of Statistics

Table 1. Johansen Cointegration Test 1992q1-2008q4. Lag intervals (in differences): 1 to 1; 7 to 7. Source: own elaboration.

Trace tests			
No. of CE(s)	Statistic	Critical Value	Prob.
None	30,74083	20,26184	0,0013
At most 1	5,327717	9,164546	0,2494
Maximum Eigenvalue test			
No. of CE(s)	Statistic	Critical Value	Prob.
None	25,41312	15,89210	0,0012
At most 1	5,327717	9,164546	0,2494

Table 2. VECM estimation 1992q1-2008q4. Source: own elaboration

	s	d	c
β	1,0000	-2,622405 [-6,80081]	3,614845
α	-0,183433	0,334377	

[-2,21522] [4,40322]

Figure 4. Response of the variable s_t to an impulse of $D(d_t)$ (Cholesky adjusted dof)