Review of the

Commonwealth Government Securities Market

Discussion Paper

October 2002

ISBN 0 642 741662

Printed by Canprint Communications Pty Ltd

FOREWORD

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The success of the Government's fiscal strategy over recent years has reduced Commonwealth general government net debt as a proportion of GDP from almost 20 per cent in 1995-96 to 5 per cent in 2001-02. The fiscal strategy contributes to the current low interest rate environment, a key factor underpinning Australia's recent economic strength.

While the Government's fiscal record has delivered positive economic results, it also has generated concerns from some financial market participants and commentators about the future viability of the Commonwealth Government Securities (CGS) market.

The Government acknowledged these concerns in the 2002-03 Budget and committed to take stakeholders' views into account in considering the issue. This paper sets out a range of issues, to stimulate contributions from interested stakeholders so that they can form part of the Government's decision making process. The paper covers the range of possible roles that the CGS market can play and possible private sector alternatives, and assesses the measures the Government would have to implement to maintain the market.

I hope this paper will foster a broad ranging discussion of the future of the CGS market, and encourage all interested parties to put forward their views in a written submission.

PETER COSTELLO

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EXECUTIVE SUMMARY

Introduction

In the 1996-97 Budget, the Government introduced its medium-term fiscal strategy to maintain budget balance, on average, over the cycle. The fiscal strategy and asset sales have reduced the ratio of Commonwealth general government net debt to gross domestic product (GDP) from a peak of 19.1 per cent in 1995-96 to 5 per cent in 2001-02. In dollar terms, this represents the repayment of around $60 billion of debt since 1995-96.

The strategy has contributed to Australia's sound macroeconomic framework and continuing strong economic performance. These have been particularly important in securing investor confidence during a period of considerable international uncertainty. The Government is committed to maintaining this strategy.

The reduction in gross debt accompanying the decline in net debt has raised concerns by some market participants about the future viability of the Commonwealth Government Securities (CGS) market. They argue the CGS market plays a critical role in the economy that the private sector cannot easily replicate.

The Government acknowledged these concerns in the 2002-03 Budget and announced its intention to consult on the issue with key stakeholders. This discussion paper forms a key element of the consultation process. It highlights the main considerations in the Government's deliberations, provides a clear framework setting out the issues, and guides stakeholders on key questions the Government needs to resolve.

The framework setting out the issues is particularly important given the lack of international evidence. The other OECD economies that have well-developed financial markets operate with a significant government debt market. These economies have a much higher stock of government debt than Australia.

Issues

Some market participants argue for maintaining the CGS market. Given the fiscal strategy, this would require the Government to accumulate a substantial

portfolio of financial assets. The Government therefore must assess whether it is necessary to maintain the CGS market and whether doing so will give benefits that are likely to outweigh the risks associated with accumulating substantial assets.

This discussion paper first outlines the arguments that are advanced to support maintaining the CGS market and attempts to specify the key assumptions underlying the arguments to allow them to be tested. Second, the paper considers the options available to the Government.

The role of the Commonwealth Government Securities market

Minimal credit risk, issuance at a broad range of maturities, high levels of liquidity, and well-developed infrastructure characterise government debt securities and their associated markets. These characteristics have seen several other financial market activities develop from the CGS market.

The following sections outline the financial market activities the CGS market currently supports and potential alternatives that already exist or could arise in the absence of outstanding CGS. These are ordered from the specific financial market roles of CGS to the broader macroeconomic roles. The roles are: assisting the pricing and referencing of financial products; facilitating management of financial risk; providing a long-term investment vehicle; assisting the implementation of monetary policy; providing a safe haven in times of financial instability; attracting foreign capital inflow; and promoting Australia as a global financial centre.

Pricing other financial products

Some financial market participants suggest the CGS yield curve is important for pricing other debt securities because the yield on CGS at a particular maturity is the best available estimate of the rate of interest on a risk-free asset of that maturity. Market participants can use this yield as a starting point, then add a margin for the risk associated with the debt security they are pricing.

At least two alternatives are available for pricing financial products. First, market participants could price securities against other securities in the market that have similar characteristics. For example, a corporate issuing a new bond may attempt to set its price at a similar level to that available on bonds a corporate with a similar risk profile has issued. This is feasible if the other bond is of the same maturity or the corporate bond market is sufficiently liquid to form a yield curve for given credit risk.

Second, market participants could price securities with respect to the interest rate swap curve. Interest rate swaps are available across a wide range of maturities and incorporate some credit risk. Evidence indicates that some market participants already use the interest rate swap curve to price securities rather than the CGS yield curve.

Referencing other financial products

Some market participants may use the CGS yield curve as a reference benchmark for comparing yields on different debt securities, improving their capacity to undertake arbitrage. For example, if a debt security is trading at 50 basis points above CGS and another debt security is trading at 75 basis points above CGS, then a market participant could compare these yields and assess whether the risk characteristics warranted the difference in yield.

As an alternative, market participants could compare directly the yields on non-CGS securities, or compare with another reference such as the swap curve, to determine whether arbitrage opportunities exist.

Managing financial risk

Businesses (including financial market participants) currently use the CGS market and its associated derivative markets (particularly three-year and ten-year bond futures) to manage their interest rate risk. Businesses use these markets as movements in CGS yields are highly correlated with yields on other securities and the liquidity of the market enables businesses to take positions without significantly affecting market yields.

The ability to effectively manage interest rate risk also may affect the domestic cost of capital. For example, investors may be prepared to accept a lower yield on a corporate bond if they can manage their interest rate risk. If the capacity to manage these risks results in lower interest rates, then investment, consumption and economic output will be higher.

In the absence of outstanding CGS, businesses could use one of three possible alternatives to manage their interest rate risk. First, businesses already use the interest rate swap market for managing some interest rate risks. For example, a business that has borrowed funds at a floating rate could enter into a swap agreement whereby it receives a floating rate, and pays a fixed rate, effectively giving it a fixed rate obligation.

Second, the private sector could develop an interest rate swap futures market. This could include standardised contracts that are traded on a futures exchange. Businesses could use these contracts to manage risk, provided the

underlying price (the swap rate) is highly correlated with interest rates on other securities, and the underlying price cannot be manipulated. Evidence indicates that the swap rate is highly correlated with corporate bond yields and is highly liquid, suggesting market manipulation is unlikely. Consequently, an interest rate swap futures market may be a viable alternative.

Third, continued development of the corporate bond market may lead to development of a corporate bond futures market. However, the corporate bond market currently is not liquid enough to support a futures market.

The absence of CGS outstanding may encourage the development of the last two options as businesses still will need to manage their risks, providing a ready market for new products. That said, the risk is that these products may not be effective, or they may take substantial time to develop.

Providing a long-term investment vehicle

CGS may be important in providing investors with a low-risk long-term investment vehicle. CGS are particularly attractive for investors, such as life insurance companies and superannuation funds, with long-dated liabilities. Historically, government securities have been the principal source of long-dated financial assets. Life insurance companies and superannuation funds hold around 30 per cent of CGS on issue.

The holding by superannuation funds and life insurance companies of CGS needs to be considered in the context of the overall asset holdings of the industry. CGS currently comprise less than 5 per cent of total assets, suggesting that CGS may not be central to the sector's investment strategy. However, the industry may wish to hold a higher proportion of CGS if the supply were increased.

CGS provide investors with a different class of assets that may assist in diversifying their portfolios. However, the extent of this benefit is unclear, given the range of other mechanisms through which investors can diversify risk. In addition, the current level of CGS outstanding may be insufficient to significantly assist portfolio diversification.

Implementing monetary policy

In the past, the CGS market has played a central role in the Reserve Bank of Australia (RBA) implementing monetary policy. In undertaking open market operations, the RBA has bought and sold CGS to inject and remove cash from the economy. However, the RBA more recently has moved to accept a broader range of instruments in its open market operations. The RBA would be able to

respond to further reduced CGS supply, maintaining its capacity to effectively implement monetary policy.

Providing a safe haven in times of financial instability

Government securities may play an important role as a safe haven in times of financial instability, when investors seek safe assets to avoid the potential of capital losses. The existence of CGS may allow investors to move funds into a safe asset without the need to go offshore.

To assess the merit of this argument, the Government needs to consider other possible assets that investors could move funds into during episodes of financial instability. Investors also could increase holdings of money. In practice, this may consist of increasing banking system deposits. The viability of this strategy would depend on investors' confidence in the soundness of individual banks and, more generally, in the banking system. An important element of this would be the market's view of the prudential regulation regime.

The range of shocks for which the CGS market could provide an important safe haven is unclear. For small shocks, investors may not need the CGS market as they may be prepared to increase bank deposits or hold other assets. For very large shocks, where the viability of the banking system was threatened, the existence of a CGS market may have little effect on the ultimate impact on the economy. That said, during periods of financial instability any factor that reduces volatility may be valuable.

Attracting foreign capital inflow

Some market participants argue the CGS market assists in attracting capital inflow. This is important as Australia has a current account deficit requiring a continual supply of foreign capital to finance the deficit. Two main reasons are cited.

First, government debt markets help develop private sector debt markets. Both private and public sector debt markets provide a potential destination for foreign capital. This is likely to be most relevant for countries trying to establish financial markets. However, removing a government debt market from an already sophisticated financial market is less likely to have adverse consequences.

Second, some investors allocate their funds by following global bond indices. Investors who follow such indices provide a source of finance that is linked to

government bond market size. If the CGS market drops below a critical level, then an alternate supply of funds may be needed to finance the deficit.

In assessing the validity of this argument, it is important to note that decline in the CGS outstanding is a direct result of the Government's improved fiscal position. Previously, the capital inflow was required to fund the Government's budget deficit. This is no longer necessary, as the Government makes no direct contribution to the current account deficit. Further, the level and composition of capital inflows are not themselves policy goals. A more desirable policy goal is to keep the cost of capital in Australia as low as possible. If additional CGS issuance attracts greater capital inflow due to higher interest rates, then this is not likely to be desirable. The Government will need to assess whether the CGS market lowers the cost of capital.

Promoting Australia as a global financial centre

Well-developed debt markets may play a role in attracting foreign investment into a country and promoting efficient markets. Government debt markets may facilitate the development of private debt markets. This is particularly relevant for countries in the development stage. On the other hand, as noted above, it is unlikely that the removal of a government debt market from an already sophisticated market will affect adversely future market development.

CGS also may enhance overall liquidity and efficiency of financial markets. This raises the issue of whether a diminished CGS market would result in further development of private sector substitutes. If the depth of private sector markets continues to improve, then the aggregate depth and liquidity of Australian financial markets may not change significantly, implying that the absence of a CGS market would not diminish Australia's role as a financial centre.

Appropriate size of the Commonwealth Government Securities market

If the Government decides to maintain the CGS market, then it would need to assess the appropriate size of the market. Size is critical as it relates directly to liquidity, which is a key characteristic that distinguishes the CGS market from other financial markets. The CGS market's appropriate size would depend on the rationale for maintaining the market. Some market participants suggest that around $50 billion of benchmark Treasury bonds is the minimum required for a liquid and viable market, and that the market would need to grow in nominal terms to maintain its relative size.

If the market were maintained to facilitate management of financial risk and ensure adequate pricing and referencing benchmarks, then the CGS market may need to grow by around the growth rate of nominal GDP. This has been around 6 per cent per year in recent years.

If the market were maintained to act as a safe haven, provide a long-term investment vehicle and maintain Australia's position in global bond indices, then the CGS market may need to grow by around the growth rate of financial assets. This has been around 12 per cent per year in recent years.

Options available to the Commonwealth

The Government's fiscal strategy is to maintain budget balance, on average, over the course of the economic cycle. The Government will not consider options that weaken the fiscal strategy given its contribution to strong economic performance. In particular, the Government will not consider proposals to build budget deficits so as to create the need for new CGS issuance.

Some commentators suggest that the CGS market already is at or below the minimum level necessary to perform its key roles. If the market were close to its minimum viable level, the Government would need to increase issuance to maintain market viability. This would require the Government to accumulate substantial financial assets, given its fiscal strategy.

- For example, the market would need to be around $12 billion larger than its current level of around $50 billion in four years' time, assuming a required growth rate of 6 per cent per year. The current budget estimates indicate cumulative underlying cash surpluses over the next four years. As a result, maintaining the market could require the accumulation of an additional $20 billion to $30 billion of financial assets over the next four years.

The Government has two broad classes of options: wind down the CGS market or maintain the market and accumulate financial assets. The paper considers three specific options within these two broad classes.

Option 1: Wind down the Commonwealth Government Securities market

The first option is to wind down CGS outstanding. Several options exist for withdrawal from the market. The Government could choose to repurchase all outstanding debt over a short time. This is likely to bid up the price and generate large repurchase premiums. Alternatively, the Government could

allow all outstanding debt to mature. With ongoing budget surpluses, this strategy would involve the Government building up substantial financial asset holdings over the rest of this decade.

The Government does not intend to undertake significant borrowing in the future. However, recognising the long timeframe involved, the Government would need to consider the possible cost of re-entering the market if, in the future, it faced a financing requirement. A range of shocks may affect the budget so significantly that the Government may need additional funds. The Government would need to assess these re-issuance risks and the likely costs of having to re-establish a CGS market.

Option 2: Consolidate Commonwealth and State government debt markets

The second option is to combine Commonwealth and State government debt markets. This option would enhance the liquidity of the CGS market, at the expense of State government markets. This would only be a temporary measure for maintaining the CGS market, if Australian governments continue the fiscal discipline displayed in recent years.

The Commonwealth and State governments rejected this option in August 2001.

Option 3: Maintain the Commonwealth Government Securities market and fund the Commonwealth's unfunded superannuation liabilities

The third option is to issue additional CGS and use the proceeds to fund the Government's unfunded superannuation liabilities. This could be achieved either through hypothecating a financial asset portfolio to the unfunded liability, or through transferring CGS issuance proceeds to a superannuation fund.

This option would increase the Commonwealth's financial risk exposure. There is a limit to the amount of domestic asset purchases that the Government could undertake without distorting markets and raising significant policy concerns due to the size of the market. This may lead the Government to consider investment in international assets, with consequent foreign exchange rate risks.

Investing in a superannuation fund may lock the asset portfolio away so that it cannot be used for other purposes, reducing the risk of investments being directed to achieve particular policy outcomes. Governance concerns also arise. First, scarce public sector senior management resources would be diverted

from their core functions to oversee the activities of the fund. Second, it may dilute the Government's accountability as public scrutiny may be focussed away from core government functions.

Conclusion

The Government needs to make an important decision. The CGS market currently plays a number of important roles in the economy. However, it is likely that the private sector could undertake at least some of these roles and significant risks are associated with the option to allow the market to be maintained. Accumulating a substantial portfolio of assets exposes the Government to large financial risks, potentially distorts Australian markets, and raises very significant governance concerns. Given these issues, stakeholders advocating maintaining the CGS market will need to clearly demonstrate the benefits of the market and provide evidence that the private sector would be unable to adapt to an environment without CGS.

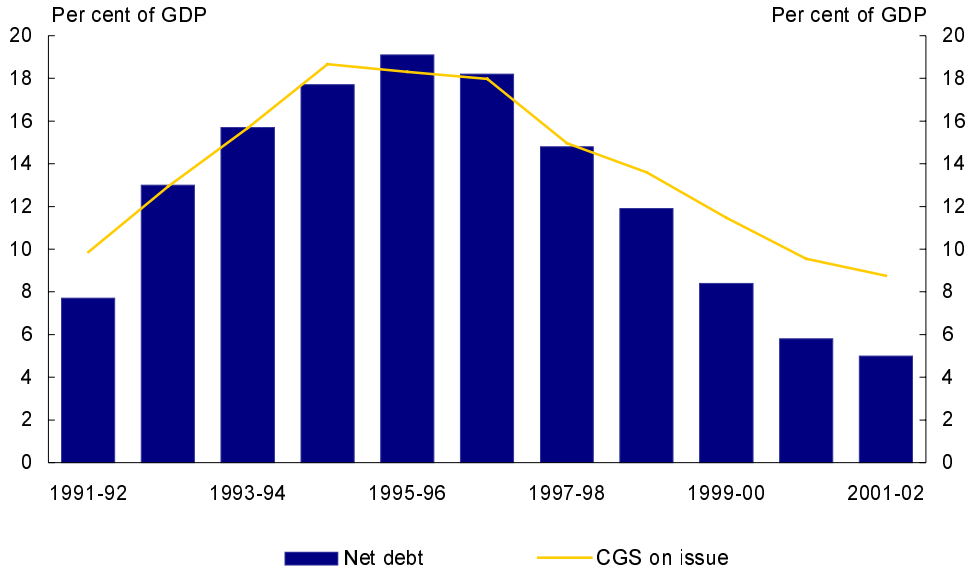
The Government welcomes views on the issues raised in this paper.

CHAPTER 1: INTRODUCTION

A key focus of the Government's economic policy is to ensure Commonwealth finances are sustainable. In accordance with this objective, the Government established the medium-term fiscal strategy of maintaining budget balance, on average, over the economic cycle, and implemented a programme of fiscal consolidation. The Government also undertook a significant programme of asset sales.

These initiatives have produced several years of budget surpluses and significantly reduced Commonwealth general government net debt. As a proportion of gross domestic product (GDP), Commonwealth general government net debt has fallen from a peak of 19.1 per cent in 1995-96 to 5 per cent in 2001-02. A similar reduction in gross debt has accompanied this reduction in net debt. This has been reflected principally in declining Commonwealth Government Securities (CGS) on issue, which fell from around 18 per cent of GDP in 1996-97 to around 9 per cent of GDP in 2001-02 (Chart 1).

Chart 1: Commonwealth general government net debt



Source: Commonwealth of Australia, 2002a; Commonwealth of Australia, 2002b; and Australian Office of Financial Management, 2002.

Reduced net debt has benefited Australia, contributing to lower interest rates and reducing pressure on the current account deficit. As government debt markets have traditionally played an important role in financial markets, reduced net debt has been managed to maintain sufficient depth and liquidity in the CGS market. This involves holding some surplus funds as deposits with the Reserve Bank of Australia rather than repurchasing outstanding debt. Consequently, gross debt is higher than net debt. In addition, the Government has undertaken bond conversion tenders to ensure that CGS outstandings are concentrated in key benchmark securities to increase liquidity at these points in the yield curve.

Notwithstanding these actions, the reduction in Commonwealth general government net debt has lead to a significant fall in the level of gross debt and therefore, CGS on issue. In particular, the amount of Treasury Fixed Coupon Bonds on issue has fallen by around $30 billion since 1996-97. Currently there is around $50 billion on issue.

The reduction in Treasury bonds on issue has caused concern among some market commentators and participants about the continued viability of the CGS market and possible effects on the broader financial market. The Government indicated in the 2002-03 Budget that it recognised these concerns and undertook to examine the issue in consultation with key stakeholders. This discussion paper provides an important framework for consultation, given that all other OECD countries with well-developed financial markets have much higher stocks of government debt than in Australia.

The review will involve close consultation with stakeholders, and to assist this process, a reference committee consisting of representatives from a number of peak industry organisations has been established. This reference committee is intended to provide practical assistance in exploring issues of detail raised in the consultation process.

This discussion paper should assist the process of consulting with stakeholders by outlining the key issues and asking questions intended to assist stakeholders in framing their submissions.

The discussion paper is structured in two parts.

- The first section outlines and assesses possible reasons for maintaining the CGS market.

- The second section outlines and assesses several options available to the Government to address concerns about the CGS market.

The Government invites stakeholders to provide written submissions to the review. These submissions should focus on the key issues raised in the discussion paper and any other issues that stakeholders consider relevant to the topic. Written submissions should respond to questions raised in the paper.

To ensure a transparent and inclusive consultation process, the Government intends to publish written submissions provided to the review, unless contributors request otherwise. Please provide written submissions by **6 December 2002,** as a signed hardcopy with an electronic version. You can send your written submissions to:

Commonwealth Debt Management Review
c/- Department of the Treasury
Langton Crescent
PARKES ACT 2600

and

debtreview@treasury.gov.au

The Government expects to announce the outcome of the review early in 2003.

CHAPTER 2: OVERVIEW OF AUSTRALIAN FINANCIAL MARKETS

This chapter provides background information on the Australian debt market. The first part of this chapter puts the Australian financial markets in context with global markets. The second part identifies the major participants in the Australian debt market. The final part of the chapter identifies the key infrastructure associated with the debt market.

Australia's financial markets

Australia has well-developed financial markets across major products, including money, debt, equities, foreign exchange and derivatives. These market sectors are not large compared to equivalent markets in economies such as the United States (US) or Japan. However, trading activity in many Australian financial market sectors is higher than the size of the economy might indicate. For example, Australia's largest market sector is the foreign exchange market. The Australian dollar is the seventh most actively traded currency.

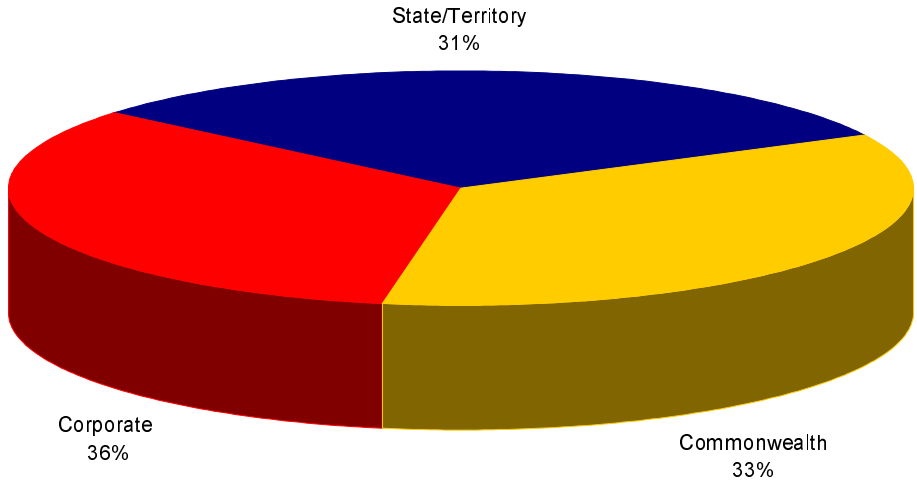
The Australian debt market is relatively small on a global scale. The global market is dominated by the US dollar market (around 50 per cent), the euro market (around 30 per cent) and the yen market (around 15 per cent). That said, Australian dollar denominated debt is included in several key global indices used by institutional investors. (These indices typically are weighted according to the volume of outstanding debt.) Australia's share of around 1 per cent is comparable to countries such as Denmark, Sweden, Brazil, China, and the Republic of Korea.

Australia's debt markets

Debt securities are an obligation by one party to make payment(s) to another party in the future. These securities take various forms. However, in general, they have a fixed maturity date on which the debt must be repaid, and they pay some form of interest. The level of interest paid may be either fixed or variable, although long-term debt tends to have a fixed rate of interest.

Participants in the Australian debt market include issuers of debt (groups that use the market as a source of funding), and investors in debt (groups that hold debt securities as assets). Three broad groups issue debt in the Australian debt market: the Commonwealth government, State/Territory governments and corporates. Chart 2 shows the proportion of fixed coupon bonds on issue according to the issuer type. Each of the three issuer groups account for around one-third of the total $155 billion fixed coupon bonds outstanding.

Chart 2: Fixed coupon bonds outstanding by issuer type (June 2002)



Source: Reserve Bank of Australia, 2002 (unpublished).

Commonwealth Government Securities

Commonwealth Government Securities (CGS) includes all debt issued by the Commonwealth. The Commonwealth currently uses three debt instruments: Treasury Fixed Coupon Bonds, Treasury Indexed Bonds and Treasury Notes. Details of all CGS outstanding in Australian dollars in recent years is shown in Table 1.

Table 1: Commonwealth Government Securities outstanding

	30 June						
	1996	1997	1998	1999	2000	2001	2002
	$b	$b	$b	$b	$b	$b	$b
Treasury Fixed Coupon Bonds[(a)]	77.1	79.5	70.0	65.2	59.1	53.7	51.1
Treasury Indexed Bonds	3.7	4.5	5.2	5.6	5.9	6.2	6.4
Treasury Notes	15.8	13.3	10.3	7.0	5.8	5.1	4.2
Treasury Adjustable Rate Bonds	7.1	8.0	4.3	4.3	2.5	0.0	0.0
Other	0.3	0.8	0.8	0.8	0.5	0.3	0.4
Total	103.9	106.1	90.6	82.9	73.8	65.3	62.1

(a) Net of Commonwealth holdings and debt on issue for the States and Territories.
Source: Australian Office of Financial Management, 2002.

Gross outstanding CGS has fallen from a peak of around $106 billion in 1997 to around $62 billion. Treasury Fixed Coupon Bonds outstanding are around $50 billion. To date the Government has managed this reduction while maintaining the viability of the CGS market and its supporting infrastructure.

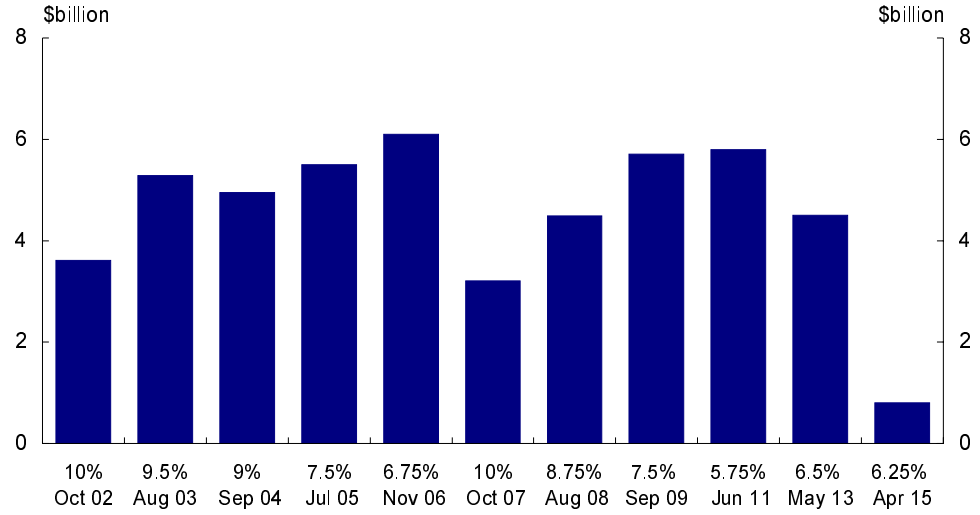
Treasury Fixed Coupon Bonds

Treasury Fixed Coupon Bonds account for around 80 per cent of CGS outstanding. With these securities:

- the face value or capital value is repaid at maturity;
- holders receive coupons semi-annually; and
- trade is on the basis of yield to maturity.

The profile of benchmark Treasury Fixed Coupon Bonds outstanding at June 2002 with their coupons and maturity dates is shown in Chart 3. There are 11 benchmark securities that have a range of maturities extending to April 2015. The average volume outstanding in these key benchmark securities is close to $5 billion.

Chart 3: Benchmark Treasury Fixed Coupon Bonds outstanding (June 2002)



Source: Australian Office of Financial Management, 2002.

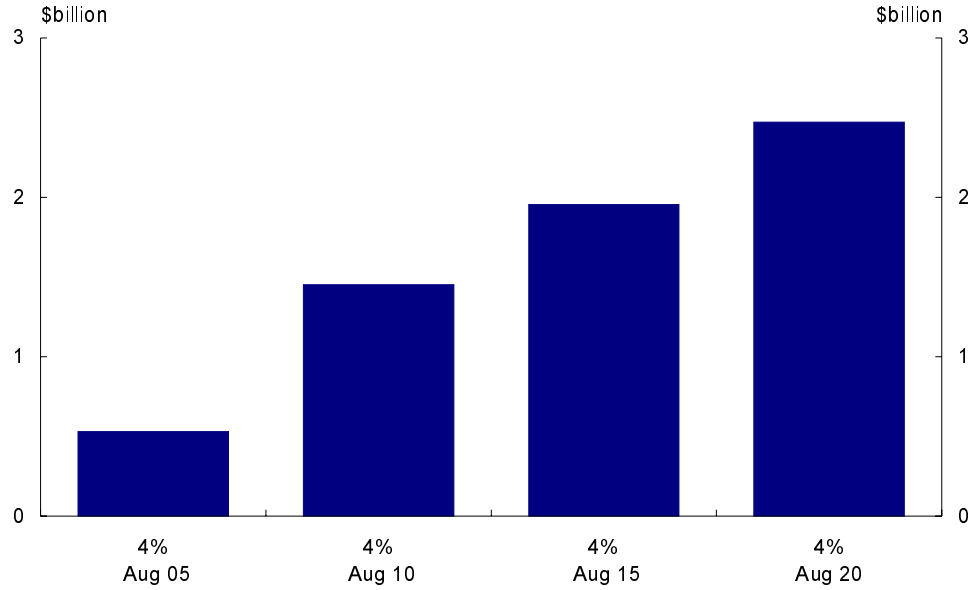
The Government has weighted recent issuance towards securities with an initial term to maturity of between 11 and 13 years. This weighting towards the long end of the yield curve helps maintain the length of the Commonwealth yield curve. This financial year, the Government is expected to concentrate issuance in the April 2015 security.

Issuance of relatively longer dated securities reflects the Government's comparative advantage in borrowing for longer periods. The Commonwealth is the highest rated issuer in the country, and all major rating agencies give it the highest possible rating. This reflects the Government's capacity to raise taxes to service debt funding needs.

Treasury Indexed Bonds

Treasury Indexed Bonds guarantee holders of these securities a real rate of return. The coupon and capital for these securities is linked to a measure of inflation (Consumer Price Index). The volume of these securities outstanding is currently $6.4 billion or around 10 per cent of total outstanding CGS. Outstandings are concentrated into four benchmark securities (Chart 4).

Chart 4: Treasury Indexed Bonds outstanding
(June 2002)



Source: Australian Office of Financial Management, 2002.

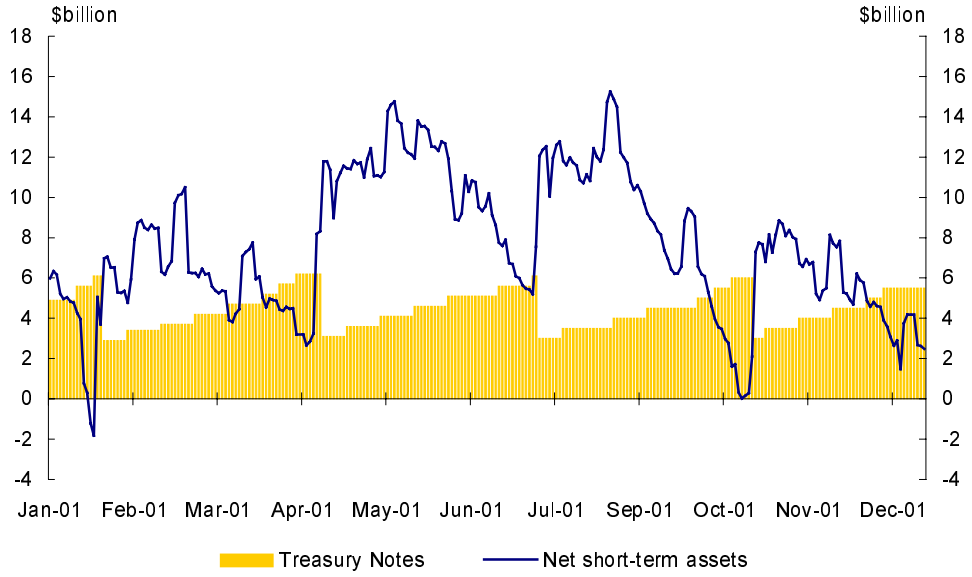
Treasury Notes

Treasury Notes are the third form of CGS the Government currently issues. Treasury Notes are short-term securities that assist in managing the Government's within-year funding requirement. This within-year funding requirement arises because the timing of the Commonwealth's revenue does not exactly match the expenditure profile.

The Government also uses short-term deposits to assist in managing the within-year funding requirement. When the Commonwealth has surplus funds, it places these funds on deposit with the Reserve Bank of Australia (RBA). The deposits earn a rate of return broadly similar to interest paid on Treasury Notes.

The Government's within-year funding requirement varies considerably (Chart 5). The volume of Treasury Notes outstanding ranged between $3 billion and $6 billion during 2001.

Chart 5: Net short-term assets and Treasury Notes outstanding in 2001



Source: Australian Office of Financial Management, 2002 (unpublished).

Investors in Commonwealth Government Securities

A wide range of domestic and international investors hold CGS. The Australian market has a relatively high level of non-resident participation with holdings ranging from 30 to 40 per cent in recent years (Australian Bureau of Statistics, 2002a). This position has changed significantly in the past 20 years. Previously, the market was heavily oriented towards a domestic investor base, with explicit prohibitions on the capacity of non-residents to invest in CGS.

Banks and financial intermediaries hold around 10 per cent of outstanding CGS for purposes including meeting prudential requirements, holding an inventory of stock to assist trading, and hedging market risks associated with various transactions.

Pension funds hold around 20 per cent of outstanding CGS as a low risk long-term asset to match against their long-term liabilities. Similarly, insurance companies hold around 20 per cent to invest premiums in long-term assets to match the likely maturity of their policies.

The RBA has historically held around 15 per cent of outstanding CGS to facilitate its open market operations to implement monetary policy and contribute to financial system stability. In recent years, the RBA has reduced its

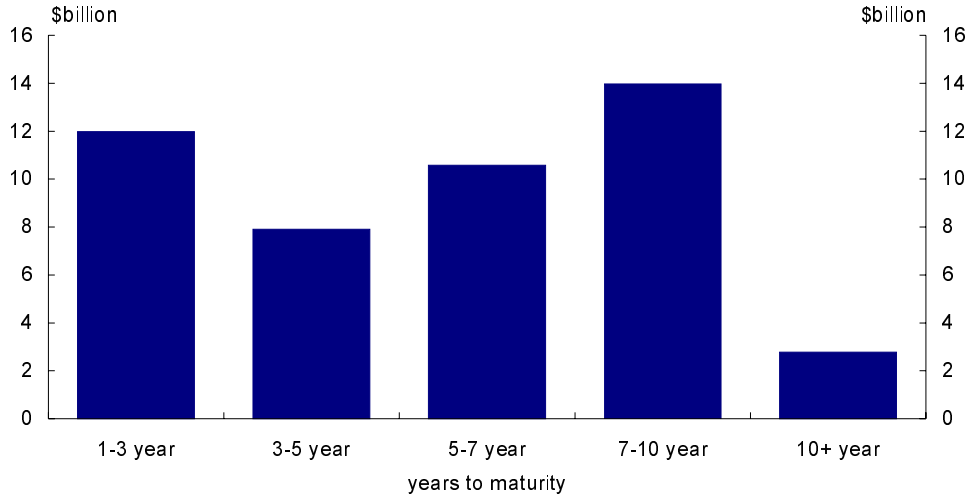
reliance on outright purchases of CGS to implement monetary policy. (See Chapter 3.)

State and Territory government bonds

State and Territory government bonds account for around $48.5 billion, or 31 per cent, of total fixed coupon bonds outstanding. The dominant issuers are New South Wales, Victoria and Queensland. In each State and Territory, a central borrowing authority (CBA) borrows on behalf of relevant government public sector authorities and entities. Centralising the funding needs of these borrowers provides a more efficient source of funding than if each entity individually sourced funds.

CBAs use a range of funding instruments but fixed coupon bonds tend to be the primary security issued. The combination of all State and Territory bonds outstanding broadly matches the maturity profile of outstanding Commonwealth bonds. There is around $4 billion of State and Territory bonds that will mature in each financial year extending for a period of around ten years (Chart 6).

Chart 6: State and Territory bonds outstanding
(June 2002)



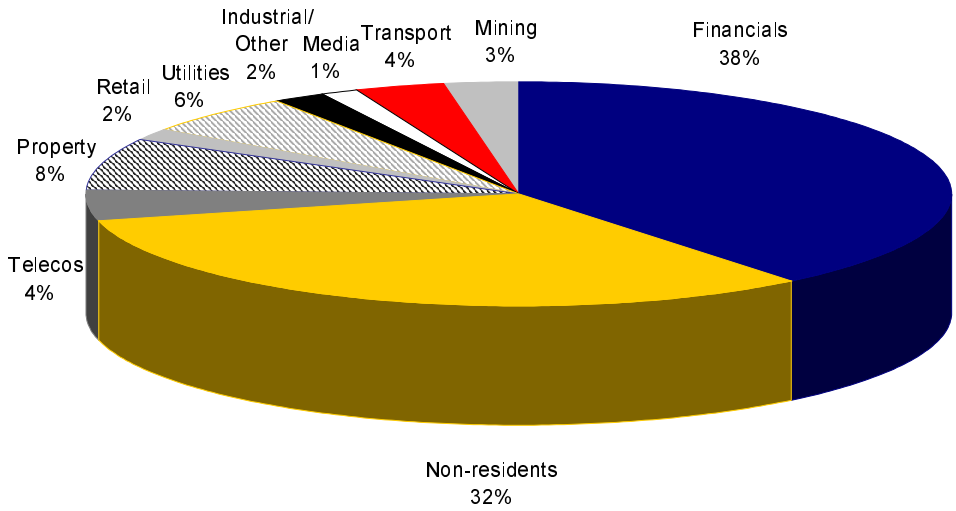
Source: Salomon Smith Barney, 2002.

Corporate bonds

The volume of fixed coupon corporate bonds outstanding was $55 billion, or 36 per cent, of total fixed coupon bonds outstanding at end June 2002 (Reserve Bank of Australia, 2002). Around 150 non-government securities are included in the Salomon Smith Barney Broad Investment Grade (AusBIG) Index (Salomon Smith Barney, 2002). The average amount outstanding in any particular security is around $300 million — larger securities have around $1 billion outstanding.

Financials and non-residents issued around two-thirds of corporate bonds outstanding (Chart 7).

Chart 7: Corporate bonds outstanding by issuer

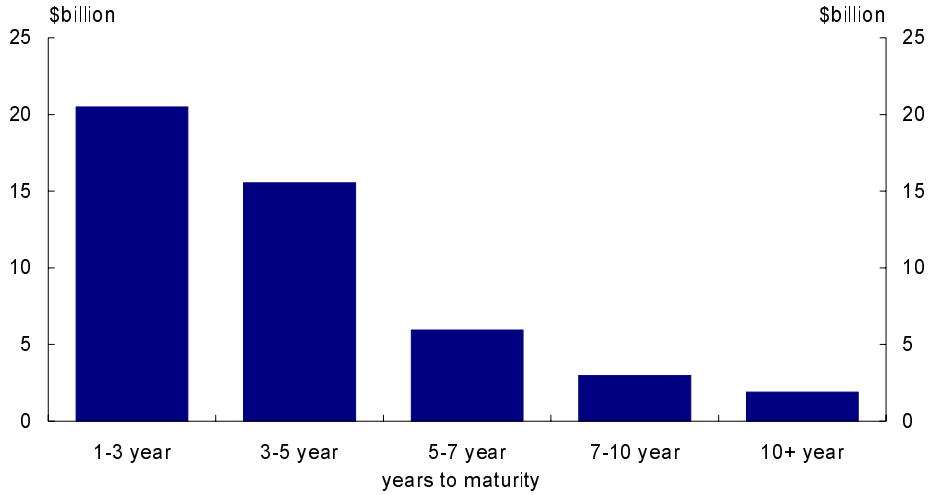


Source: Reserve Bank of Australia, 2002 (unpublished).

A growing number of non-financial corporations are issuing bonds to take advantage of investors' demand for higher return debt instruments and to diversify their funding away from bank loans and short-term debt.

The maturity profile of outstanding corporate bonds tends to be heavily concentrated in bonds with less than five years to maturity (Chart 8). More recently, the maturity profile has lengthened due to increasing demand by domestic investors for these types of securities.

Chart 8: Maturity profile of corporate fixed coupon bonds outstanding (June 2002)



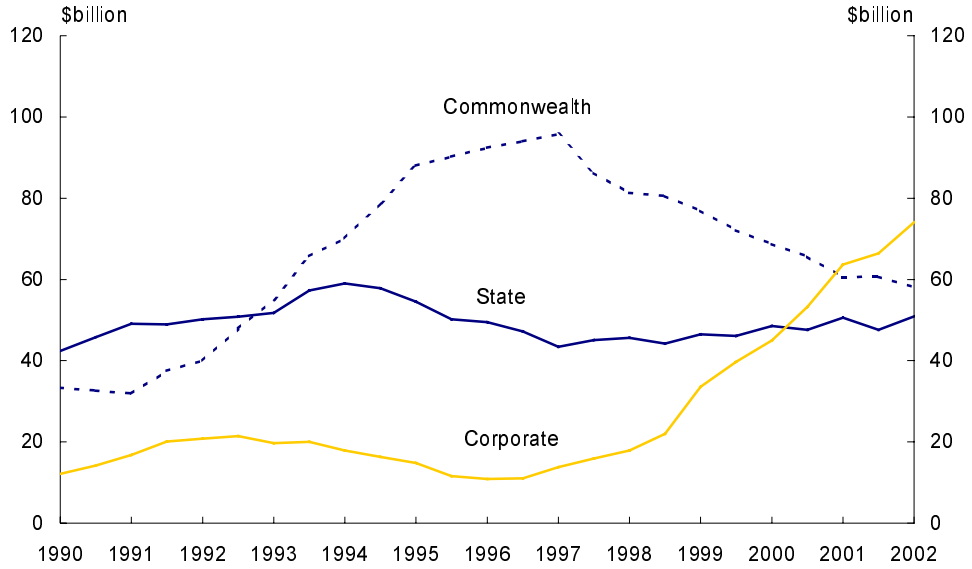
Source: Salomon Smith Barney, 2002.

In addition to the fixed coupon bonds issued by the corporate sector, corporates also issue floating rate securitised debt. Around $42 billion of securitised debt was on issue in Australia as at June 2002 (Reserve Bank of Australia, 2002). Securitising underlying assets into a pool of assets provides a marketable security from a disparate group of assets. For example, mortgage originators pool a large number of household mortgages, and then sell a security to another financial market participant.

Debt issuance trends

In recent years, the volume of corporate debt outstanding has risen while the volume of Commonwealth debt outstanding has fallen (Chart 9).

Chart 9: History of outstanding bonds



Note: The figures for the Commonwealth include indexed bonds and exclude the Commonwealth's own holdings. Corporate estimates include floating-rate bonds but exclude asset-back securities.
Source: Reserve Bank of Australia, 2002.

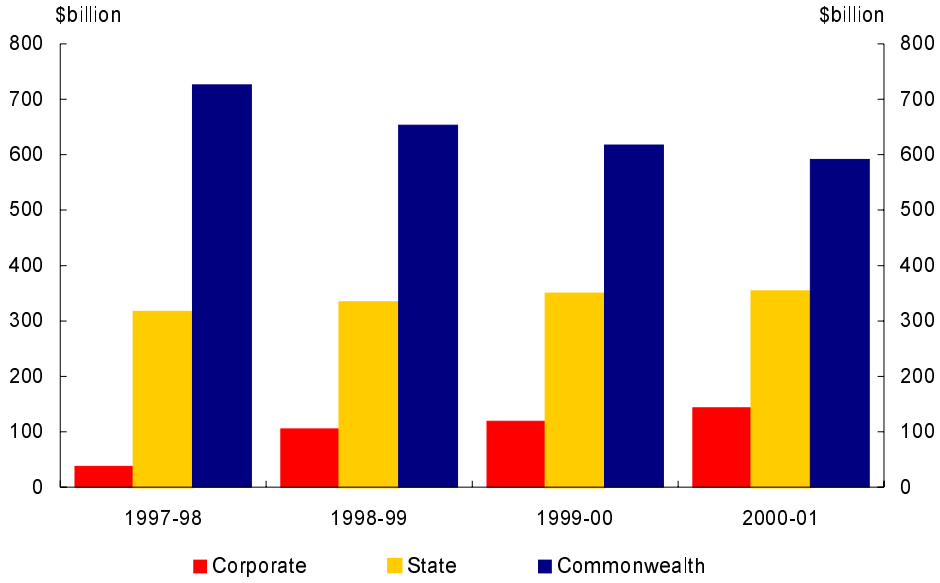
Numerous factors contribute to this trend, some international and some domestic. In 1996, the Commonwealth Government committed to maintaining budget balance, on average, over the economic cycle. The Government has met this objective, and in net terms, has not borrowed since 1996.

The decline in the supply of government securities has coincided with strong growth in funds under management. Compulsory contributions to superannuation funds by employers (through the Superannuation Guarantee) and voluntary contributions by employees drive this growth.

This demand for assets combined with reduced CGS on issue has stimulated corporate borrowers to issue debt securities. Non-resident issuance into the Australian market (known as Kangaroo bonds) also has increased. Kangaroo bonds outstanding are now around $18 billion.

Turnover of fixed coupon corporate bonds is much lower than Treasury bonds. In fact, turnover of Treasury bonds is at least four times higher than for corporate bonds, despite similar amounts outstanding (Chart 10). Turnover of corporate bonds tends to be concentrated in a small subset of total outstandings. This subset tends to have greater volumes outstanding and be issued by domestic financial institutions.

Chart 10: Turnover in Australian fixed coupon debt markets



Source: Australian Financial Markets Association, 2001a.

The reduction in Treasury bonds outstanding has reduced turnover in recent years, and subsequent consolidation in the number of market-makers dealing in government securities. However, this segment of the domestic bond market remains the most liquid.

Associated market infrastructure

Well functioning markets require a range of supporting infrastructure, including associated markets such as derivative markets, efficient clearing / settlement systems and a sound regulatory regime.

Derivative markets

Participants in Australia's debt markets have access to some of the most liquid and sophisticated risk management tools anywhere in the world. Derivatives markets allow market participants to fix today the prices at which trades will be made in the future. Efficient derivatives markets provide a vehicle for financial market participants to manage their interest rate risk — the risk that future interest rates will differ from today's interest rates. Accordingly, the

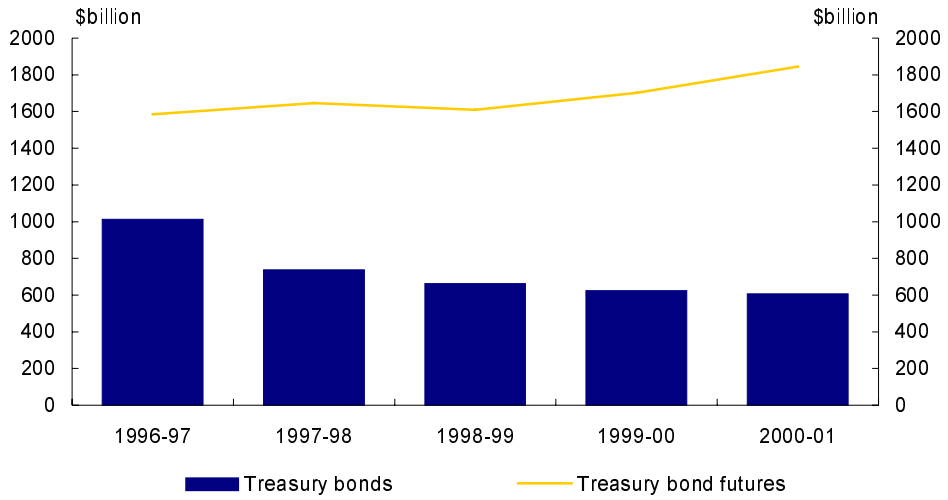
availability of these markets promotes market turnover, as intermediaries and investors are more willing to buy and sell physical bonds.

Treasury bond futures contracts

The Sydney Futures Exchange offers a range of derivative instruments relevant to the debt market and is one of the Asia-Pacific region's largest financial futures and options exchanges. The primary instruments offered for trading and hedging physical bonds are the three-year and ten-year Treasury bond futures contracts. These contracts rely on the existence of appropriate government bonds. (See 'Managing financial risks'.)

Turnover of Treasury bond futures has held up well in the face of declining Treasury bonds outstanding and is substantially larger than turnover in the Treasury bond market (Chart 11).

Chart 11: Turnover of Treasury bonds and Treasury bond futures contracts



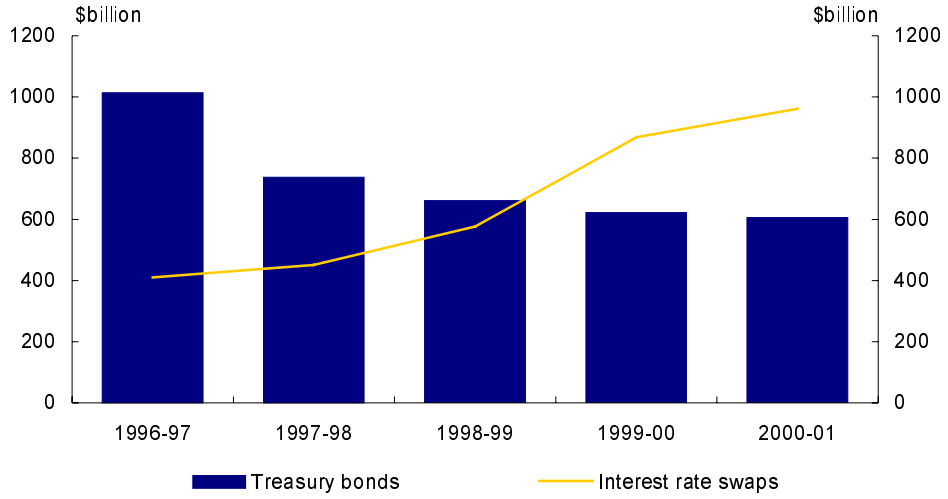
Source: Australian Financial Markets Association, 2001a.

Interest rate swaps

The interest rate swap market is an integral part of the debt market. Turnover in the swap market has grown rapidly in recent years. Turnover was around $1,000 billion, excluding the overnight indexed swap market, considerably more than CGS turnover of around $600 billion in 2000-01 (Chart 12). Swaps enabling institutions to swap between fixed and floating rate exposure account for around $650 billion of market turnover. Around 80 per cent of interest rate

swaps outstanding have a maturity of five years or less (Australian Financial Markets Association, 2001a).

Chart 12: Turnover of Treasury bonds and interest rate swaps



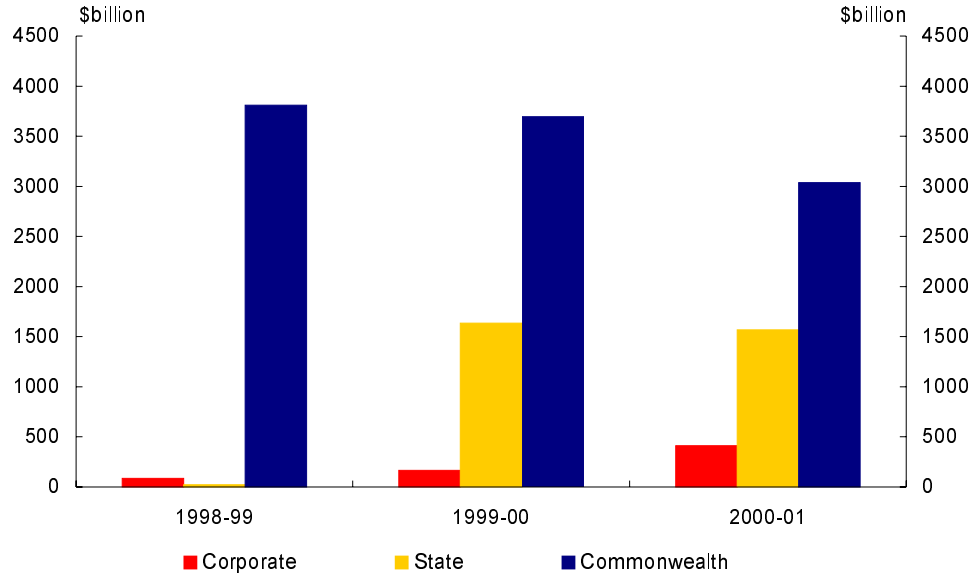
Source: Australian Financial Markets Association, 2001a.

Repurchase agreements

Australia also has highly developed and liquid markets for repurchase agreements (repos). These agreements involve the sale (purchase) of a bond with an agreement to buy (sell) it back at an agreed price at an agreed future time. Repo markets increase the attractiveness of the underlying physical bond in the hands of investors by providing them with an additional use for the bond. Repos also facilitate market efficiency by increasing participants' access to bonds. This contributes to the liquidity of the debt market and settlement process.

Repo market turnover was around $5,000 billion in 2000-01 (Chart 13). CGS were used as collateral in over half of these transactions. Turnover in repo transactions using Treasury bonds is around five times the turnover in the Treasury bond market itself.

Chart 13: Turnover in the repurchase market by instrument



Source: Australian Financial Markets Association, 2001a.

Clearing and settlement systems

Reliable and timely clearing, transfer of ownership and settlement arrangements are essential to the efficient and effective operation of financial markets. A rigorous and reliable clearing and settlement infrastructure allows market participants to undertake bond market transactions without undue risk from default, market, systemic or other broader risks. Accordingly, the effectiveness of such systems affects significantly the development of secondary market activity.

Since the mid 1980s, a move has been towards electronic clearing and settlement arrangements. More recently, a trend has been towards rationalising the number of clearing and settlement service providers, both in Australia and abroad. Since February this year, Austraclear has provided settlement services for trades in CGS, as well as trades in State government and private sector debt securities. Austraclear transactions, and cash transfers in the Reserve Bank Information and Transfer System (RITS) and the SWIFT Payment Delivery System, are settled on a real-time gross settlement basis. Consequently, around 90 per cent of the value of inter-bank obligations arising from financial market and other transactions are settled transaction by transaction across exchange settlement accounts at the RBA.

Regulatory frameworks

Well-functioning financial markets require a regulatory system that clearly defines property rights, has transparent information flows and has a capable regulatory authority. Financial sector regulatory and taxation arrangements are designed to minimise their impact on investment decisions and on market price signals. Australia's prudential framework is at the forefront of best international practice.

The Corporations law includes provisions relating to the trading of government and corporate debt. Most provisions on the obligations of market participants apply equally to the government and corporate bond markets. For example, prohibitions against engaging in misleading and deceptive conduct, false or misleading statements and dealer licensing are imposed equally on participants in both markets.

The legislative framework, in turn, is superimposed on a framework of self-regulation, coordinated by bodies such as the Australian Financial Markets Association. This industry body represents the over-the-counter financial markets on matters such as market codes of conduct and participant standards and accreditation.

CHAPTER 3: ROLE OF THE COMMONWEALTH GOVERNMENT SECURITIES MARKET

Background

Markets in which government debt securities trade have distinctive elements that may be important for developing sophisticated and well-functioning financial markets.

Government debt securities offer minimal credit risk, high levels of liquidity, a broad range of maturities and well-developed market infrastructure, including active derivative markets.

Therefore, government debt securities may play important roles in financial markets that private sector securities may not fulfil. The roles most commonly identified include providing benchmark interest rates for pricing other fixed coupon securities, managing financial risk, providing a low-risk, long-term, investment vehicle, and acting as a 'safe haven' during periods of financial instability.

This chapter outlines and assesses the roles that the Commonwealth Government Securities (CGS) market performs and considers potential private sector substitutes.

Minimal credit risk

Credit risk refers to the possibility that the issuer of a debt security, the Commonwealth Government in the case of CGS, will default on its obligations to repay borrowed funds.

The credit standing of an issuer and the degree of credit risk associated with its debt securities is reflected in the price and yield of the security. Investors require an additional margin in the yield of the security to compensate them for bearing the risk of default. This margin increases as the perceived riskiness of a borrower rises.

The credit risk of a government of a well-developed economy, such as Australia, is generally considered to be small as such countries have the economic and political stability that enables their governments to increase

taxation to meet debt-servicing obligations. Therefore, the margin for credit risk is likely to be small. Indeed, CGS often is referred to as a proxy for a risk-free asset.

High levels of liquidity

Government debt securities usually are issued into a limited number of maturities (or benchmark lines). For example, the Commonwealth Government currently has 11 benchmark Treasury bonds with an average of around $5 billion on issue in each line.

The concentration of issuance into a limited number of benchmark lines promotes market liquidity. A market is considered liquid if market participants readily can buy and sell debt securities in large quantities without significantly influencing the market price. Liquidity reduces the possibility that market participants will require a margin to compensate them for the risk that participants moving in and out of the market affect prices (liquidity risk).

Broad range of maturities

Benchmark lines of government debt securities are usually spread over a wide range of maturities. The Commonwealth's 11 benchmark lines are distributed reasonably evenly from less than one year to 13 years to maturity.

Governments issue debt securities over a range of maturities to:

- target high investor demand for a particular maturity. At times when governments issue debt, investors may strongly prefer to invest for a specific period and be willing to provide funds to the government on more advantageous terms.

- reduce the likelihood of exhausting investor demand. Significant issuance of a single maturity over time eventually may lead to investors holding all the debt they are willing to purchase at that maturity. Investors may require a higher yield to encourage them to purchase more debt at that maturity than they otherwise would.

- reduce the risk that maturing debt is refinanced at relatively high interest rates (refinancing risk). For example, if a government issued debt securities in a single benchmark line, it is exposed to the risk that interest rates are high at the time the debt matures. By issuing debt securities into a number of benchmark lines with different maturities, the government can reduce the

risk that a significant proportion of its debt is refinanced at relatively high interest rates.

The existence of benchmark lines of government debt securities across a range of maturities provides a source of information on yields at these different maturities. Plotting the yield associated with different CGS benchmark lines shows that at end June 2002, as the time to maturity increased, the yield required by investors also rose (Chart 14). This compilation of yields at different maturities at a particular time for a given issuer is known as the yield curve.

Chart 14: Commonwealth Government Securities yield curve (June 2002)

Source: Bloomberg, 2002.

Well developed market infrastructure

A government debt market is likely to contribute to developing key elements of financial markets, including mechanisms and processes that also are important for the operation of other sectors of the financial markets.

The types of supporting market infrastructures that the presence of a government debt market may contribute to include:

- skilled workforce in the debt market who provide price discovery in securities necessary to promote a liquid market;

- legal and accounting arrangements to govern the issuance, trading and settlement of debt securities which provide certainty in issues such as ownership and payment of debt obligations;

- administrative structures for the clearing, registration of ownership and settlement of debt securities; and

- establishment and development of derivative markets (such as government debt futures markets and repurchase markets) associated with debt securities.

The remaining sections of the Chapter identify several propositions raised in support of the maintenance of a CGS market. These propositions are assessed and possible alternatives identified.

Pricing other financial products

Proposition

The CGS market provides information about yields at different maturities. This may be important for pricing yields on other debt securities.

Key issues

The CGS yield often is considered a proxy for the risk-free rate of return in Australia, as yields are unlikely to be affected significantly by credit and liquidity risk. The CGS yield could be interpreted as the base rate of interest that lenders require to provide funds to borrowers before incorporating premiums to compensate for risk. Financial market participants pricing private debt securities in the primary market may use the CGS yield as a starting point, and add margins for credit, liquidity and other risks.

For example, a company with a credit rating below the Commonwealth Government's could issue three-year debt securities priced 50 basis points over the comparable CGS. The additional 50 basis points compensate for the corporate's lower credit standing and lower market liquidity of its debt securities.

The pricing of debt securities is important for the real economy. The efficient pricing of debt securities helps ensure that capital is allocated to the sectors that can achieve the highest investment return. Several problems could arise if the pricing of debt securities is less efficient.

- If the yield on new issues of debt securities is inappropriate there may be income transfers between investors and issuers as the yield adjusts in subsequent market trading.

- Some market participants may withdraw from the segments of the market where problems with pricing debt securities are ongoing. For example, a corporate may restrict issuance to short-dated bonds if longer-dated bonds have ongoing pricing difficulties. This may mean the corporate foregoes lower cost alternatives, potentially increasing the domestic cost of capital.

- A systematic reduction in pricing efficiency may lead to mis-allocation of capital in the economy as some sectors face either too high or too low a cost of capital. For example, if corporate bond yields of an industry were

systematically too low, then they would borrow and invest more than would be appropriate, potentially reducing funds available for more productive investment elsewhere in the economy.

Possible alternatives

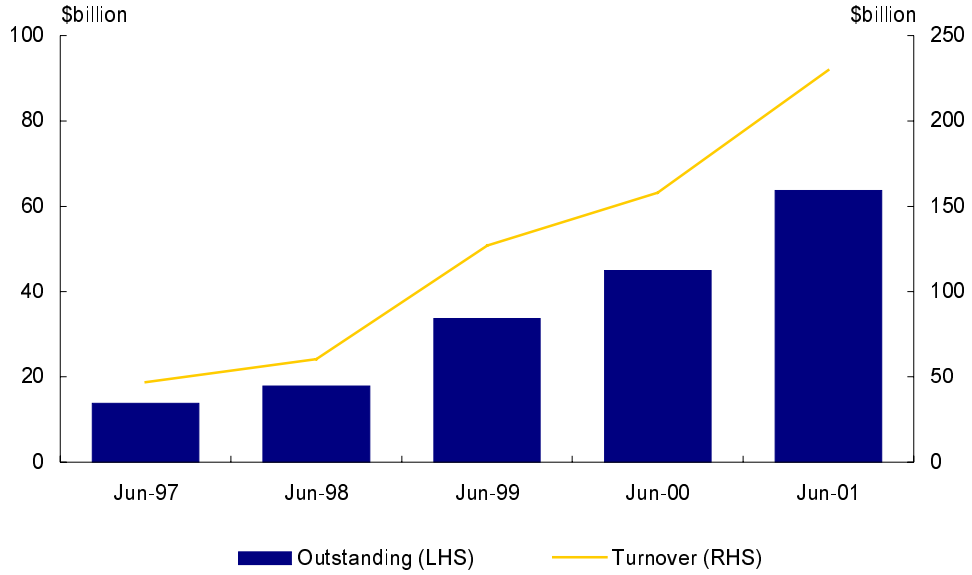
Possible alternatives for pricing debt securities in the Australian market could be based on the price of existing debt securities of organisations with similar risk characteristics or the interest rate swap curve (Box 1).

Market participants could price debt securities using information on the yields of debt securities issued by organisations with similar risk characteristics. Alternatively, a company with an existing presence in the debt market could price new debt securities based on the yield on its existing debt securities. The premiums for risks, such as credit and liquidity risk, incorporated in the price would reflect the current financial market view of these risks.

The continued development of the corporate debt market in Australia will be important for ensuring that pricing with respect to existing securities is viable. The level of corporate bonds outstanding has grown steadily over recent years. This growth also is reflected in market turnover (Chart 15). Corporate bonds on issue increased from less than $15 billion at June 1997, to over $60 billion at June 2001.[1] Companies with AAA credit ratings issue around one-third of the current outstandings of corporate bonds, companies with A credit ratings issue a further one-third and companies with AA credit ratings issue around one-quarter. Lower rated companies issue the remainder. The continued improvement in the depth of the corporate debt market across the various credit ratings will improve the usefulness of the corporate debt market for pricing new issuance of debt securities.

1 Includes both fixed and floating rate debt securities and excludes asset-backed securities.

Chart 15: Outstandings and turnover in the Australian corporate debt market



Note: Includes floating rate bonds but excludes asset-back securities.
Source: Reserve Bank of Australia, 2002; and Australian Financial Markets Association, 2001a.

Another alternative is to price debt securities against the price of interest rate swaps. The interest rate swap market is liquid, incorporates an element of credit risk and encompasses a broad range of maturities.

- The liquidity of the swaps market is high. The annual turnover in the domestic interest rate swap market (fixed to floating swaps) was around $650 billion in 2000-01. This compared to annual turnover in the CGS market of around $600 billion.

- Financial institutions account for a large part of the market and have high credit ratings.

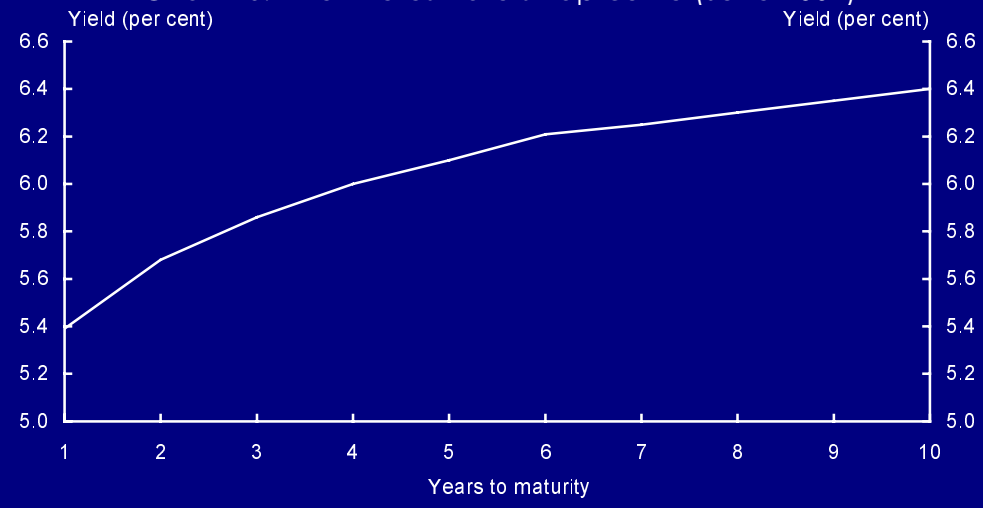
- The interest rate swap curve currently extends to a similar maturity as the CGS yield curve. This should allow pricing at the same range of maturities.

Box 1: Interest rate swaps

An interest rate swap is an agreement between two parties to exchange one stream of interest payments for another. The most common interest rate swap involves the exchange of fixed rate interest payments for floating rate interest payments based on a given principal amount for a defined time.

In Australia, the floating rate for interest rate swaps is the Bank Bill Swap Reference Rate (BBSW), which is the interest rate at which financial institutions are willing to lend each other money. The fixed interest rate is determined by the supply and demand in the market for paying and receiving fixed interest payments. Expectations about the path of interest rates over the swap period also will influence the fixed interest rate. The compilation of the fixed interest rate on interest rate swaps of different maturities forms the interest rate swap curve (Chart 16).

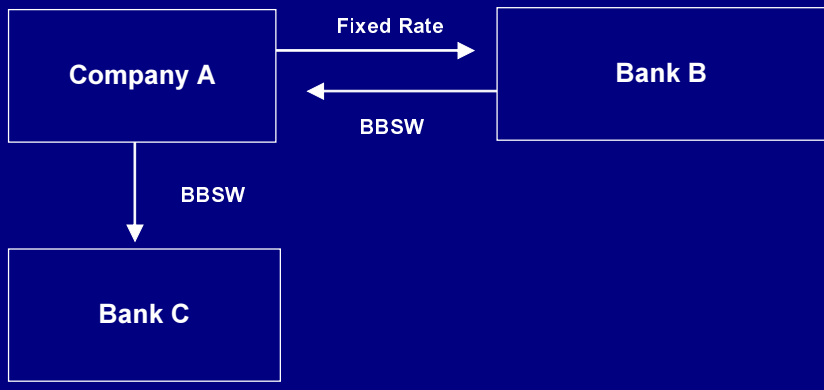
Chart 16: The interest rate swap curve (June 2002)



Source: Bloomberg, 2002.

The credit risk of undertaking an interest rate swap is relatively low compared to transactions in physical instruments such as corporate bonds. In an interest rate swap, only the interest payments are swapped, not the principal. The credit risk that counterparties bear is limited to any outstanding payments for the difference between the fixed rate and the BBSW.

For example, assume Company A has borrowed $100 million for 3 years at the three-month BBSW from Bank C. The company is exposed to the risk that interest rates may rise over the period of the loan which would increase Company A's debt-servicing costs. To hedge this risk, the company could enter into an interest rate swap with Bank B. This would entail the company agreeing to make interest payments based on an agreed fixed interest rate, in return for receiving the three-month BBSW. If interest rates rise, the company will be able to meet the higher borrowing costs from the increase in payments it receives under the interest rate swap. The net effect is that Company A pays the fixed rate that is agreed in the interest rate swap.



The CGS yield is not the sole benchmark for pricing other debt securities in the Australian financial markets. The price investors paid for some recent issues of corporate debt securities was based on the rate for an interest rate swap at that maturity, plus an additional margin for risks such as credit risk. While some of these issuances also note the price as a margin over the CGS yield, increasingly the interest rate swap curve is used as the primary pricing benchmark.

The International Monetary Fund (International Monetary Fund, 2001), the Bank for International Settlements (Bank for International Settlements, 2001) and the Organisation for Economic Cooperation and Development (Organisation for Economic Cooperation and Development, 2002a) report these benchmarks are commonly used overseas for pricing new issues of debt securities implying that, internationally, government securities also are becoming less important for pricing.

Key questions

The Government would appreciate views from stakeholders on:

- whether CGS is used extensively as the primary benchmark for pricing the debt securities of other issuers;
- whether the interest rate swap curve is used widely for pricing debt securities. If not, are there obstacles to using the swap curve in the future? and
- what other options are available for pricing debt securities? How effective are they?

Referencing other financial products

Proposition

Some financial market participants may use the CGS yield as a reference benchmark for comparing the yields on different debt securities of a similar maturity.

Key issues

Benchmarking the yields of different securities against the yield on CGS with a similar maturity may allow market participants to gauge the premiums added for risks such as credit risk. Participants can determine whether they consider these premiums appropriate and trade accordingly.

For example, assume that debt securities from Company A are trading 50 basis points above CGS, and Company B's debt securities are trading 75 basis points above CGS. If financial market participants considered both companies' debt securities entailed similar risk, they would purchase Company B's securities and earn higher returns. Benchmarks may hasten the identification of arbitrage opportunities (higher profits for a given level of risk) and improve the efficiency of pricing in the financial markets. However, this argument does not appear compelling. Market participants could compare directly yields rather than relying on an arbitrary reference point.

Possible alternatives

CGS yields do not represent the only viable reference benchmark for assessing the yield on other debt securities. Possible alternatives for pricing new issues of debt securities — corporate debt securities or the interest rate swap curve — may substitute for CGS yields as a referencing benchmark. Because the interest rate swap curve more closely approximates the cost of funds for several financial market participants, it could be a more appropriate reference benchmark than the CGS yield curve.

Key questions

The Government would appreciate views from stakeholders on:

- whether the yield on CGS is commonly used as a reference benchmark for comparing the yields on other debt securities; and
- whether any major obstacle hampers the interest rate swap curve or some other benchmark being used as a reference benchmark.

Managing financial risk

Proposition

The CGS market underpins a number of important derivative markets that play a crucial role in managing financial risk. Winding down the CGS market could result in significant changes to a number of these markets. This may reduce the capacity for financial market participants, and businesses more generally, to manage their exposure to financial risk. This also may affect the cost of capital in Australia. If businesses face a higher cost of capital, then this would reduce investment, consumption and economic output.

Key issues

Financial market participants, and Australian businesses more generally, are exposed to a broad range of financial risks during their daily operations. A key financial risk many businesses manage is that interest rates may change (interest rate risk). For example, a business may borrow funds at a floating rate of interest and be concerned that interest rates may rise in the near future. The business may eliminate this risk by locking-in the interest rate on the borrowing.

The ability to manage interest rate risk cost-effectively is important for participants trading in financial markets. It is crucial for participants playing a 'market-making' role. These participants will enter into transactions that transfer interest rate risks from clients to themselves for a payment (usually a margin on the interest rate charged) regardless of the existence of an offsetting exposure on their books. These market-makers promote market liquidity. Changes in the scope or cost of managing financial risks may reduce incentives to play a market-making role, with the consequent impact on financial market liquidity.

The existence of efficient derivative markets for managing interest rate risks may lower the cost of borrowing for corporates. Potential investors in corporate debt can reduce the risk they face by using derivatives. Without derivatives, bonds would be less attractive.

The CGS market, and its associated derivative markets, are the primary vehicles in Australia for managing interest rate risk. The principal derivative markets related to the CGS market are the three-year and ten-year Treasury

bond futures markets (Box 2). Possible approaches to managing interest rate risk using these instruments are outlined in Box 3.

The Treasury bond futures market has developed into the primary vehicle for managing interest rate risk in Australia for several reasons. First, correlation between changes in the yields on CGS and changes in yields on other debt securities is high. Second, the underlying price of the futures contract cannot be significantly manipulated. Third, the Treasury bond futures market is very liquid and financial market participants can move in and out of the market without affecting the market price of the contracts.

Box 2: Treasury bond futures contracts

A futures contract is a legally binding agreement to buy or sell something in the future. The buyer and seller of a futures contract agree on a price today for a product to be delivered and paid for in the future. In most cases, actual delivery of the underlying security does not take place. Instead, the contract is settled by a cash payment calculated as the difference between the market price of the underlying product and the price agreed in the futures contract.

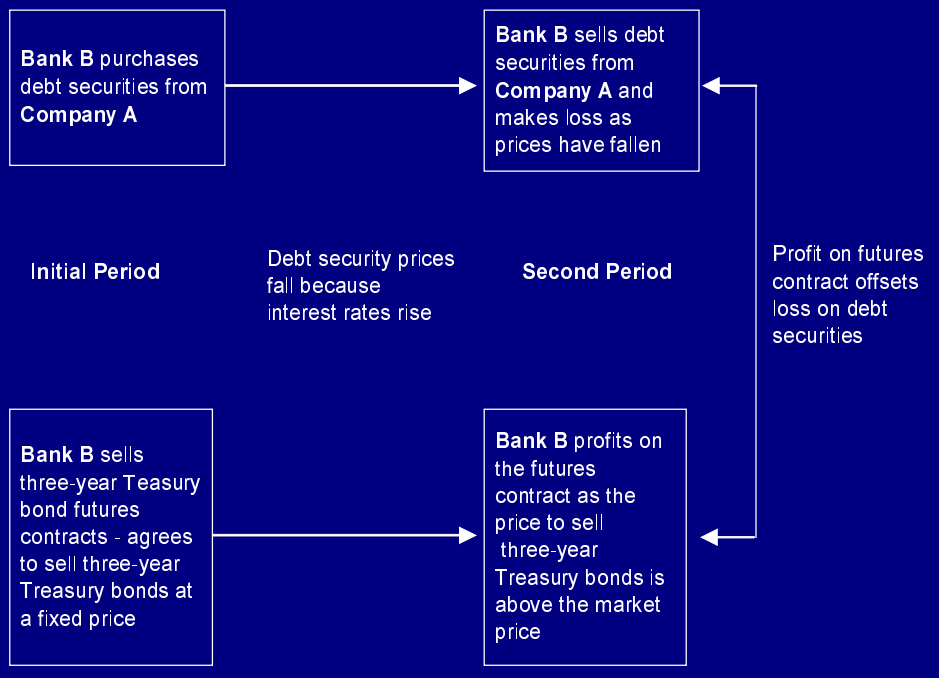
In Australia, the three-year and ten-year Treasury bond futures contracts are the principal mechanisms for managing interest rate risk. Trading in futures contracts takes place on a futures exchange — the Sydney Futures Exchange in Australia (SFE). These contracts are standardised and are based on a Commonwealth Government Treasury bond with a face value of $100,000, a coupon rate of 6 per cent and term to maturity of either three years or ten years. The contracts are cash settled against values determined by average yields for baskets of Commonwealth Government Treasury bonds selected by the SFE. Bonds are selected on the basis of their liquidity, amount outstanding and term to maturity. For the three-year contract, the SFE seeks to have a basket of bonds with an average remaining period to maturity of around 3 years. Similarly, for the ten-year contract the SFE seeks to have a basket of bonds with an average remaining period to maturity of around 10 years.

The relationship between bond yields and the value of a futures contract is inverse. For example, assume Company A purchases a ten-year Treasury bond futures contract. If the average yield for the bonds included in the basket for the ten-year contract falls, the settlement value of the futures contract will increase. On expiry, the difference between the settlement value of the contract and the value of the contract at the time of purchase would be cash settled by a payment to Company A.

Box 3: Managing interest rate risk using the Treasury bond futures market

Borrowers can use Treasury bond futures contracts to manage interest rate risk. For example, Company A has borrowed $100 million at a fixed interest rate to purchase capital equipment. The company is exposed to the risk of interest rates falling. Company A could hedge its interest rate risk by buying Treasury bond futures contracts at the same time as it enters into its loan. If interest rates subsequently fall (the price of bonds rise), the profit Company A makes on the futures contract will offset the relatively higher interest cost that it was required to pay on its loan over the period.

Similarly, investors also can use the Treasury bond futures market to manage interest rate risk. For example, Bank B has purchased $100 million of three-year fixed rate debt securities from Company A and is exposed to the risk that interest rates may rise (and bond prices fall). To manage this risk, Bank B could sell $100 million of three-year Treasury bond futures contracts. If interest rates subsequently rise (the price of bonds fall), Bank B will make a profit on the Treasury bond futures contract. The profit Bank B makes on the futures contract will offset the decline in the value of Company A's three-year fixed rate debt securities.



The high level of correlation between changes in CGS yields and other debt securities reflects the absence of risk premiums from the CGS yield. In the absence of premiums for risks such as credit and liquidity, changes in the CGS yields are likely to reflect changes to market interest rates flowing from shifts in the demand and supply of funds. All other debt securities should reflect these changes in the average yield.

A high level of correlation between changes in CGS yields and those on other debt securities means that holders of debt securities can hedge their interest rate risk by taking the opposite position in the Treasury bond futures market. Holders of debt securities can hedge their interest rate risk by selling a Treasury bond futures contract. If the price of the debt security subsequently falls, any loss made on the security should be largely offset by the profit made on the Treasury bond futures contract (see Box 3).

These relationships are likely to be strong in normal times. However, significant financial turbulence may undermine the strength of the relationship between changes in CGS yields and changes in the yields on other debt securities. Given the essentially risk-free status of CGS, investors may shift funds from other debt securities during times of uncertainty in the financial markets (flight to quality). In some cases, widespread simultaneous selling of non-government debt securities and purchasing of CGS may move the yields on the two types of debt in the opposite direction. This situation would limit the usefulness of Treasury bond futures for hedging interest rate risk on other debt securities and could amplify losses.

The high level of liquidity in the Treasury bond futures market has helped make Treasury bond futures more efficient in hedging interest rate risk. Daily turnover last year in the three-year Treasury bond futures market averaged around $6 billion and around $2 billion in the ten-year Treasury bond futures market. Market liquidity ensures market participants can quickly move in and out of the market, and undertake large transactions without significantly affecting prices in the market.

Possible alternatives

Alternatives for managing interest rate risk other than using the Treasury bond futures market may exist. The principal alternative could be based on the interest rate swap market. In addition, derivative markets based on the interest rate swap or corporate debt markets, such as swap or corporate bond futures, could be established to manage interest rate risk.

Australia's interest rate swap market is well established and highly liquid. The correlation between changes in the yield on interest rate swaps with yields on other debt securities is high (Table 2). For example, the correlation between swaps and corporate debt securities with AA credit rating is 0.969, compared to 0.974 between CGS and AA-rated corporate debt. This suggests interest rate swaps may be an effective hedging tool for managing interest rate risk on other debt securities.

Table 2: Correlation of changes in interest rate swap rate with other debt security yields

	Corporate yields		
	AAA	AA	A
Commonwealth Government Securities	0.990	0.974	0.972
Interest rate swap	0.975	0.969	0.966

Note: Correlation calculations based on monthly yield data for three-year fixed coupon bonds over the period August 1997 to June 2002.
Source: Treasury calculations based on data from Bloomberg, 2002.

The yield on interest rate swaps contains an element of credit risk which also is present in yields on other debt securities. This may improve the overall correlation of swap yields with other yields during financial uncertainty when flight to quality may occur. The credit risk element may assist swap yields to more closely track other yields in these situations, while yields on CGS diverge as investors shift funds into the lower risk CGS.

The interest rate swap market may not assume the primary role for managing interest rate risk in Australia due to limits on improving market liquidity. Interest rate swaps are bi-lateral agreements tailored to suit the needs of counterparties and traded in the over-the-counter derivative market rather than on an exchange.[2] They also are subject to credit risk. This is a positive factor from a pricing perspective, but a negative from the perspective of bearing direct risk on the hedge activity. A participant wishing to unwind an interest rate swap must:

2 The over-the-counter derivative market refers to customised derivatives that suit the individual needs of the counterparties. The individualised nature of these derivatives means it is not feasible to trade them on an exchange. Derivatives traded on exchanges have pre-determined and commonly understood parameters, such as principal and settlement dates.

1. get the agreement of the counterparty to unwind the swap; or

2. find a third party with a creditworthiness acceptable to the counterparty to take over its side of the swap; or

3. enter into an exactly offsetting swap.

This process reduces the participant's ability to move quickly in and out of the interest rate swap market. In principle, development of a standardised interest rate swap contract could overcome this problem. This would facilitate the use of supporting market infrastructure, such as a central clearinghouse and exchange trading. The central clearinghouse effectively becomes the counterparty to the two parties in the swap. The clearinghouse actively monitors each party's ability to meet their obligations under the swap through daily margin calls. Either party could pass the swap on to a third party without needing the agreement of their counterparty.

A second possibility could be to develop an interest rate swap futures market with standardised contracts traded on an exchange. Businesses could use these contracts to manage risk, provided the underlying price (the swap yield) is highly correlated with yields on other securities and the underlying price cannot be manipulated. Evidence indicates that the swap yield is highly correlated with corporate bond yields and that the swap market is highly liquid suggesting market manipulation is unlikely. Consequently, an interest rate swap futures market may be a viable alternative.

A third possibility could be to establish corporate debt derivative markets. However, the corporate debt market would need to be sufficiently large and liquid to reduce the likelihood of market manipulation of prices that form the basis of futures contracts. This would require continued improvements in corporate debt market turnover and liquidity, and may take time to develop.

Some alternatives would require considerable development to be viable. However, the absence of the CGS market would encourage innovation and provide incentives to develop alternative instruments. Alternative instruments would have a ready investor base, given the current high usage of CGS-based risk management instruments.

Financial market participants would also need time to adjust to using alternative instruments that may be developed to manage interest rate risk. For example, some funds managers may need to update existing management mandates to allow them to gain access to new derivative instruments.

Key questions

The Government would appreciate views from stakeholders on:

- whether there is scope for the Treasury bond futures market to be replaced by a futures market based on alternative instruments. What could hamper an alternative futures market from developing?
- whether the interest rate swap market is sufficiently liquid at maturities longer than five years to facilitate interest rate risk management;
- whether the viability of the interest rate swap market would be affected significantly by winding down the CGS market; and
- if alternate risk management tools were not available, what would be the likely impact of this on the cost of capital for corporate bond issuers?

Providing a long-term investment vehicle

Proposition

The low credit risks and long time to maturity of CGS make them a relatively attractive investment option for investors such as superannuation funds and insurance companies. If investors could not invest in CGS, then they may face more difficulties matching their relatively long-dated liabilities with their financial asset holdings.

Key issues

Investors such as superannuation funds find CGS provide a long-dated financial asset that can assist portfolio management by closely matching long-dated liabilities. Low-risk long-dated securities also provide investors with greater diversification options.

Historically, CGS have been the principal source of long-dated financial assets. The absence of CGS may limit long-dated investment options and complicate portfolio management. Some long-dated options, such as long-dated corporate bonds, still will provide investment diversification opportunities. However, their supply is relatively small and they are riskier than government debt, particularly for very long maturities, as it is difficult to have complete confidence in the existence and viability of a single company over very long periods.

Lower CGS supply may require portfolio managers to deal with the risk associated with a growing gap between the maturity structure of their financial assets and liabilities. For example, if factors influencing the rate of growth on the long-dated liabilities of a superannuation fund also are not reflected in the rate of return achieved on shorter dated assets, over time the superannuation fund may risk having difficulty meeting its obligations.

Table 3: Holdings of Commonwealth Government Securities by sector

	1997-98	1998-99	1999-00	2000-01	2001-02
	$b	$b	$b	$b	$b
Central bank	11.5	10.2	14.9	14.6	10.4
Banks and other depository corporations	10.2	7.7	6.0	3.3	3.6
Life insurance corporations	12.4	12.4	10.0	8.5	7.8
Other insurance corporations	7.0	7.0	5.6	4.7	4.4
Pension funds	15.1	13.8	14.2	12.3	11.6
Financial intermediaries	1.8	3.4	3.2	1.9	1.6
Households	0.2	0.1	0.1	0.1	0.1
Central borrowing authorities	1.0	1.5	1.7	0.9	0.5
Rest of world	37.8	31.5	22.3	23.0	23.8
Total	**97.0**	**87.8**	**78.1**	**69.4**	**63.9**

Note: Amount outstanding at the end of the June quarter. Estimates for 2001-02 are for the end of the March quarter.
Source: Australian Bureau of Statistics, 2002a.

The extent of this potential problem depends on the importance of CGS as a long-term investment for investors, such as superannuation funds. The estimates suggest that overseas investor holdings of CGS on issue have averaged around 35 per cent, pension funds (superannuation funds) holdings have averaged around 17 per cent, and life insurance corporations holdings have averaged around 13 per cent (Table 3).

The superannuation sector's holdings of CGS need to be considered in the context of the total assets the sector manages. At the end of the March quarter 2001-02, superannuation funds reported total assets of around $500 billion, with CGS accounting for less than 5 per cent of these assets. The very small contribution of CGS to total assets suggests CGS may not be a crucial instrument in the investment strategy of the superannuation sector at the moment.

However, the superannuation sector may wish to hold more CGS, but the current size of the market may constrain this. Furthermore, as the superannuation system matures, the superannuation balances of Australians will increase. Then people will be more likely to take an income stream on retirement rather than a lump sum. In the future, superannuation funds will tend to have a larger proportion of their assets backing pensions (rather than in the accumulation phase) than currently. The particular type of retirement products people take up will heavily influence the extent of this increased demand.

Possible alternatives

The continued development of the corporate bond market and derivative markets may provide an alternative source of relatively low risk, long-term, debt securities. If corporates continue to issue more into the corporate debt market, a wider range of investment options should become available, both in credit quality and maturities. Furthermore, the development of credit derivatives (Box 4) such as default swaps may allow investors to achieve a synthetic, low credit risk, debt security. This could involve the packaging of longer-dated corporate debt with a default swap to achieve a relatively low credit risk, long-dated debt security.

Box 4: Credit derivatives

Credit derivatives are contracts between two parties. They isolate a specific aspect of credit risk in an underlying instrument and transfer that risk from one party to another.

A credit default swap entails one party guaranteeing (for a fee) the performance of a third party in honouring their debt securities. If the debt issuer defaults, the party that provided the guarantee will step in and meet the issuer's obligations.

For example, an investor could invest in debt securities of a corporate with a credit rating of A and simultaneously execute a credit default swap to hedge against the risk that the corporate does not meet its obligations. The net profit from the interest income on the debt security and the cost of purchasing the credit default swap should be comparable to the return on instruments with a higher credit rating.

The market for credit derivatives such as credit default swaps is relatively new in Australia. However, market turnover has increased markedly. In 2000-01, turnover in credit default swaps was around $23 billion, more than double the turnover in 1999-2000. The market is expected to continue to expand as more participants enter and familiarity with the possible application of these credit derivatives increases.

Key questions

The Government would appreciate views from stakeholders on:

- the significance of CGS as a long-term investment vehicle, particularly for institutional investors such as superannuation funds and life offices;
- whether there is currently an unmet demand for CGS within the superannuation sector; and
- the potential to develop alternative long-term investment instruments.

Implementing monetary policy

Proposition

In the past, the CGS market has played a central role in the Reserve Bank of Australia's (RBA) implementation of monetary policy. A key issue is whether a decision to wind down the CGS market would affect adversely the RBA's ability to implement monetary policy.

Key issues

The RBA announces the desired stance of monetary policy in terms of a target for the interest rate on overnight funds borrowed and lent between banks. This interest rate is the cash rate and it forms the base of the structure of interest rates in the economy. Changes in the cash rate feed through to these other rates and ultimately affect the level of economic activity.

The cash rate is determined by the supply of, and demand for, exchange settlement (ES) funds, balances held in banks' ES accounts at the RBA. Banks use these balances to meet their settlement obligations to each other and to the RBA. At any time, the sum of all balances in banks' ES accounts represents the aggregate supply of ES funds available to the banking system. Only transactions between the banking sector and the RBA affect the aggregate supply of ES.

Every day, flows go both out of and into the banking system. These flows arise because RBA clients are active (including making government payments or collecting taxes) or because the RBA itself is active. If, on a given day, the net of these flows results in the pool of ES balances available to the banking system being less than demanded by banks, the cash rate would tend to rise and move away from the target the RBA sets. The reverse also holds.

The RBA undertakes transactions with financial institutions each day to ensure it supplies sufficient ES funds to the banking system to meet demand at or close to the cash rate target. In other words, it transacts to offset the impact of flows into and out of the banking system. These transactions are open market operations.

The RBA's open market operations involve it purchasing securities to inject funds into the banking system or selling securities to withdraw excess funds from the banking system. These transactions once were carried out exclusively

through outright purchases and sales, but now are conducted almost entirely through repurchase agreements. Repurchase agreements involve the sale of a security with an agreement to repurchase it on an agreed future date at an agreed price. They expose the RBA to little market risk and are efficient because the RBA can set the maturity (unwind) dates to meet expected future flows of funds.

The RBA's daily operations typically involve large values. In 2001-02, the average daily value of RBA transactions was $1.8 billion. On some days, turnover exceeded $4 billion. Given the scale of these operations, the RBA — like most central banks — has opted to hold and deal in securities that are liquid, have a high level of price transparency and carry minimal credit risk. In Australia, as in most other countries, this traditionally meant central government debt securities.

In recent years, the RBA has responded to the decline in the amount of CGS on issue by broadening the range of securities that it will accept as collateral on repurchase agreements in open market operations. The RBA will now accept:

- CGS;
- Australian dollar securities issued in Australia by central borrowing authorities of State and Territory governments (since June 1997);
- Australian dollar securities issued offshore by central borrowing authorities of State and Territory governments but traded in the Australian Austraclear System as euroentitlements (since June 2001); and
- Australian dollar securities issued in Australia by a range of AAA/Aaa rated supranational organisations (since October 2000/June 2001).

Consequently, this effectively doubled the pool of collateral available to the RBA at the end of June 2002.

In addition, the RBA has increased its use of foreign exchange swaps to supplement its operations in domestic securities. Foreign exchange swaps work like repurchase agreements. Australian dollars are exchanged for foreign currency rather than domestic securities. Moreover, the foreign currency can be invested in foreign debt securities. As the swap involves agreement to unwind the transaction at a future date at an agreed exchange rate, neither party to the swap is exposed to exchange rate risk. In 2001-02, foreign exchange swaps undertaken for liquidity purposes amounted to about $90 billion.

Possible alternatives

The RBA should be able to respond to further reductions in the CGS supply to maintain its capacity to implement monetary policy (Box 5). This is likely to involve further broadening of the range of domestic securities in which the RBA transacts and greater use of foreign exchange swaps.

Box 5: Public comments on the implications of declining government debt in implementing monetary policy

United States Federal Reserve Board of Governors Chairman Alan Greenspan commented to the Bond Market Association in April 2001:

> 'While the prospective paydown of [US] Treasury debt presents us with challenges, I am confident that… the Federal Reserve can make the needed adjustments and will be able to continue to implement monetary policy in the national interest.' (Greenspan, 2001)

The Governor of the Reserve Bank of Australia commented to the Commonwealth House of Representatives Standing Committee on Economics, Finance and Public Administration in May 2002:

> 'I think our view is that, if we were ever to reach the point where there was not enough Commonwealth or State authority debt around, we could probably find a way of conducting our market operations using private sector instruments.' (Hansard, 2002)

Key questions

The Government would appreciate views from stakeholders on the declining importance of CGS in the operation of monetary policy.

Providing a safe haven in times of financial instability

Proposition

CGS can provide a safe haven during times of financial instability. In times of financial instability, investors may become concerned about the risk of maintaining investments in certain sectors of an economy, or indeed the whole economy. As a result, they may transfer funds into assets they perceive to be low risk. A substantial CGS market may allow risk-averse investors a viable investment alternative. In the absence of CGS, the risk of substantial capital flight may affect the exchange rate, interest rates and domestic market confidence.

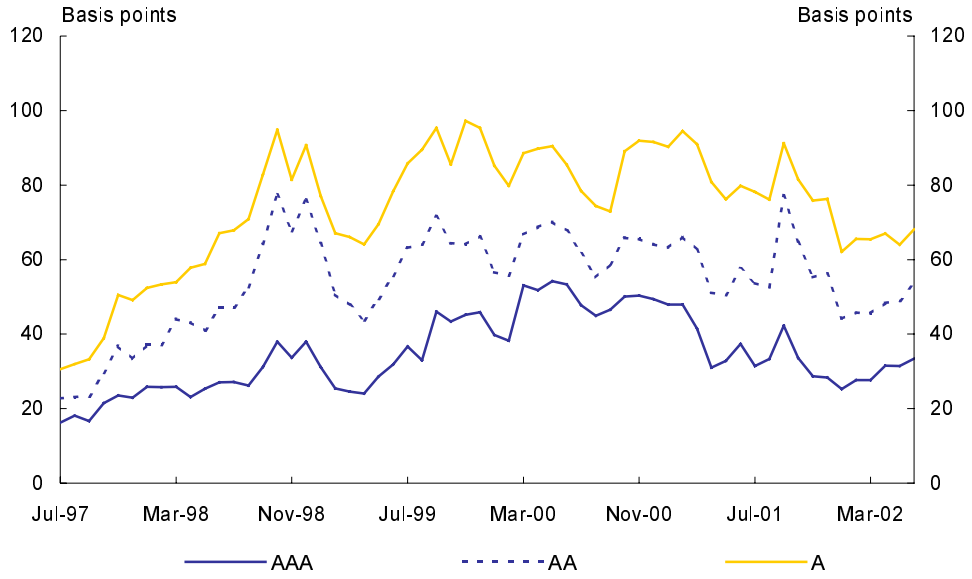
Key issues

During times of financial instability, investors may seek safe assets to avoid the potential of a capital loss on their investment. For example, investors may hold shares in a company in a particular market segment when they hear about an adverse shock to that segment (such as airline stocks affected by the September 11 terrorist attacks). To avoid losing their capital altogether if the company collapses, investors can sell their shares and instead purchase low credit risk assets.

In many cases where a shock affects only one market segment or industry, investors may simply move into similar assets in other market segments or industries. However, when shocks affect the market more broadly, many investors may seek lower risk assets, creating a flight to quality.

In many cases, investors go to government bonds. They also seek other safe financial assets. An example of flight to quality was the change in relative yields on low risk corporate, high risk corporate and government bonds following September 11. The spreads between corporate bond yields and equivalent maturity Treasury bonds rose immediately after the terrorist attacks (Chart 17). However, the spread widened most for lower credit rated corporate bonds and least for the highest rated bonds as investors sold relatively risky assets and purchased relatively safe assets.

Chart 17: Spread of corporate bonds to Treasury bonds

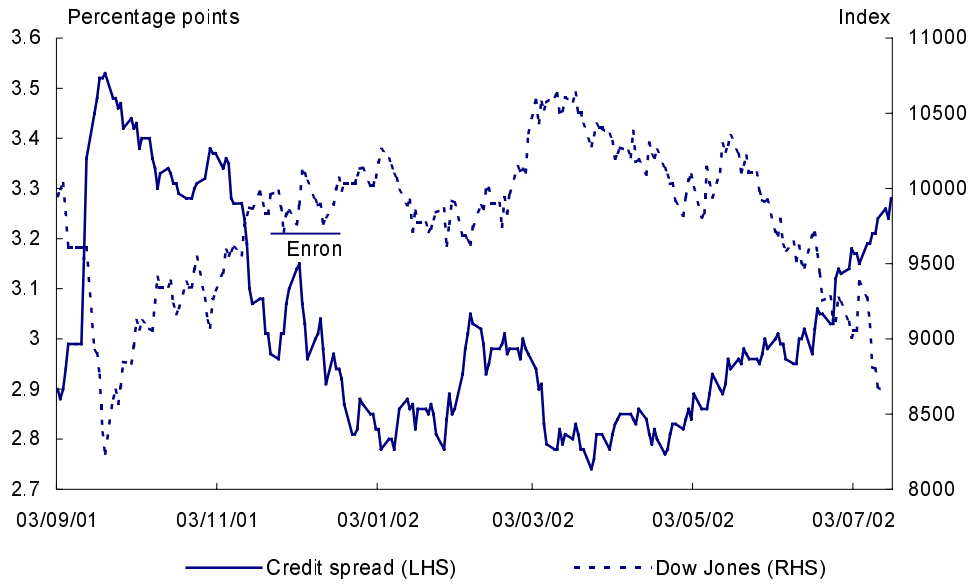


Note: Bonds with three years to maturity.
Source: Reserve Bank of Australia, 2002.

In Australia, events such as the 1997-98 Asian financial crisis, have had a greater impact on the Australian corporate bond spread.

A similar reaction occurred after US company Enron collapsed earlier this year. The spread between BAA rated corporate bonds and US Treasury bonds rose significantly following the disturbance in the equity market (Chart 18).

Chart 18: US corporate-government bond spread and Dow Jones Index



Note: Credit spread = ten-year BAA minus ten-year US Treasuries.
Source: Datastream, 2002.

Clearly, government bonds can act as safe haven assets. However, the circumstances in which CGS would be necessary or effective in insulating the real economy are unclear.

At one extreme, a small shock, say resulting from the collapse of a single large corporation, might see some investors seeking safe havens in CGS or other highly rated issuers. In this case, highly rated bonds could provide the safe haven, and some large, low risk equities also may suffice.

At the other extreme, a severe financial crisis, such as a systemic banking crisis, the presence of the CGS market may not make a substantive difference. Investors may take their funds out of the country to more stable markets, or simply hold cash.

A range of cases occur between these extremes. In the intermediate case of a relatively large, financial system-wide disturbance, the presence of very low risk government securities may be beneficial.

While the CGS market exists, it is likely to be used as a safe haven. Then the size of the CGS market may be important with the larger the market, the better. In a very small CGS market, the additional demand for CGS generated by

financial instability may very quickly increase the price of CGS. This would reduce its attractiveness. In a very large liquid market, an additional demand generated by financial instability would have less impact on CGS prices, and therefore have a smaller impact on the market's attractiveness as a safe haven.

Possible alternatives

The reduction in CGS in recent years has been directly linked to the Government's sound fiscal strategy. This fiscal strategy has also contributed to strong economic performance and prospects. This, in turn, contributes to reducing the impact of financial instability on the Australian economy.

To the extent that financial instability still occurs, a key issue in determining the future of the CGS market is whether other assets can act as a safe haven or mitigate against financial instability.

If no alternative safe haven assets exist in Australia, then financial instability may lead to capital flight. This may push down the exchange rate and further disturb unsettled financial markets. The International Monetary Fund has identified this safe haven role as a key uncertainty in assessing the need for a government debt market (Box 6).

However, investors can hold alternative investment vehicles such as AAA/Aaa rated corporate bonds, mortgage-backed securities, or cash at commercial banks during financial distress. Cash could involve lower returns than alternative investments, but provide a suitable low risk substitute for CGS. Australia's sound prudential regulation of the banking sector ensures investors are likely to view bank assets as relatively low risk. Cash would be a less acceptable substitute when inflation is very high but this is less likely to be relevant in Australia with its well entrenched monetary policy framework and low inflation environment.

A key issue in an episode of financial instability is liquidity — that is, the ability to convert assets to cash or another safe asset when required. The RBA can provide emergency liquidity to the financial system by making funds available to the market as a whole through its open market operations. The RBA also can lend directly to an institution (governed under the *Corporations Act 2001*) in cases of liquidity difficulties, if the failure of the institution to make its payments could seriously affect the financial system. This would help calm unsettled markets, and therefore reduce the need for investors to seek safer assets.

Box 6: The role of the United States Treasury Securities market

The strength of the United States' (US) fiscal position through the late 1990s and early 2000s resulted in significantly reduced US Treasury securities on issue. This reduction raised concerns about the continuing role of the US Treasury securities market in the US financial markets — similar to the current situation in Australia. The International Monetary Fund (International Monetary Fund, 2001) examined the implications of the decline in the US Treasury securities market and the prospects for private sector instruments to fulfil the roles currently played by US Treasury securities. (See Appendix 4.)

The International Monetary Fund analysis concluded that uncertainty surrounded the ability of the private sector to provide an adequate substitute for US Treasury securities as a safe haven during periods of instability. US Treasury securities were not only an important safe haven product in US domestic markets, but also a significant international safe haven. The International Monetary Fund acknowledged that determining the risk associated with the absence of US Treasury securities is very difficult, given little is known about the links between market dynamics and safe haven assets.

The International Monetary Fund also recognised that longer-dated US Treasury securities may enhance the ability of investors such as pension funds and insurance companies to achieve desired portfolio risk-return targets. In the absence of US Treasury securities, the limited supply of high quality, long maturity fixed interest instruments in the private sector may complicate portfolio management. This would require a greater focus on managing the risk generated by the mismatch between the long-dated liabilities and shorter-dated assets.

The International Monetary Fund found that participants in US financial markets increasingly used private sector alternatives for pricing and referencing other debt securities and managing financial risk. Indeed, several markets already assume a limited benchmark role in these areas. These markets include the corporate debt, agency debt and interest rate swap market.[3]

3 Agency securities constitute obligations of government-sponsored enterprises, which operate under federal charter.

In an example of this, central banks around the world acted after the September 11 terrorist attacks to boost liquidity in their financial systems to ensure markets did not experience systemic failures resulting from disruptions in payment and settlement systems or the increased risk aversion. This was designed to ensure the continued smooth operation of markets rather than to change monetary conditions (Reserve Bank of Australia, 2001a).

Other approaches also may be available to the Government. For example, the Government could issue shorter term instruments to provide safe haven assets when required. The Government is likely to continue to issue Treasury Notes given the volatility of cash flows throughout the year. The Government could consider issuing large quantities of additional Treasury Notes at times of financial instability to increase the supply of safe haven assets. This approach need not detract from system-wide liquidity. It could involve offsetting cash injections or being prepared to accept non-cash assets in return for Treasury Notes.

However, very important practical issues may be associated with the use of Treasury Notes at times of financial instability. First, it may be difficult to identify the onset of a crisis in time for Treasury Note issuance to be an effective safe haven. Second, large-scale issuance of Treasury Notes during an episode of financial instability may diminish confidence. This is particularly important as market confidence is critical at such times.

Key questions

The Government would appreciate views from stakeholders on:

- the importance of the CGS market in providing a safe haven during periods of financial instability;
- what evidence there is of the role of CGS as a safe haven? and
- what possible alternative safe havens exist and how appropriate they are?

Attracting foreign capital inflow

Proposition

The CGS market may attract foreign capital into the Australian economy.

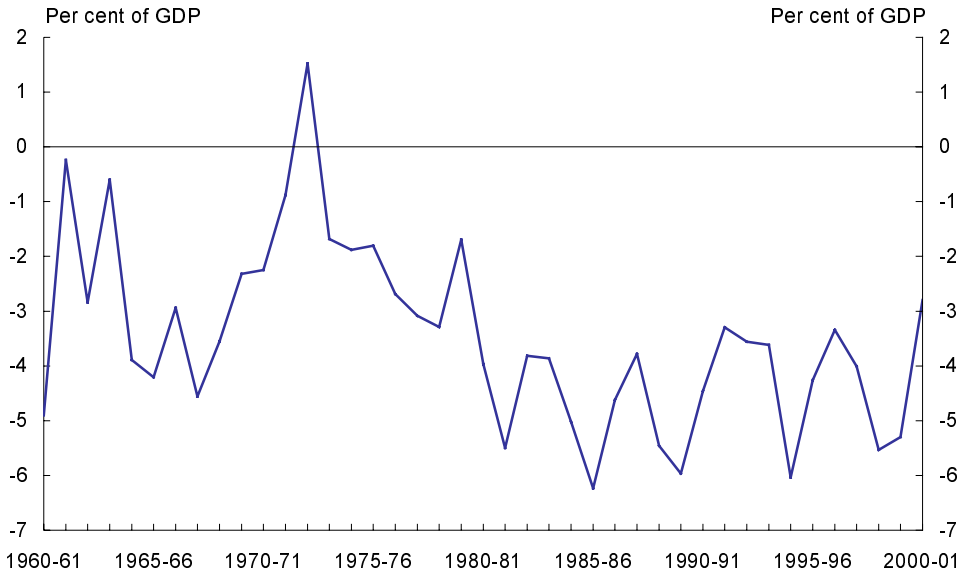
Key issues

Need for foreign investment in Australia

The need for foreign investment in Australia depends on the gap between domestic savings and investment, which translates into the current account balance (Chart 19). If domestic savings meet domestic investment, then net foreign investment is not needed (gross foreign investment may occur but it will be matched by Australians investing overseas).

The Government's fiscal strategy is to maintain budget balance, on average, over the course of the economic cycle. Higher Commonwealth general government saving can contribute to improved national saving and reduce pressure on the current account deficit.

Chart 19: Australia's current account balance



Source: Australian Bureau of Statistics, 2002b.

Since the Government is not investing more than it is saving (and therefore not borrowing by issuing CGS), it does not require additional foreign capital inflow. Instead, private sector savings and investment decisions will determine whether additional foreign capital inflow is required.

Impact on foreign capital flow of reducing the supply of Commonwealth Government Securities

Foreign investors will invest in Australia if the rate of return encourages them to invest here, rather than elsewhere. The savings-investment imbalance may enter investors' calculations if they believe that it signals future exchange rate movements that will influence foreign currency returns.

Reduced CGS supply would increase the price of the remaining CGS outstanding, causing interest rates on CGS to fall. Investors who value CGS very highly would accept a lower return to hold the scarcer CGS.

All other financial assets are considered substitutes (although imperfect) for CGS, so the increase in the CGS price would cause investors to buy other financial assets. This would increase the price of these assets and reduce their interest rates. While a very diverse range of other financial assets exists and this change in demand would affect some more than others, in broad terms, the average interest rate on all other assets would fall.

As such, the net effect of reducing CGS outstanding would lower average interest rates in the domestic economy, which should stimulate physical investment and therefore national income.

Assuming foreign interest rates do not change, lower Australian interest rates are likely to cause some foreign investors to reduce their holdings of Australian assets, to buy higher yielding foreign investments. However, some foreign investors will be more sensitive to interest rate changes than others. Some foreign investors strongly interested in maintaining a portfolio of Australian assets, partly due to their confidence in Australia's sound macroeconomic and policy framework, will not necessarily withdraw their capital. In this case, reduced supply of CGS may see these investors replace some of the CGS in their portfolio with other domestic assets.

In contrast, an investor solely investing in Australia to gain exposure to sovereign debt, will invest in alternative sovereign debt, if the CGS supply is reduced.

Some investors follow a global bond index in establishing their investment portfolio. Sovereign global bond indices rank sovereign bonds by the amount

on issue in each bond line. For example, the Salomon Smith Barney Global Bond Index includes governments with $250 million on issue in a given line and US$20 billion overall outstanding. Greater issuance would raise the country's position in the index (if other countries did not change their issuance). Consequently, reducing the supply of CGS would reduce foreign investment from those investors who passively follow a global bond index.

The International Monetary Fund and World Bank (International Monetary Fund and World Bank, 2001) recently noted that government debt markets can play a role in developing private financial markets. Both private and public sector debt markets provide a potential destination for foreign capital. This is likely to be most relevant for countries trying to establish financial markets. However, it is less likely that removing a government debt market from an already sophisticated financial market would have adverse consequences.

Issuing CGS to attract capital inflow, on balance, may not be a sensible policy. The level of capital inflow is not a policy goal in itself. A more desirable policy goal is to keep the cost of capital in Australia as low as possible. If the reason for the additional capital inflow is that additional CGS issuance drives up Australian interest rates, then issuance would be undesirable as higher interest rates will reduce investment, consumption and domestic output.

Possible alternatives

Putting aside passive global bond index investors, the Government's fiscal strategy should mean private savings and investment decisions drive the need for foreign capital inflow. To the extent that foreign capital is required to finance domestic investment, then generally sound economic, political and social environment should attract foreign investors into Australia. Australia has a very strong record of building and maintaining a stable macroeconomic framework and undertaking ongoing structural reform.

Key questions

The Government would appreciate views from stakeholders on:

- whether the absence of a CGS market would affect Australia's attractiveness to foreign investors; and
- how important global bond indices are for foreign investment in Australia.

Promoting Australia as a global financial centre

Proposition

The CGS market may play a role in promoting Australia as a global financial centre.

Key issues

Australia's attractions as a global financial centre

In recent years, the Commonwealth Government has taken steps to promote Australia internationally as a global financial centre. Axiss Australia has outlined the following benefits that Australia offers:[4]

- a strong economy;
- liquid and innovative financial markets;
- a secure business environment;
- low cost property;
- world class information and communications technology;
- people skills to service the region;
- competitive salaries and other business infrastructure costs;
- excellent quality of life; and
- time zone advantages.

The deregulation of Australia's financial markets has ensured that highly developed markets exist for equities, debt, foreign exchange and derivatives. Total turnover in these markets is around $43,000 billion per year. Turnover in the debt market accounts for over half of turnover across the financial markets.

4 Axiss Australia is a government body created in 1999 to position Australia as a global financial services centre in the Asian time zone.

In recent years, the volume of non-government debt outstanding has risen while the volume of Commonwealth debt has fallen. New domestic issues of bonds by non-government borrowers now are at record levels.

Increased issuance has led to higher volumes being traded in the secondary market. Turnover in fixed coupon non-government debt securities was around $150 billion for the year ending June 2001, around 20 per cent higher than the previous year. Most turnover within the non-government debt market is in corporate securities, bank securities and mortgage-backed bonds. Most securities traded are rated A+ or above.

Issuance by offshore borrowers, both through domestic issues (Kangaroo bonds) and global structures, has picked up significantly. Kangaroo bonds outstanding now are around $18 billion. (See Chapter 2.)

Development of private capital markets

The International Monetary Fund and World Bank have recently noted that government debt markets can play a role in the development of private financial markets. Often, the development of government bond markets facilitates the necessary exchange mechanisms and institutional frameworks to develop private markets — for example, settlement systems, trading systems, and central security depositories.

One argument used to promote Australia's role as an international financial centre is the highly skilled, well-educated and multilingual finance sector workforce. Whether having employees skilled in the operations of the CGS market provides positive benefits for other segments of the financial markets is unclear. If it does, then the CGS market may indirectly reduce transaction costs.

In Australia, market infrastructure is highly efficient with sophisticated risk management instruments available. If the Government withdrew from the market and this infrastructure deteriorated, then transaction costs, and therefore the cost of capital in Australia, may be higher than if the Government remained in the market.

Market infrastructure is unlikely to deteriorate significantly in the absence of outstanding CGS. More likely, the infrastructure would evolve to reflect the prominence of other borrowers, such as States, Territories and corporates. For example, risk management instruments may evolve to reflect increasing debt issuance by corporates.

Australia is the leading regional market in interest rate derivatives. If derivatives markets continue to develop, particularly in interest swaps and corporate bond derivatives, then they would maintain Australia's role as a flexible and dynamic financial centre.

Whilst the CGS market has clearly assisted with financial market development, it is less clear whether removal of the market would hamper further financial market development. Indeed, withdrawal of the CGS market may encourage further innovation and development.

Innovation in Australia's financial markets

Given the growth in private markets in recent years, the absence of the CGS market may not affect Australian financial market liquidity or innovation. Australia's financial markets may become more innovative as new products are developed to fill the roles played by CGS. For example, the absence of CGS may generate new derivative products for risk management.

Possible alternatives

Australia already offers a broad range of benefits as a centre for global financial services. Further development of private financial markets and products should strengthen Australia's benefits from deep and liquid financial markets.

Key questions

The Government would appreciate views from stakeholders on:

- whether the CGS market plays a significant role in promoting Australia as a global financial centre; and
- whether the absence of a CGS market would affect transaction costs and Australia's attractions as a centre for global financial services.

CHAPTER 4: APPROPRIATE SIZE OF THE COMMONWEALTH GOVERNMENT SECURITIES MARKET

If the Government decided to maintain the Commonwealth Government Securities (CGS) market, it would need to assess the level and composition of CGS outstanding necessary to ensure market viability. This also involves assessing the required growth rate of the CGS market over time. The required level of CGS issuance would inform development of any financial asset acquisition and management strategy.

The required level of CGS outstanding over time would depend on the rationale for maintaining the CGS market. Acceptance of different rationales is likely to lead to different conclusions about the market's necessary size and composition.

This paper identifies possible roles for the CGS market in the Australian financial market, and the economy more broadly. The volume of CGS outstanding necessary for the CGS market to meet these different roles may vary. However, the possible roles can be divided into two groups, with the required CGS outstanding likely to be broadly similar for each role within that group:

- first, as a pricing and referencing benchmark for other debt securities, and managing financial risk; and
- second, as a long-term investment vehicle and safe haven.

Commonwealth Government Securities as a benchmark for pricing other debt securities and managing financial risk

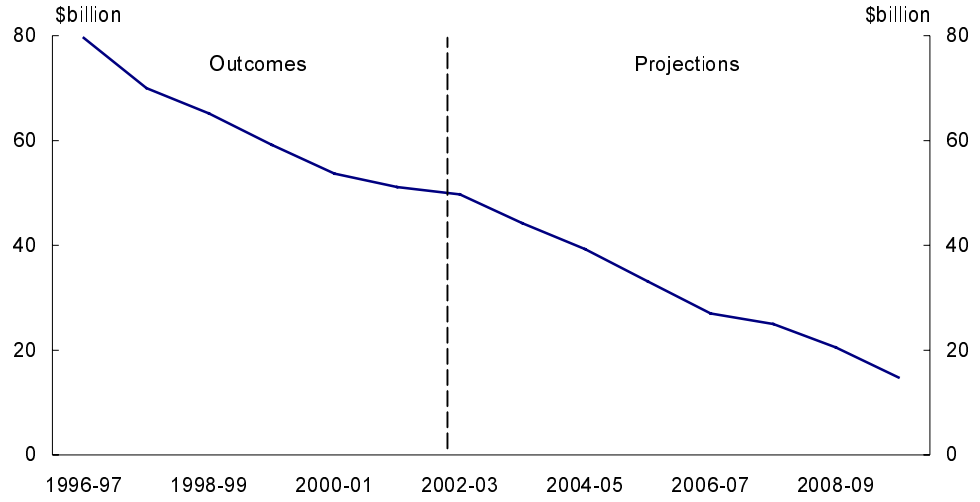
A range of maturities with a sufficient amount outstanding in each security to avoid liquidity risk is required for CGS to provide an accurate pricing benchmark. Some financial market participants have suggested that the Treasury bond yield curve should extend for around 10 years, with securities spread evenly across this period. They also suggest around $5 billion is required in each security to avoid liquidity risk. This implies the current volume of $50 billion outstanding can provide an adequate pricing benchmark.

The management of financial risk through Treasury bond futures contracts requires some volume of Treasury bonds outstanding. Presently, the Sydney

Futures Exchange selects three or four benchmark securities to underpin each of the contracts. This suggests six to eight benchmarks of $5 billion (or a total of $30 billion to $40 billion) outstanding may be sufficient to fulfil this function.

Maintaining the CGS market at around current levels over time may not fulfil the roles of pricing and referencing other debt securities, and managing financial risks, as the potential size of transactions in the CGS and futures market also will increase as the economy grows. To minimise the risk of increasingly larger transactions having an undue impact on market prices, it has been suggested that the CGS and futures markets may need to grow by a rate similar to the economy's. In recent years, growth in nominal gross domestic product has averaged around 6 per cent per year.

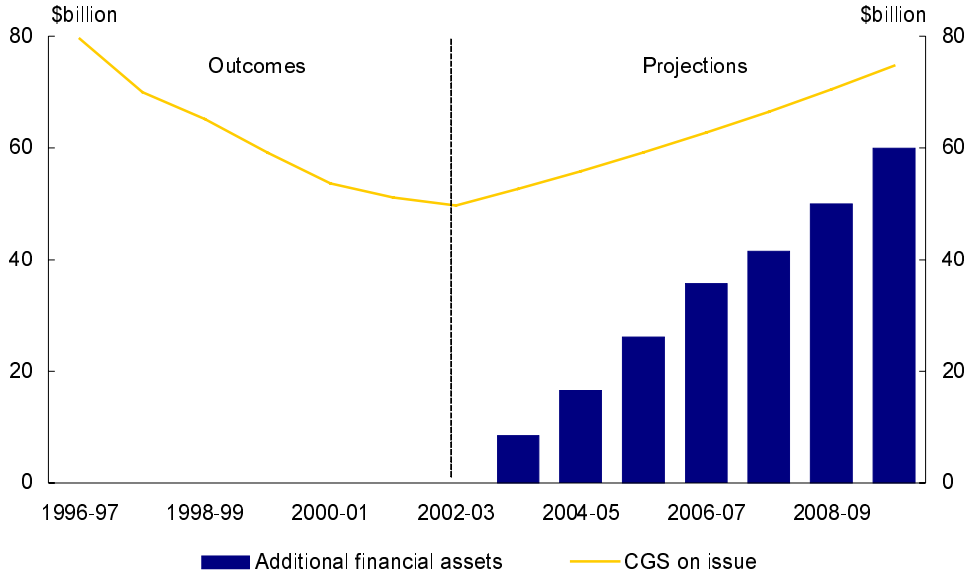
Chart 20: Commonwealth Government Securities outstanding if retired at maturity and no further issuance[(a)]



(a) Refers to Treasury bonds outstanding.
Source: Australian Office of Financial Management projections, 2002 (unpublished).

Net additional issuance of CGS would be required to maintain the CGS market at around $50 billion of outstandings and grow it at 6 per cent per year. On the basis of the current forward estimates and assuming budget balance in the period beyond 2005-06, CGS on issue could fall as low as $15 billion by 2009-10 if the Government allows CGS to mature and does not undertake new issuance (Chart 20). To offset this decline and grow the market by 6 per cent, the Commonwealth would need to accumulate a financial asset portfolio of around $60 billion by the end of the decade (Chart 21).

Chart 21: Growing the Commonwealth Government Securities market in line with nominal growth in gross domestic product [(a)]



(a) Refers to Treasury bonds outstanding.
Source: Australian Office of Financial Management and Treasury projections, 2002 (unpublished).

Commonwealth Government Securities as a long-term investment vehicle and safe haven

For the CGS market to act as a long-term investment vehicle and safe haven during financial instability, CGS on issue would need to be sufficient to meet the needs of investors over time. Investor demand for CGS is likely to increase during financial instability, when investors seek low-risk financial assets.

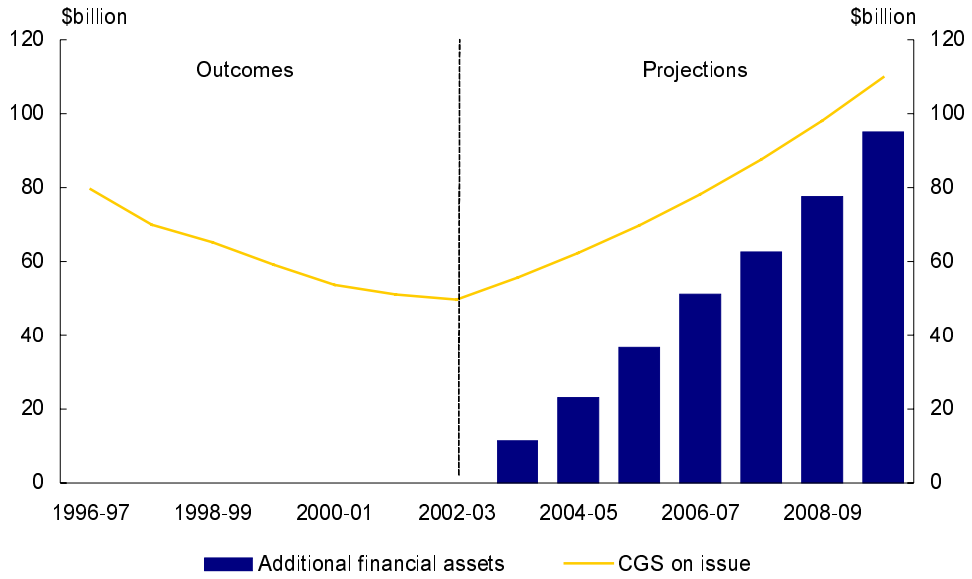
The life insurance and superannuation sectors are likely to have the highest demand for low-risk, long-dated, financial assets. Some financial market participants suggest that the current $50 billion of CGS on issue may be well below that required, given the rapid increase in funds under management. Assessing the appropriate size of the CGS market so it can play a safe haven role is difficult, but it is likely that it would require a greater volume of CGS. This reflects the strong growth in financial assets in Australia and the likelihood that the CGS market would need to at least maintain its share in the overall financial markets to be considered a safe haven (as financial market size will indicate the volume of assets that may seek a safe haven).

The size of the CGS market may need to increase over time to meet investor demand for low-risk, long-dated, financial assets. Assuming that investors such as superannuation funds and life insurance corporations aim to at least maintain the current share of CGS in their overall portfolio, CGS market growth may need to at least keep pace with the growth in financial assets. In recent years, financial assets in Australia have averaged around 12 per cent per year growth. This growth rate is also likely to be the minimum necessary to allow the CGS market to maintain a safe haven role.

Not all types of CGS can fulfil all the roles outlined in this paper. While, all CGS can play a role as safe haven assets during financial instability, only Treasury bonds and Treasury Indexed Bonds can act as long-term investment vehicles.

The Government would need net additional issuance of CGS to maintain the CGS market at around the current level of outstandings and grow it at 12 per cent per year (Chart 20). To address the expected decline in the CGS market and grow the market by 12 per cent, the Commonwealth would need to accumulate a financial asset portfolio of nearly $100 billion by the end of the decade (Chart 22).

Chart 22: Growing the Commonwealth Government Securities market in line with growth in financial assets[(a)]



(a) Refers to Treasury bonds outstanding.
Source: Australian Office of Financial Management and Treasury projections, 2002 (unpublished).

Risk premium considerations

In assessing the ideal size of the CGS market, the Government needs to consider the impact of market size on interest rates. For relatively low levels of debt (compared with other developed countries), the impact on interest rates is likely to be modest. However, if the Government maintains a very large CGS market, then risk premiums on Australian interest rates may increase. The costs of these risk premiums would need to be compared with the benefits associated with maintaining the CGS market.

Key questions

The Government would appreciate views from stakeholders on the appropriate size of the CGS market in the event that the market is to be maintained.

CHAPTER 5: OPTIONS AVAILABLE TO THE COMMONWEALTH

Introduction

The Government's fiscal strategy is to maintain budget balance, on average, over the course of the economic cycle. The Government will not consider options that build budget deficits to maintain the Commonwealth Government Securities (CGS) market. (See Box 7.)

Some commentators suggest that the CGS market already is at, or below, the minimum level necessary to perform its key roles. If the market is close to its minimum viable level, the Government would need to increase issuance to maintain market viability. Under the Government's fiscal strategy, this would require the Government to accumulate substantial financial assets.

- For example, in four years time the market would need to be around $12 billion larger than its current level of around $50 billion, assuming a required growth rate of 6 per cent per year. The current budget estimates indicate cumulative underlying cash surplus over the next four years. So, maintaining the market may require the accumulation of $20 billion to $30 billion of financial assets over the next four years.

The Government presently holds financial assets in the form of term deposits with the Reserve Bank of Australia (RBA) as part of its cash management operations. This facility helps in managing within-year funding requirements. (See Chapter 2.) Funds on deposit vary over time, depending on differences in the timing of tax revenues and expenditures.

The RBA currently invests funds deposited by the Commonwealth in a portfolio of very low-risk debt assets. These assets are held mainly in the form of domestic and foreign government debt securities. While this facility is appropriate for short-term cash management, it is not considered appropriate to require the RBA to perform the role of funds manager on behalf of the Government for a large and ongoing portfolio of financial assets.

The paper considers three specific options: winding down the CGS market; consolidating Commonwealth and State government debt markets; and maintaining the CGS market and funding the Commonwealth's unfunded superannuation liabilities.

Box 7: Commonwealth budget balance measures

The principal measures of the Commonwealth budget balance position are the **underlying cash balance** and the **fiscal balance**. The underlying cash balance is derived from the cash flow statement, while the fiscal balance is derived from the operating statement.

Both measures are calculated as the residual of Commonwealth general government revenues over expenditures. Revenues include income received from all sources including taxation and other fees and charges. Broadly, expenditures include funds expended on current items (such as employee expenses and rent) and non-financial assets (such as the construction of roads, buildings and bridges).

Discussion of these options is based on current budgetary reporting arrangements. However, because the options envisage new arrangements, the Government may need to consider classification issues (and their budget consequences) in greater detail before implementing them.

Option 1: Wind down the Commonwealth Government Securities market

Description

The Government could withdraw from the CGS market. It could do this either by repurchasing all outstanding CGS as headline cash surpluses are realised or by allowing all outstanding debt to mature.

Risk and return issues

Since the Government would be eliminating all outstanding debt over time, this position would effectively eliminate all risks currently associated with the debt portfolio.

Even after repaying all debt, the Government, from time to time, may need to re-enter financial markets due to individual budget surpluses or deficits. This raises the issue of managing the assets acquired during surplus periods and needing to borrow during deficit periods.

This leads to the question of the Government's desired net debt position (positive, negative or zero) over the cycle. The fiscal strategy does not provide definitive guidance on this issue, but implies net debt would oscillate around a fixed nominal level. Budget fluctuations around this level will result in relatively low debt or asset positions, depending on the individual deficit or surplus. If the Government decided to maintain a level of assets on call to ensure deficits never require debt finance, then it would need to consider the assets' nature and governance.

If the Government needed to access significant borrowings at some future time due to an unforseen event, such as a natural disaster, its capacity to access funding is important. This type of risk is known as funding risk.

If the Government needed significant funding, it is reasonable to assume that investors (either domestic or international) would be willing to provide funds. Key investor groups such as superannuation funds and insurers have an ongoing demand for low credit risk investments. Furthermore, passive investors who hold government securities as a proportion of all securities on issue provide a ready group of investors.

Development of market infrastructure would influence the cost of these funds. Market infrastructure is currently highly efficient with sophisticated risk management instruments available. If the Government withdrew from the market and this infrastructure deteriorated, the cost of future borrowings could be higher than if the Government remained in the market.

Market infrastructure is unlikely to deteriorate significantly in the absence of outstanding CGS. Infrastructure would remain and evolve to reflect the prominence of other borrowers, such as States, Territories and corporates. For example, risk management instruments may evolve to reflect increasing debt issuance by corporates. The Government would be able to use this infrastructure to facilitate future borrowings.

The Government's position in the market also influences the level of funding risk. The Government currently has a significant position in the market, with CGS accounting for around one-third of outstanding fixed coupon securities. Several unique characteristics of CGS add to this position including:

- investors will pay a premium for sovereign issued debt above non-sovereign issued debt with the same high credit rating;
- CGS is highly liquid with a broad range of maturities;
- current risk management instruments are directly linked to CGS (for example, Treasury bond futures); and
- CGS is included in global bond indices.

The combination of these factors is demonstrated by the Government's ability to borrow long-term debt around 30 basis points lower than similar rated domestic borrowers. If the Government withdrew from the market and subsequently re-entered, this funding advantage may be weaker.

Any increase in the cost of funding is likely to reflect loss of liquidity in the Government debt market. The Government is unlikely to have to bear significant credit risk premiums as it would re-enter the market with zero outstanding debt. The cost of borrowing may rise by the full 30 basis points. The additional cost of each basis point higher is around $0.1 million per year for every billion dollars of debt. If the Commonwealth borrowed $10 billion (around 1.5 per cent of GDP), the additional cost would be $30 million per year.

This potential increase in the cost of borrowing needs to be balanced against the alternative — the cost (or potential cost) of maintaining the market in the absence of a funding requirement. Potential costs may include adverse returns from asset positions.

Economic impact

The following section outlines the direct impact of reducing the supply of CGS on related financial markets and the broader macroeconomy. It assumes that winding down the CGS market does not create systemic effects such as Australian businesses facing a higher cost of capital due to a reduced capacity to manage interest rate risk. (See Chapter 3 for these potential effects.)

The relationship between the price of CGS and the quantity of CGS investors will want to hold is likely to be inverse. As the price rises, investors will want less CGS as they seek other alternative investments. If the price falls, investors will want to hold more CGS.

The Government's fiscal strategy has provided the resources to repurchase outstanding CGS. Reduced CGS on issue is likely to increase the price of the remaining CGS outstanding. This is associated with a fall in interest rates on CGS. Investors who value CGS very highly are prepared to accept a lower return to hold the now more scarce CGS.

A very diverse range of other financial assets exists in the economy. The market considers many other financial assets substitutes for CGS. When the price of CGS increases, investors will look to buy other assets. This will increase the price of other assets and reduce their interest rates. The net effect of reducing CGS outstanding is to lower interest rates on both the remaining CGS and other assets. The magnitude of the changes in prices and interest rates will depend on a range of factors. (See Appendix 3.)

The direct market effects are likely to lead to a decrease in average interest rates. This has broader macroeconomic implications. The reduction in average interest rates may increase consumption and capital investment, increasing overall domestic output immediately and also increasing future productive capacity.

Lower Australian interest rates are likely to cause some investors to rebalance their portfolios in favour of relatively higher yielding foreign investments. This may lead to a depreciation of the Australian dollar. This depreciation would

increase the competitiveness of Australia's exports, improving the balance of trade and current account.

The increase in domestic output resulting from higher investment and net exports and depreciation of the exchange rate may generate some pressure for increased prices in the economy generally. These price pressures are likely to be modest if the economy is operating below full capacity. However, if the economy is operating at full capacity, then price rises initially may result in little change in overall economic output. Economic output is likely to rise in subsequent periods, as higher investment boosts productive capacity.

The role of global bond indices complicates this analysis. Some investors follow a global bond index in maintaining their portfolio of investments. Sovereign global bond indices generally weight sovereign bonds by the amount on issue.

The presence of global bond index investors may complicate the dynamics of adjustment following a reduction in the CGS market. We assume that as the amount of CGS on issue falls, the price will rise. However, once CGS outstanding falls to a point that would remove the CGS market from global bond indices, there may be a large downward step in the amount of CGS sought by investors due to the withdrawal of global bond index investors. Consequently, there may be a step down in the price of CGS, which could cause interest rates to rise. Further reducing the amount of CGS on issue then would cause the price to rise again, eventually rising above the level applying before the global bond index investors withdrew.

Given the size of Australia's financial markets, any changes in broader interest rates associated with changes in the supply of CGS are likely to be small. Consequently, the broader macroeconomic impacts are likely to be extremely modest. Given other changes in economic activity occurring at any time, the impact of changes in the CGS market would not necessarily be discernible.

Governance issues

The Government would maintain existing governance arrangements surrounding the Commonwealth's debt portfolio while debt was outstanding.

Budget impacts

The budgetary impact of winding down the CGS market would depend on the Government's approach to withdrawing from the market.

If the Government repurchased all outstanding CGS as budget proceeds become available, this would generate repurchase premiums. A repurchase premium is calculated as the difference between the value of the CGS instrument on the Government's balance sheet and the price at which the CGS is repurchased. These repurchase premiums have two components.

First, repurchasing outstanding debt ahead of maturity may bid up the price of that debt. Second, much of the outstanding CGS was issued at higher interest rates (and therefore lower bond prices) than currently prevail, so repurchasing before maturity would result in substantial repurchase premiums.

Repurchase premiums will reduce the underlying cash balance in the year the debt is cancelled or matures.

Allowing outstanding CGS to mature will mean that the Commonwealth continues to pay interest on the debt. However, given projected budget surpluses and asset sales proceeds, the Government would build up financial assets over the period. It is reasonable to expect the return on these assets would approximately offset the additional interest cost from paying coupons until the bonds mature, leaving the underlying cash balance broadly unchanged.

Transition issues

The Government could choose to withdraw from the market in line with budget surpluses and asset sales proceeds. However, this would result in the Government bearing repurchase premiums.

This approach also may unsettle financial markets. Other chapters discuss the need for private sector financial instruments to develop and fill some roles played by CGS. Repurchasing all outstanding CGS over the next few years would put additional pressure on the private sector to quickly develop new instruments.

An alternative to a quick withdrawal from the market would be to allow all outstanding CGS to mature. Allowing the current outstanding CGS to mature would mean that the Commonwealth maintained the Treasury bond portfolio until at least 2015. This approach would ensure that the Government does not pay repurchase premiums on CGS.

This approach also would provide more time for financial markets to adjust to the withdrawal of CGS from the market, although they would need to adjust well before the maturity of the longest dated bonds.

Key questions

The Government would appreciate views from stakeholders on:

- potential implications of winding down the CGS market;
- the likely impact on the cost of capital;
- the most appropriate approach and timeframe to implement a decision to wind down the market, if this decision is made; and
- the likely re-entry costs (in the form of additional borrowing costs) if the Commonwealth withdraws from the market.

Option 2: Consolidate Commonwealth and State government debt markets

Description

Australian governments could consolidate Commonwealth, State and Territory debt issuance into one issuance programme. It could achieve this in one of two ways. First, the Commonwealth could issue CGS and use the proceeds to buy existing State and Territory government debt. This would increase significantly the size of the CGS market, but eliminate the semi-government debt market. Second, State and Territory governments could cease issuing debt in their own right, and the Commonwealth could issue CGS to meet State and Territory government funding needs. This also would eliminate the semi-government market, but over a longer period.

The Commonwealth, States and Territories considered and rejected this option in August 2001. (See Appendix 5.)

Risk and return issues

Consolidation may reduce public sector borrowing costs by up to $150 million per year if States' and Territories' borrowing costs fall to the Commonwealth's level. However, savings of this magnitude could take 10 to 15 years to be realised fully as debt matures and is refinanced.

The magnitude of savings resulting from consolidation depends on factors including continuation of the current spread between yields on Commonwealth and State and Territory debt, maintenance of current general government debt levels and no change in the Commonwealth's cost of funds. This final point is crucial if consolidation is pursued. Arrangements would need to maintain financial markets' confidence in the integrity of all governments' financial management, as a small increase in the Commonwealth's cost of funds would significantly reduce the savings.

Spreads are likely to reduce, so the cost to the Commonwealth is likely to increase, while the cost to the States and Territories is likely to decrease. However, the Commonwealth could require the States and Territories to pay the Commonwealth an additional amount to reflect the cost imposed on it.

Savings also may accrue from relative improvements in the efficiency of the Australian government securities market but these are very difficult to

estimate. These could arise through more competitive tendering on debt issuance.

Economic impact

The option is based on CGS trading at lower interest rates than semi-government debt. This may be due to the CGS market's relatively higher liquidity, or a perceived difference in credit risk between the Commonwealth and State and Territory governments. However, absorbing the semi-government market into the CGS market would change the interest rates in the two markets. Reduced supply (or outright repurchase by the Commonwealth) of semi-government bonds is likely to drive up their price, reducing their interest rates. At the same time, the supply of CGS will increase, pushing down CGS prices and increasing CGS interest rates. Consequently, average interest rates in the economy are not likely to change significantly with this option.

The principal role this option may benefit is interest rate risk management. As the size of the CGS market would increase, current interest rate risk management activities based on the CGS market would continue.

The option will not increase the size of government debt markets, and therefore will not enhance the market's role as a safe haven during episodes of financial instability, or increase long-term investment vehicles.

If the fiscal discipline of all Australian governments continues as it has in recent years, this option would only provide a temporary solution to the future of the CGS market. Continuing budget surpluses at all levels of government eventually would diminish this combined market, so the option may assist the transition to a smaller market, but may not be a long-term solution.

Any economic impacts are likely to be modest and occur over considerable time.

Governance issues

The key problem with this consolidation is significantly reduced transparency and incentives for jurisdictions to maintain sound and sustainable financial positions. This reflects the removal of the direct link between a jurisdiction's financial position and the financial market's determination of its cost of funds. This is a key strength of current arrangements and has contributed to most jurisdictions' improved fiscal performance over the last several years. While

the governments could introduce a number of mechanisms to reduce fiscal lassitude, they are not likely to be as effective as the current arrangements. Moreover, such arrangements may reduce the States' fiscal autonomy.

Mechanisms providing some incentives for fiscal discipline include:

- retaining separate credit ratings for all jurisdictions and using these ratings to determine borrowing costs. This would involve the Commonwealth levying States and Territories additional charges based on their credit ratings, with credit rating agencies providing ratings as if the States and Territories were accessing the capital market directly.

- limiting the amount that a jurisdiction could borrow through the consolidated entity; and

- putting in place secured creditor arrangements in the event of default.

However, the governments would need to overcome significant design issues to implement these arrangements. The effectiveness of these mechanisms would be less certain than current arrangements and they would be complex to administer.

Budget impacts

Budget presentation and accounting issues would arise if consolidating debt issuance involved restructuring existing debt the Commonwealth and the States and Territories have issued. For example, options to repurchase existing debt would trigger revaluation of that debt on the relevant government's balance sheet. Where jurisdictions currently recognise debt at book value, this could generate significant accounting losses by way of premiums and increases in the value of debt liabilities, for debt issued at past high interest rates. Portfolio management responses could avoid recognising any revaluation, but this approach would carry considerable transaction and management costs.

A restructure could cause a balance sheet adjustment affecting net worth.[5] Revaluations do not affect the operating statement, so the measures of operating balance, net lending and cash balance would be unaffected.

5 Net worth is defined as total assets less total liabilities. Net worth provides a more comprehensive picture of a government's overall financial position than net debt. Net worth incorporates a government's non-financial assets, such as land and other fixed assets, as well as certain financial assets and liabilities not captured by the net debt measure.

Transition issues

Any move to a consolidated market for debt issuance would involve transitional issues. Two options to manage the existing stock of Commonwealth and State and Territory debt would be to:

- leave the existing debt in place and gradually refinance maturities over time with CGS; and
- undertake an open market repurchase of the existing debt, financed by the issuance of CGS.

The first option would take considerable time to achieve the full benefits (and savings) of a consolidated debt market. The second option has various uncertainties, including the possible success of any repurchase programme and determination of the parameters of such an exercise.

Key questions

The Government would appreciate views from stakeholders on:

- whether there is merit in reconsidering the idea of consolidating Commonwealth, State and Territory government debt into one market; and
- whether this option would assist with the transition to reducing the supply of Government debt.

Option 3: Maintain the Commonwealth Government Securities market and fund the Commonwealth's unfunded superannuation liabilities

Description

The Government could issue CGS to maintain the market and apply the proceeds to funding the Commonwealth's unfunded superannuation liability. This could be achieved either by creating an asset fund hypothecated against the Commonwealth's superannuation liability, or by directly transferring CGS issuance proceeds into a superannuation fund. (See Box 8 for a discussion of State government experience with funding unfunded superannuation liabilities.)

The principal difference between the hypothecated asset fund and the superannuation fund is the governance arrangements. However, there also may be different risk and return implications and economic impacts if the asset fund adopts a different investment strategy to the superannuation fund (possibly due to different mandates). The budget treatment of the two approaches also may differ if the superannuation fund were considered to be outside the general government sector.

Box 8: State government experience with funding superannuation liabilities

Most State and Territory governments have implemented policies of funding part or all of their superannuation liabilities. The combined liability of State and Territory governments is currently around $80 billion, $40 billion of which is unfunded. While each jurisdiction has established its own timeframe for funding these liabilities, most States will have fully funded their superannuation liabilities by 2035.

Most States have decided to fund their superannuation liabilities by allocating an asset portfolio to a superannuation fund. Western Australia, for example, has established an external superannuation fund to which assets are allocated. The fund lies outside the public sector, as the assets of the fund are not controlled by, or available for, the benefit of the State.

In contrast, the Queensland Government holds a diversified asset portfolio dedicated to meeting superannuation liabilities rather than establishing a specific superannuation fund. The New South Wales Government also recently adopted this approach.

The Queensland Government is the only jurisdiction to fully fund its employee entitlements. The Government has accumulated a large pool of assets, which are sufficient to meet assessed superannuation liabilities. The provisions in the *Charter of Social and Fiscal Responsibility* require that the State's financial assets cover all accruing and expected future liabilities of the general government sector. Financial assets are managed by the Queensland Investment Corporation which is a wholly-owned statutory authority of the Queensland Government. As the financial assets are held on the general government balance sheet, the budget operating result can be affected significantly by the volatility of returns generated on investment earnings.

The New South Wales Government has allocated financial assets to a superannuation fund to meet its superannuation liabilities. It has also recently announced the establishment of a new non-superannuation investment fund — the General Government Liability Management Fund. No contributions have yet been made to this Fund. It will hold financial assets against the State's superannuation liability. When the superannuation liability is fully funded (expected to be around 2030), the legislation establishing the Fund provides that the Government can use excess funds, but only to reduce debt. The Fund is established under legislation as a general government, non-budget dependent, entity. The operational management of the Fund is expected to be outsourced.

Risk and return issues

Hypothecated asset fund

If the Government were to create a hypothecated asset fund against its superannuation liabilities, it would have to consider an investment strategy. Investment activity involves a trade off between risk and return. Investments that have a higher risk generally have a higher return. The relationship between risk and return has implications for government investment. CGS are the lowest risk financial assets available in the domestic market. As the lowest risk financial asset available, Government bonds also have the lowest expected returns to investors.

The risk-return relationship implies that the Government could borrow at low cost through the CGS market and, on average, expect to obtain a higher return on investment in any other class of Australian dollar denominated financial asset. The exact returns depend on the financial asset classes in which the Government invests. These could range from high-risk assets, such as equities, through to low-risk assets, such as State government bonds. Adopting a high-risk strategy may lead to above average long-term returns, but returns could be lower for significant periods and negative returns could also occur.

The level of returns exceeding the interest cost of CGS would closely relate to the additional risk and any additional operational costs.

Two broad classes of financial assets may be relevant to the Government's investment strategy: debt and equity securities.

Debt securities

Three broad categories of debt securities are Commonwealth, semi-government (State and Territory) and private sector (corporate bonds). The Commonwealth and State bonds are the lowest risk class; corporate bonds are the highest risk. Corporate bond issuers have a range of credit ratings.

Risks associated with a debt portfolio are not limited to credit risk. This is the risk that the bond issuer will alter the term of payments to the detriment of the bond holder. Other risks include interest rate risk and re-investment risk. (See Appendix 2.)

The type of returns (interest payments or capital gain) will depend on the types of securities in the portfolio. This would affect budget reporting.

Equity securities

Equity differs from debt since it involves actual ownership, not simply the loan of capital. Investors share in the profits of companies in which they own equity.

Equities tend to carry higher risk than debt securities for two main reasons.

- First, equity holders have the lowest priority if a company liquidates, as they only have a residual claim on the company's assets after creditors claims have been met. When a company is insolvent when liquidated, equity holders receive nothing.

- Second, coupon payments on debt instruments are non-discretionary and specified in advance. In contrast, dividends are paid at the directors' discretion. The level of dividends depends primarily on the company's profitability.

Equity returns are as dividends (a flow) and capital gains (stock accumulation).

Investment options

Three broad considerations would frame the Government's approach to investment.

First, the Government has a low tolerance for risk. This will limit government investment to low-risk assets. In addition, to reduce non-systemic risks associated with individual stocks, it would need to diversify investments to limit exposure to any individual issuer.

Second, to limit the Government's impact on the prices of particular markets or assets in which it invests, its holdings of particular assets may need to be limited to not unduly distort prices.

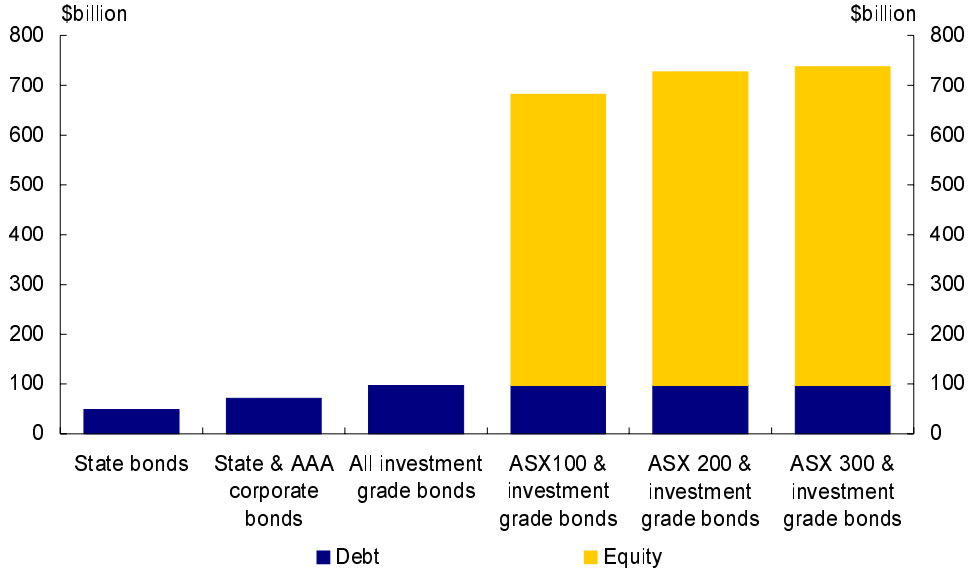
Third, the Government needs to consider any public policy considerations associated with having substantial ownership or influence over private or public sector entities. Public policy considerations can arise due to potential conflicts of interest associated with the Government's role as policy maker, regulator and owner.

This may apply to both equity and debt. Equity involves direct ownership of an entity. A controlling (or even significant) interest in any individual stock may not be appropriate for public policy reasons. Debt does not involve direct

ownership. However, if the Government holds a significant proportion of an individual entity's debt, then the entity may perceive that acting against the wishes of the Government may lead to capital withdrawal.

All these factors point to the Government limiting holdings of individual securities. The exact limitation cannot be determined precisely but it is likely that a lower limit would be appropriate for equity than debt. Chart 23 indicates the current size of the segments of the Australian debt and equity markets in which the Government could consider investing. Adopting limits for the Government's potential level of investment will have significant implications (Box 9), even if the limits are arbitrary.

Chart 23: Australian financial asset market size (June 2002)



Note: Investment grade bonds refer to debt securities with a credit rating of BBB or higher.
Source: Salomon Smith Barney, 2002; and Bloomberg, 2002.

Box 9: Current scale of domestic investment available to the Government

For indicative purposes, this box uses a 5 per cent limit for equities. The *Corporations Act 2001* deems 5 per cent to be a significant interest (requiring disclosure) and at 20 per cent, effective control can occur (requiring a takeover announcement).

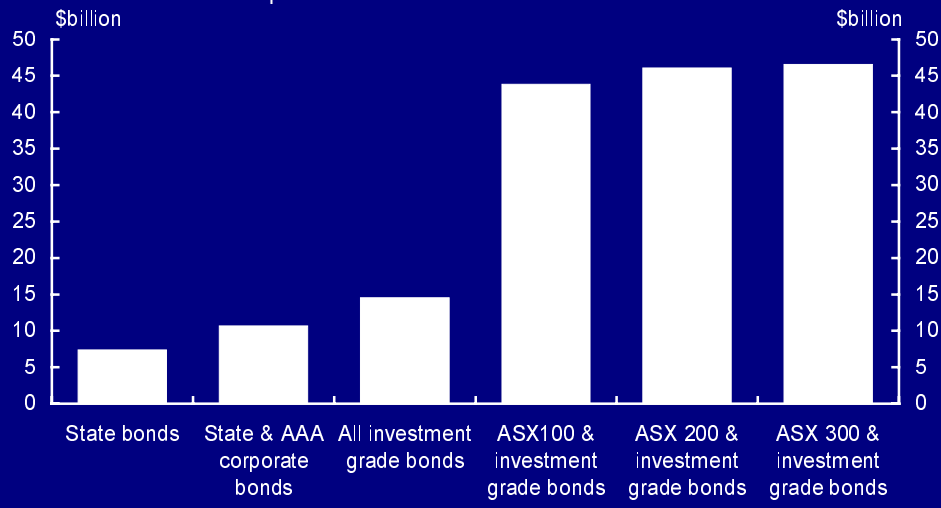
For indicative purposes, the box uses a 15 per cent limit for debt.

The Government could invest in only State government bonds and AAA-rated corporate bonds. Restricting investment to 15 per cent of each issue would allow around $10 billion of investment (Chart 24).

The Government could invest in all investment grade debt securities.[6] Restricting investment to 15 per cent of each issue would allow around $15 billion of investment.

The Government could invest in all investment grade debt securities and ASX 300 equities. A combination of 5 per cent of the ASX 300 and 15 per cent of investment grade debt securities would allow around $45 billion of investment.

Chart 24: Size of Government investment possible with investment limits



Source: Salomon Smith Barney, 2002; and Bloomberg, 2002.

6 Investment grade debt securities are those with a credit rating of BBB or higher.

The analysis in Box 9 indicates that, with limits for policy reasons, the Government could not currently invest more than around $45 billion in the domestic market. If this was insufficient to accommodate the Government's investment needs, then it would need to invest offshore. These limits may be too high, as they would require the Government to hold equity in every ASX300 company. However, the possible size of domestic investment will change over time as Australian financial markets grow.

International investment carries additional risks to those incurred through domestic investment. Two additional risks relate to international investment: country risk and exchange rate risk. (See Appendix 2.)

In investing in international assets, the Government also must take into account any tax implications. The Australian Government may be subject to foreign taxation, depending on the overseas jurisdictions of its investment. This could reduce the returns on foreign investment. In particular, interest and dividends received from international investments may be subject to withholding taxes overseas jurisdictions levy, with no deduction for the cost of the Government debt used to fund the investment. However, a tax treaty between Australia and a relevant country, or as a consequence of the doctrine of sovereign immunity, may reduce or eliminate withholding taxes.

In all cases, the exact details and level of taxation would depend on the relevant overseas jurisdictions and other factors.

Superannuation fund

A superannuation fund would usually take an investment strategy that delivered returns closely matching its payment profile. In practice, most superannuation funds achieve this by investing in a diversified portfolio of financial assets. The average superannuation fund portfolio comprises of 45 per cent equities in units and trusts, 19 per cent overseas, 16 per cent securities, 7 per cent cash and deposits, 5 per cent direct property, 4 per cent loans and placements and 3 per cent other investments (Australian Prudential Regulation Authority, 2002).

Due to the governance arrangements surrounding superannuation funds, the Government would not necessarily be able to set limits on investment in particular classes of assets.

Economic impact

Superannuation liabilities are the largest unfunded liability on the Commonwealth Government's balance sheet.[7] The lack of a dedicated asset reserve to offset these liabilities makes them unfunded. The total unfunded superannuation liability of the Commonwealth, estimated at around $84 billion for 2002-03, is expected to increase to around $89 billion by 2005-06. This nominal increase averages around 2 per cent per year, over the forward estimates period.

Proponents of this option argue it would be beneficial on intergenerational equity grounds. This argument reflects concerns that the current approach may impose an unfair burden on future generations by asking them to pay for a liability that arose due to the current generation employing public servants.

Intergenerational equity relates to the distribution of the cost of providing government goods and services between generations of taxpayers. Liabilities passed onto future generations determine the distribution of this cost. For example, issuing debt to fund recurrent expenditure would transfer the cost of providing services from the current generation to future taxpayers. Altering the liabilities passed onto future generations requires the current generation to adjust the proportion of its consumption that it is willing to fund. That is, the current generation would need to adjust the level of its saving.

Applying proceeds from issuing CGS to fund the Commonwealth's superannuation liability is unlikely to change the intergenerational distribution of the costs of government goods and services. While purchasing financial assets with the proceeds may provide future generations with a means of meeting the Commonwealth's superannuation liability, future generations would bear the cost of the debt issued to purchase these assets.

The Commonwealth's fiscal strategy is the main driver of the intergenerational distribution of the costs of government goods and services. The Government does not intend to alter the fiscal strategy given its significant benefits.

Any macroeconomic impacts associated with changes in CGS supply are likely to be small given the size of Australia's financial markets. Indeed, effects of CGS market changes may not be discernible, given other changes in economic activity occurring at the same time. While any effects will be small, the

7 Liabilities that are recorded on the balance sheet are a matter of accounting practice. The balance sheet does not include factors such as future age pension liabilities or the assets of future taxing capacity.

following outlines the likely direction of changes in interest rates and output from maintaining or increasing the CGS market's size.

The Government's fiscal strategy provides the resources to reduce CGS supply, resulting in lower domestic interest rates and higher domestic income (Option 1). However, if the Government decides to maintain the CGS market, and invests in financial assets, two key factors determine the macroeconomic implications. First, whether the Government invests in domestic or foreign assets. Second, whether the Government maintains the CGS market at a particular nominal level or alternatively grows the market over time. The macroeconomic impacts will be broadly similar whether the investment is undertaken directly by the Government or by a Government funded superannuation fund.

Government investment in domestic assets

Maintain the market at a nominal level

Budget surpluses could be solely used to purchase domestic financial assets. This would not change CGS supply but would increase the demand for private assets, increasing the price of private assets and reducing their interest rates. Increased private asset prices would increase investors' demand for CGS, as they are now relatively more attractive, leading to higher CGS prices and lower CGS interest rates.

The net effect will be broadly similar to the Government repurchasing CGS. Average interest rates will be lower than they would have been in the absence of budget surpluses. Lower interest rates lead to higher investment, consumption and economic output, and a lower exchange rate and current account deficit.

Grow the market

The Government could grow the CGS market over time by increasing CGS issuance. The Government then could invest budget surpluses and the proceeds of new issuance in financial assets. Increased CGS supply decreases CGS prices and increases CGS interest rates. At the same time, Government investment in private assets increases their prices reducing their interest rates. The net effect is that further increases in CGS supply would not change average interest rates from the lower level resulting from the Government's fiscal position, but will change relative rates between CGS and private asset markets.

Furthermore, government investment in private assets also would change relative prices within the private asset market, assuming the Government does not equally invest across all domestic financial assets. This may create distortions in the financial markets. For example, government purchases of one company's equity will increase their market price, reducing their cost of capital raising. In contrast, companies whose equities are not purchased by the Government will not benefit.

Unhedged Government investment in foreign assets

Maintain the market

If the Government invested budget surpluses in foreign assets, then Australian financial markets would be broadly unchanged as there would be no change in CGS supply or domestic private asset demand. Government purchases of foreign assets may put some downward pressure on the exchange rate.

Grow the market

If the Government decided to increase CGS supply, CGS prices would decrease, increasing CGS interest rates. This would decrease demand for other domestic assets as they would be relatively more expensive than CGS, decreasing their prices and increasing their interest rates. As such, the overall impact is that average domestic interest rates would increase.

An increase in domestic interest rates would reduce consumption, investment, and domestic output. It would also put upward pressure on the exchange rate, as foreign investors would be attracted to higher Australian interest rates. Government foreign investment would provide partial offsetting pressure. The exchange rate appreciation would reduce net exports, increasing the current account deficit.

Hedged Government investment in foreign assets

If the Government invested in foreign assets, it would be exposed to exchange rate risk. The Government could consider hedging to remove this risk. A counterparty entering a hedge arrangement with the Government often will have an opposite risk exposure to the Government. For example, a US investor may buy Australian dollar-denominated assets, but want certainty in US dollars, while the Government may buy US dollar investments but want certainty in Australian dollars.

Maintain the market

When budget surpluses are used to purchase foreign assets and the exchange rate risk is hedged, the effect would be broadly equivalent to the Government investing in domestic securities as the Government's foreign investment is likely to be matched by the counterparty's domestic investment. Hence, the price of domestic assets would rise, reducing interest rates.

Grow the market

If CGS supply is increased and proceeds invested in foreign assets with exchange rate hedging arrangements, domestic average interest rates would be broadly unchanged. Increased CGS supply increases CGS interest rates, but the hedge counterparty's domestic investment increases demand for other domestic assets, reducing interest rates. As such, there should be no broader macroeconomic implications.

This analysis assumes that hedge counterparties would reduce their risks by purchasing domestic assets. If this is not the case, then the economic effects would be the same as presented for unhedged foreign investment.

Governance issues

Hypothecated asset fund

If the Government issued additional CGS and invested in a hypothecated asset fund, it would need to decide whether to outsource funds management activity. If the Government directly undertook investment activity, this would raise two major governance issues.

- First, costs would be associated with diverting scarce senior management resources, possibly reducing the focus on other activities of government.

- Second, costs may be associated with the potential dilution of accountability associated with taking on a new task that the Government has not traditionally undertaken. For example, investment returns may receive a high profile deflecting an appropriate level of public scrutiny from core government functions.

If the investment activity were outsourced, then the Government would bear the additional operational costs through management fees. However, this would not remove the need for the Government to directly invest resources in the regulation and oversight of the investment activities. This would involve direct staffing costs, possibly diverting senior public service management and

diluting accountability. That is, the Government would still bear the costs associated with designing and managing the contracts associated with the outsourced functions.

The Government would need to establish a set of rules for the fund's operation. It would need to decide on the extent of limits on fund activity and the extent to which it could directly control investments on a day-to-day basis. The existence of a large pool of assets raises a number of issues.

- First, the Government's access to the assets in the fund may need to be limited. If the Government had ready access to the fund, low-priority projects may be undertaken outside the scrutiny of the budget process. These projects may not be as worthwhile as other projects. This arrangement contrasts with superannuation fund assets which, once placed in the fund, the Government is unlikely to access.

- Second, pressures would exist to apply the funds to specific policy objectives that would be achieved more appropriately through legislative or budgetary action. The fund's goals and objectives should be specified in advance.

- Third, if the Government invests in private sector assets, then other investors may perceive an implicit guarantee for these investments. This may distort the markets and pressure the Government to provide assistance if assets perform poorly.

- Fourth, if the Government decides to invest in equities, then it would need to decide whether to exercise voting rights attached to ordinary shares. If the Government uses its voting powers, then it may be pressured to exercise its influence potentially to the detriment of the business' commercial interests. However, not exercising voting rights may diminish control and governance of private sector bodies.

- Fifth, the Government's investment activities may lead to conflicts of interest as the policy maker, regulator and owner.

These issues may favour offshore investment where many of these concerns do not arise. For example, the Norwegian investment fund is restricted to investing outside Norway. (See Appendix 4.) Box 10 outlines the governance arrangements for financial asset portfolios that have been adopted in a number of other countries. Many countries have adopted 'arms length' management arrangements in governing legislation.

Box 10: International experience in government asset management

Countries that have established government financial asset portfolios include Norway, New Zealand, Canada and Ireland. (See Appendix 4.) These portfolios range in size, with Norway maintaining a significant level of financial assets of around US$80 billion (42 per cent of GDP). The rationale for investing in financial assets generally has been to address intergenerational concerns such as meeting future spending pressures associated with the ageing of the population or managing revenue variations associated with resource exhaustion.

While the precise governance arrangements for the financial asset portfolios vary, the frameworks to manage the portfolios have common elements.

- The management of the financial asset portfolios generally is outsourced to external fund managers, except in Norway, where the central bank currently manages around half of the assets in the portfolio.

- The investment decisions are taken on a prudent commercial basis, with the aim of maximising returns to the government subject to an acceptable level of risk.

- Funds generally are invested in both domestic and foreign financial markets. In the case of Norway, the entire asset fund is invested in foreign financial markets. This reduces the risk of government investment distorting domestic financial markets.

- Funds may be invested in both equities and debt securities. In some countries regulations govern the broad composition of the financial asset portfolio. For example, both Ireland and Norway have defined asset allocations and distributions within which fund managers must operate.

- Some governments restrict equity holdings to avoid some governance issues that arise when governments hold equity in private companies. For example, in Norway, the equity investments are limited to 3 per cent of the share capital in any one company. In addition, the central bank may only exercise voting rights associated with its shareholdings if it is necessary to secure the financial interests of the fund. New Zealand also has legislated to prevent the government fund from taking a controlling interest in any other entity.

Superannuation fund

Many of the issues around deciding whether to outsource funds management, or deciding on fund operating rules, are removed if the Government funded its superannuation liabilities through a superannuation fund.

Currently, most Commonwealth Government superannuation liabilities are in schemes regulated under the *Superannuation Industry (Supervision) Act 1993*. The trustee of the fund has sole responsibility for prudent fund management. Section 58 of the *Superannuation Industry (Supervision) Act 1993* provides that the fund rules must not, except in very limited circumstances, permit trustees to be subject to direction by another party. Furthermore, various provisions ensure that the trustee's powers and duties are unfettered, including requiring the trustee to consent to changes in the governing rules.

These requirements would ensure that the Government could not direct superannuation fund trustees to invest in particular projects, industries or regions. Rather, trustees of complying superannuation funds are required to formulate an investment strategy that has regard to the risk and return of the fund's investments, expected cash-flow requirements, diversification and liquidity of investments, and the ability of the fund to discharge its liabilities.

Once the Government makes payments to a superannuation fund, it cannot access those funds unless there is a surplus of assets over liabilities. Even if surplus funds exist, the Government as an employer sponsor may face considerable difficulties in extracting a surplus from the superannuation fund.[8]

A trustee may pay a surplus to an employer sponsor, subject to a number of pre-conditions. When surplus exists in the fund, the governing rules of the fund must allow for this surplus to be paid to an employer. Furthermore, the trustees must agree to the payment of surplus funds to the employer. That said, it may be unclear whether a surplus exists.

If the Government or future governments cannot access surplus funds, they could suspend temporarily annual payments to the fund and rely on the existing fund assets.

The Government would always carry a residual liability to the fund because of the uncertainty of Commonwealth superannuation liabilities. Commonwealth

8 Employer sponsored funds such as the current Commonwealth Government superannuation schemes, are subject to equal representation rules. This means the fund has an equal number of employer and member representatives.

superannuation schemes are principally defined benefits schemes that guarantee employees pre-determined retirement incomes based on established formulas. As such, Government liabilities would depend on variables including growth of public sector employment and remuneration. The uncertainty of these variables makes it difficult to provision perfectly for liabilities, so mismatches between government asset reserves and superannuation liabilities can occur. In the event of a shortfall, the Government would need to make top-up payments.

Complying superannuation funds must prepare statements of financial positions, operating statements and cash flow statements. The superannuation fund also must appoint an approved auditor to provide a report of the fund's operations for each financial year.

The creation of a superannuation fund would involve both management fee costs and resource costs. Outsourcing the investment management to a superannuation funds manager would incur investment management fees. In addition, costs would be associated with regulation and oversight of the fund's activities. In particular, scarce public sector senior management resources would be diverted from their core functions to oversee the activities of the fund. Moreover, the Government's accountability may be diluted as public scrutiny may be focussed away from core government functions.

Budget impacts

The impact on budget reporting of holding financial assets complicates the assessment of this option. For example, if issuing CGS and purchasing financial assets leads to a deterioration in the reported budget position, then the Government would need to take this into account in assessing the stance of fiscal policy. The Government would need to communicate clearly the underlying economic effects of the policy where the budget measures that receive greatest market focus may present an incomplete picture.

The principal measures of the Commonwealth's financial position that may be affected are the Commonwealth budget balance (the underlying cash balance and the fiscal balance), and Commonwealth general government net debt.[9]

9 Net debt is the sum of selected financial liabilities (deposits held, advances received, government securities, loans, and other borrowing) minus the sum of selected financial assets (cash and deposits, advances paid, and investments, loans and placements).

The precise impact on the budget would depend on the composition of the financial assets purchased and the strategy the Commonwealth adopts for managing the portfolio. The impact on the Commonwealth budget of issuing CGS and purchasing financial assets would depend on the net effect of the:

- cost of servicing the additional CGS on issue, known as public debt interest expenses;
- income earned on financial assets, such as coupon payments on debt securities; and
- capital gains / losses on the sale of financial assets.

The budget impacts of a hypothecated asset fund and a superannuation fund are likely to be broadly similar if they are both classified in the same way. However, the classification treatment of the two alternatives would be different if one was classified inside the general government sector and the other outside the general government sector. Considerable uncertainty about this classification issue is due to the precise arrangements that are put in place. The following discussion assumes that a hypothecated asset fund would operate within the general government sector, while a superannuation fund would be outside the general government sector.

Hypothecated asset fund

The immediate impact on the budget balance would be the difference between investment income and the interest cost of the additional CGS. However, the total return on a financial asset often includes an element of capital gain made on the asset sale. The capital gain / loss made on the sale of financial assets does not affect the budget balance.

This implies the total return on financial assets the Commonwealth acquires would need to be well above the interest rate on the CGS, if a financial asset acquisition strategy is to improve the underlying cash balance and the fiscal balance.

For example, if the Commonwealth issues $1 billion of CGS with a coupon of 10 per cent and purchases $1 billion of financial assets, the financial assets must provide an income stream of at least $100 million each year to offset the cost of servicing the CGS each year. However, if the return on the financial assets incorporates an element of capital gain, say 50 per cent, then the total return on the financial asset would need to be $200 million per year to avoid an adverse effect on the budget balance.

The impact on net debt of issuing CGS and purchasing financial assets would depend on the composition of financial assets the Commonwealth acquires. Issuing CGS would increase selected financial liabilities by the value of the CGS issued. If the proceeds of the issuance were used exclusively to purchase financial assets in the form of other debt securities or deposits, then this would not alter net debt. However, if financial assets such as equity were purchased, then net debt would rise by the amount of these purchases.

For example, if the Commonwealth purchases $1 billion of debt securities with the proceeds from the $1 billion issuance of CGS, these transactions would not alter net debt. However, if the Commonwealth purchased $500 million of debt securities and $500 million of equities, this would increase net debt by $500 million.

Net worth would remain unchanged if equity were purchased.

Superannuation fund

If the superannuation fund were created outside the general government sector, the financial assets of the superannuation fund would be held outside the Commonwealth general government balance sheet and income payments would not be included in the budget. However, the debt issued to fund the superannuation liability still would be included in the general government balance sheet.

Initially, issuing debt and transferring the proceeds to a superannuation fund would increase general government net debt. However, net worth would not be changed — as superannuation liabilities move off the general government balance sheet, debt liabilities would increase. On an ongoing basis, net debt and net worth would only be affected by the extent the superannuation fund's return on investment changed Commonwealth payments to the superannuation fund. Any change in the budget balance resulting from the fund's investment activities would flow through to net debt and net worth.

Payments to the superannuation fund and ongoing debt servicing costs would affect directly the underlying cash balance. Indirect effects may be due to changes in the rate of return through the level of payments the Commonwealth is required to make to meet the accrued superannuation liability. For example, if the superannuation fund's investments performed poorly, the Commonwealth might need to make additional payments to meet employees' superannuation entitlements.

Transition issues

If the Government chose to maintain the CGS market and fund the Commonwealth's unfunded superannuation liability, it might do this by building up a financial asset portfolio at a rate dictated by budget surpluses, asset sale proceeds and the rate of CGS issuance required to increase the size of the CGS market over time.

An unlikely alternative would be for the Government to issue a large amount of new debt in a short time and pay the proceeds into the superannuation fund. The current Commonwealth superannuation liability is around $85 billion. The Government would need to issue $85 billion in new debt to purchase financial assets to offset fully this liability. Given there is currently around $50 billion of CGS on issue, total CGS would need to rise to around $135 billion. As the stock of debt currently on issue matures, total CGS would fall back in line with, and eventually grow at the same rate as, the superannuation liability.

Key questions

The Government would appreciate views from stakeholders on:

- governance arrangements for a hypothecated asset fund that stakeholders suggest would insulate investment decisions from direct Government control;
- whether funding the unfunded superannuation liability through a superannuation fund is a good way of dealing with the governance issues associated with substantial Government asset holdings;
- the appropriate limits on holdings of any single instrument if the Government were to invest in debt securities;
- the appropriate limits for equity holdings in any one company if the Government were to invest in equities;
- the likelihood of Government investment distorting asset prices;
- the impact of restricting Government investment to foreign securities; and
- the increased uncertainty for fiscal policy arising from variations in investment returns.

APPENDIX 1: SUMMARY OF KEY QUESTIONS

Pricing other financial products

The Government would appreciate views from stakeholders on:

- whether CGS is used extensively as the primary benchmark for pricing the debt securities of other issuers;
- whether the interest rate swap curve is used widely for pricing debt securities. If not, are there obstacles to using the swap curve in the future? and
- what other options are available for pricing debt securities? How effective are they?

Referencing other financial products

The Government would appreciate views from stakeholders on:

- whether the yield on CGS is commonly used as a reference benchmark for comparing the yields on other debt securities; and
- whether any major obstacle hampers the interest rate swap curve or some other benchmark being used as a reference benchmark.

Managing financial risk

The Government would appreciate views from stakeholders on:

- whether there is scope for the Treasury bond futures market to be replaced by a futures market based on alternative instruments. What could hamper an alternative futures market from developing?
- whether the interest rate swap market is sufficiently liquid at maturities longer than five years to facilitate interest rate risk management;
- whether the viability of the interest rate swap market would be affected significantly by winding down the CGS market; and
- if alternate risk management tools were not available, what would be the likely impact of this on the cost of capital for corporate bond issuers?

Providing a long-term investment vehicle

The Government would appreciate views from stakeholders on:

- the significance of CGS as a long-term investment vehicle, particularly for institutional investors such as superannuation funds and life offices;
- whether there is currently an unmet demand for CGS within the superannuation sector; and
- the potential to develop alternative long-term investment instruments.

Implementing monetary policy

The Government would appreciate views from stakeholders on the declining importance of CGS in the operation of monetary policy.

Providing a safe haven in times of financial volatility

The Government would appreciate views from stakeholders on:

- the importance of the CGS market in providing a safe haven during periods of financial instability;
- what evidence there is of the role of CGS as a safe haven? and
- what possible alternative safe havens exist and how appropriate they are?

Attracting foreign capital inflow

The Government would appreciate views from stakeholders on:

- whether the absence of a CGS market would affect Australia's attractiveness to foreign investors; and
- how important global bond indices are for foreign investment in Australia.

Promoting Australia as a global financial centre

The Government would appreciate views from stakeholders on:

- whether the CGS market plays a significant role in promoting Australia as a global financial centre; and

- whether the absence of a CGS market would affect transaction costs and Australia's attractions as a centre for global financial services.

Appropriate size of the Commonwealth Government Securities market

The Government would appreciate views from stakeholders on the appropriate size of the CGS market in the event that the market is to be maintained.

Options available to the Commonwealth

Option 1: Wind down the Commonwealth Government Securities market

The Government would appreciate views from stakeholders on:

- potential implications of winding down the CGS market;
- the likely impact on the cost of capital;
- the most appropriate approach and timeframe to implement a decision to wind down the market, if this decision is made; and
- the likely re-entry costs (in the form of additional borrowing costs) if the Commonwealth withdraws from the market.

Option 2: Consolidate Commonwealth and State government debt markets

The Government would appreciate views from stakeholders on:

- whether there is merit in reconsidering the idea of consolidating Commonwealth, State and Territory government debt into one market; and
- whether this option would assist with the transition to reducing the supply of Government debt.

Option 3: Maintain the Commonwealth Government Securities market and fund the Commonwealth's unfunded superannuation liabilities

The Government would appreciate views from stakeholders on:

- governance arrangements for a hypothecated asset fund that stakeholders suggest would insulate investment decisions from direct Government control;
- whether funding the unfunded superannuation liability through a superannuation fund is a good way of dealing with the governance issues associated with substantial Government asset holdings;
- the appropriate limits on holdings of any single instrument if the Government were to invest in debt securities;
- the appropriate limits for equity holdings in any one company if the Government were to invest in equities;
- the likelihood of Government investment distorting asset prices;
- the impact of restricting Government investment to foreign securities; and
- the increased uncertainty for fiscal policy arising from variations in investment returns.

APPENDIX 2: DESCRIPTION OF RISKS IN DEBT AND ASSET MANAGEMENT

The Government faces a number of risks when conducting debt and asset management:

Funding risk refers to the borrower's ability to raise funds in an orderly manner, as required and without penalty. To manage funding risk, the debt manager must be cognisant of the various markets that can be accessed, the instruments available, the mechanisms under which debt can be raised and their changing relative cost effectiveness. Moreover, it involves promoting the Commonwealth's stock in the markets and establishing a diverse investor base. Funding risk is intrinsic to any borrower, including the Commonwealth.

Interest rate risk refers to the risk of adverse movements in interest rates reducing the portfolio's value. For example, if the Commonwealth undertakes borrowing at a fixed rate and interest rates subsequently decline, the Commonwealth may be left with debt that has relatively expensive interest service costs compared with the prevailing market interest rate. In this circumstance, whilst the interest service cost of debt (that is, budget public debt interest cost) has not changed, significant opportunity costs are associated with not being able to benefit from the lower interest rates.

Liquidity risk refers to the ability of borrowers and investors to buy or sell securities in reasonable quantities in a timely manner without having a significant impact on market prices. The degree of liquidity depends on the depth of the secondary market for that security. Borrowers also face another form of liquidity risk. This is the difficulty they face having funds available to meet their obligations. Borrowers such as the Commonwealth manage this risk by accessing a range of funding instruments that enable them to raise cash at short notice and ensure they can liquidate surplus funds at short notice.

Credit risk refers to the loss that may occur if a counterparty to a transaction fails to meet its obligations. In the Commonwealth's case, this arises in the context of derivative transactions it undertakes to achieve portfolio management objectives. Managing credit risk involves monitoring and setting limits to exposures to counterparties, pricing and incorporating credit risk into decisions about debt management transactions.

Operational risk refers to the potential for loss arising from normal operations. This refers to events including system failures, natural disasters, fraud and

human error. Managing this risk involves the management of personnel, IT hardware and software systems, internal controls, reputation and legal issues. Operational risk is difficult to quantify, but when failures do occur, the costs can be very high. Managing operational risk depends on staff being appropriately skilled and experienced, flexibility to retain or recruit new staff with the requisite skills, appropriate process controls and adequate computer hardware/software systems to support debt management activities.

Country risk involves all risks (sovereign and private) arising from economic, social as well as political developments in a country, which may adversely affect the interests of cross-border investors. For example, a large economy-wide shock may lead to a foreign government defaulting on its own obligations and/or limiting/preventing resident borrowers from repaying the capital they owe.

Exchange rate risk occurs for two reasons. First, the assets held in a foreign currency devalue when that currency depreciates against the investor's domestic currency. Second, default may arise when the depreciation in local currency increases the foreign debt burdens of the issuers, increasing their risk of default. Derivatives may be used to hedge foreign exchange risk.

APPENDIX 3: MACROECONOMIC IMPLICATIONS

The financial system plays a vital role in the Australian economy's performance. By allocating savings to borrowers, and encouraging savings, the financial system plays an important part in the investment process, which primarily determines the economy's future productive capacity (McGrath and Viney, 1997). This appendix examines the macroeconomic implications of changing the size of the Commonwealth Government Securities (CGS) market and associated investment in financial assets.

The CGS market could affect the cost of capital in Australia through two channels. The first is through impacts on the liquidity and efficiency of Australia's financial markets (see Chapter 3). The second is through changes in the supply and demand of financial assets. The following analysis assesses the possible impacts of changes in the supply and demand of financial assets, assuming no systemic change occurs in financial intermediation. Possible impacts on the cost of capital resulting from issues discussed in Chapter 3 are ignored.

The following sections outline the theoretical framework used to assess the likely macroeconomic impacts of changing the size of the CGS market. This framework is highly stylised and simplified.

The appendix then assesses the impact of winding down the CGS market. The final section considers the impact of the Government taking action to maintain the market, examining two possible alternatives. The following analysis does not attempt to quantify the effects, but simply provides guidance on the likely direction of movements in key macroeconomic variables.

Any changes in broader interest rates associated with changes in the supply of CGS are likely to be small, given the size of Australia's financial markets. As such, the broader macroeconomic impacts are likely to be modest. Given other changes in economic activity occurring at any time, the impacts of changes in the CGS market would not necessarily be discernible.

Economic framework

Australia's broad financial markets ensure a wide range of different interest rates (and associated assets). The following analysis assumes interest rates can

be grouped into two separate interest rate classes with two distinct functions (see Baily and Friedman, 1991).

The first interest rate is the rate charged on short-term borrowings. Businesses need money at various times to pay for inputs. However, the timing of business revenue does not always match the timing of payments for inputs, resulting in the need to borrow money and, at other times, lend money. The interest rate on money balances will affect the amount of money that a business will hold. The higher the interest rate offered, the greater the incentive for businesses to arrange their affairs to lend funds for as long as possible.

Similarly consumers hold money to undertake transactions. For households, income can be consumed or saved. If interest rates on financial assets other than money increase, the opportunity cost of holding money will rise, so households may be more inclined to defer consumption.

This can be thought of as the demand for money.

The Reserve Bank of Australia (RBA) sets the short-term interest rate as a policy target. The RBA then adjusts the supply of money to match the demand for money to maintain a target short-term interest rate.

The second interest rate is the rate charged on long-term borrowings, determined by the supply and demand for long-term funds. The supply of long-term funds arises from individuals who wish to save to consume later. The higher the interest rate on long-term funds, the greater the incentive for savers to defer consumption as the interest rate is compensation for delaying consumption. Similarly, businesses may choose to save some of their profits (as retained earnings) to invest more in the future.

Investment decisions by businesses, households and governments will determine the demand for long-term funds. Businesses and governments assess the likely revenues generated by a new investment against the cost of undertaking the investment when deciding to undertake a new capital investment project. The cost of borrowing funds is one of the key determinants in the cost of the investment. More projects are likely to be cost effective if interest rates are lower. Households that buy capital goods (including housing) are affected by the cost of borrowing.

This framework is analogous to thinking about the ends of the yield curve — the short end reflects the demand and supply of short-term funds while the long end reflects the supply and demand for long-term funds. The overall level

of interest rates can be thought of as an average of the rates in these two markets.

This approach is inconsistent with a pure expectations interest rate hypothesis which links short and long-term interest rates through arbitrage. If there were differences between the two rates, they would be traded away. This approach acknowledges that the short and long funds markets play distinct roles and are not perfect substitutes. Arbitrage will ensure some relationship between short and long-term rates, but supply and demand considerations in both markets will affect the difference between the two interest rates.

In the following analysis, the CGS market forms part of the market for long-term funds.

The demand for Commonwealth Government Securities

A number of recent policy papers[10] note the demand for government bonds may be fragmented into several components, so the bond demand curve may not have a uniform downward slope, as depicted in Chart 25.

A key assumption is that two types of investors will purchase CGS. The first type purchases CGS because they play an important role in their portfolio management. Some investors, notably superannuation funds and insurance companies, buy and hold CGS because the revenue streams (coupon payments) from CGS are a very close match to their liability payment streams (see Chapter 3). For example, a life insurance company may sell annuities that require regular annual payments to the beneficiary. For that life company, purchasing CGS provides a safe, regular source of income to match against payments. Very few substitutes may be available for these investors. CGS price changes may not have much affect on these investors' demand for CGS.

The second type of investors actively trade CGS as part of their portfolio management. These investors have many substitutes for CGS, so even small increases in CGS prices will encourage these investors to sell CGS and purchase other assets.

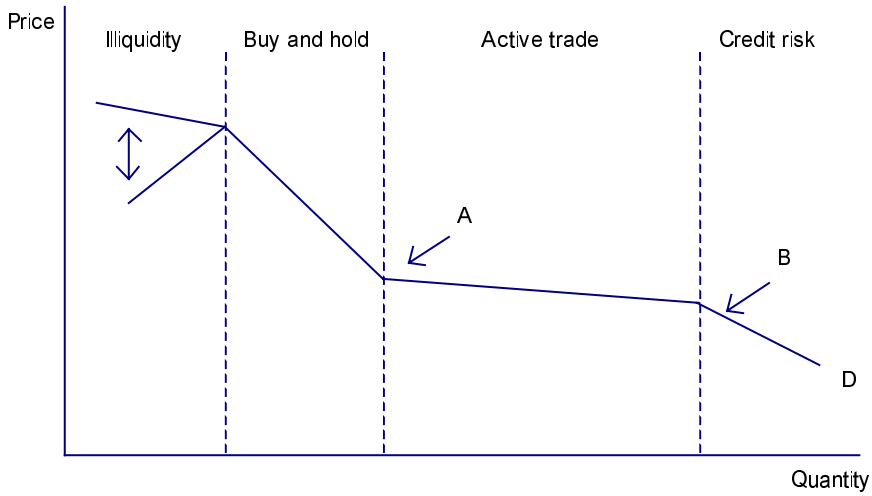
The balance between the two investor groups will affect the overall market demand elasticity. The higher the proportion of active investors, the more elastic the curve. The demand curve for CGS will have a mild downward slope in segments where there are sufficient active investors. This assumption is not

10 For example, see Cooper and Scholtes (2001) and Edey and Ellis (2002).

crucial to the results of the analysis, since the demand curve remains downward sloping whether passive or active investors dominate.

A horizontal demand curve, as Cooper and Scholtes (2001) suggest, would imply a perfect substitute is available so price increases would lead investors to substitute the other asset for CGS. As it is unlikely perfect substitutes for CGS exist, a downward sloping demand curve seems likely.

Chart 25: Demand for CGS



However, at a point (A in Chart 25), the supply may diminish so much that the 'buy and hold' investors begin to dominate the market. As these investors are much less sensitive to CGS price changes, the demand curve would steepen.

Within this framework are two further cases representing the extreme ends of the demand for CGS.

At one extreme (point B in Chart 25), the amount of bonds in the market may begin to add a credit risk premium to the price of bonds. In this case, the volume of CGS on issue may create concerns about whether the Government would default on the debt as the risk characteristics of CGS change. Hence, increases in CGS supply may affect significantly the price, as investors will require a larger fall in CGS prices to induce them to buy more.

At the other end of this curve, very limited CGS supply may generate concerns about liquidity. In this case, decreased supply may encourage bondholders to sell, as they may be concerned that reduced liquidity may reduce their ability to sell easily in the future. Thus, decreased CGS supply may lower the price of

remaining CGS. This illiquidity premium may not be sufficient to invert the slope of the demand curve, particularly if 'buy and hold' investors dominate this segment, but may simply reduce the downward slope of the demand curve.

The supply of Commonwealth Government Securities

CGS supply is assumed to be exogenously determined by government policy.

Supply and demand of alternative investments

All non-CGS long-term financial investments are grouped together into one set of 'private' assets, including securities other levels of government issue. Private assets are treated as debt instruments, with the standard inverse relationship between price and interest rate, although the results apply for other asset classes. For equities, the interest rate is the rate of return on the equity.

The demand curve for private assets is downward sloping, and CGS are imperfect substitutes for private assets.

The supply of private assets is assumed to be upward sloping. The supply of private assets equates to borrowing to finance the issuer's capital spending. The higher the price received, the lower the interest rate, and the more attractive new capital spending will be to the issuer.

The combination of the supply and demand for CGS, and the supply and demand for private assets determines the average interest rate in the long-term funds market.

Determination of domestic output and the current account

To assess the macroeconomic impacts of changes, these markets need to be incorporated into a macroeconomic model with changes in domestic output, interest rates, and the current account balance. The model amalgamates the IS-MP framework for money and goods market equilibrium, adjusting it for the two different interest rates described earlier, and the BP framework for determining the balance of payments. The model is comprised of the IS relationship, the MP relationship and the BP relationship (Chart 26).

The IS relationship depicts a range of goods market equilibriums for different combinations of interest rates and income (see Blanchard 1997). Domestic output comprises consumption, investment, government spending and exports minus imports. The lower the interest rate, the higher the investment, as more investment projects will be cost effective, and the higher the consumption, as consumers reduce their savings in favour of consumption. Therefore, the lower the interest rates, the higher the domestic output. Exchange rate changes will shift the IS curve, with a depreciation increasing net exports and output for a given interest rate.

The MP relationship depicts the interest rate and output combination determined by the monetary policy stance (see Romer, 2000).[11] The RBA sets the interest rate in the short-term money market, taking into account the rate of inflation and domestic output. Generally, higher domestic output leads to higher inflation, and higher inflation causes the RBA to increase interest rates. As a result, the MP curve is an upward sloping relationship between the interest rate and output.

The MP relationship is augmented to include the long-term interest rate (see Baily and Friedman, 1991). While the RBA sets the short-term interest rate, supply and demand for long-term financial assets will determine the long-term interest rate. Thus, the interest rate that affects economic activity is the average of the short and long-term interest rates. This is depicted by the Augmented MP (AMP) curve. This relationship shifts when the difference between long-term and short-term interest rates changes. For example, a fall in the long-term interest rate relative to the short-term interest rate, shifts the AMP curve to the right, reducing the interest rate in the IS-AMP-BP framework for a given level of output. If both short and long-term interest rates change by the same amount (creating a parallel shift in the yield curve), this would be depicted in a move along the AMP curve.

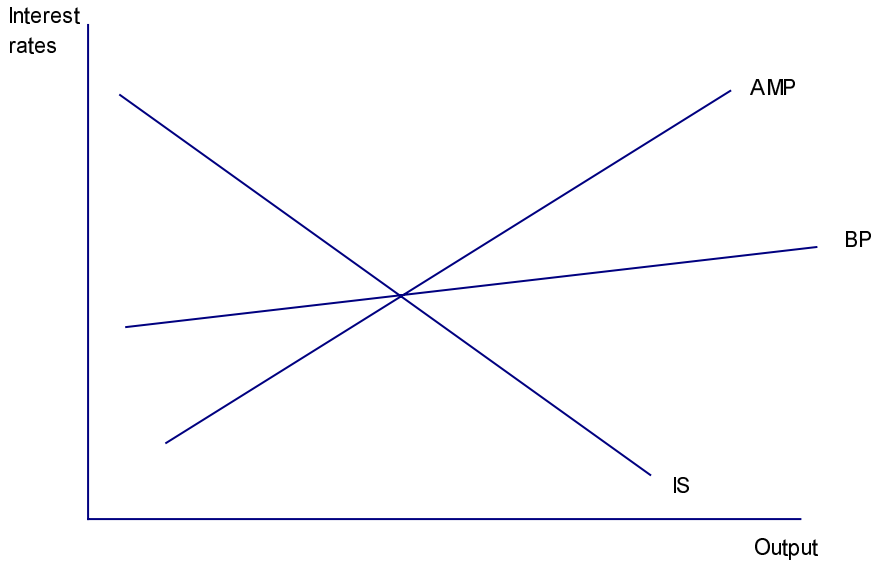
The BP relationship depicts the external sector of the economy, for combinations of output and interest rates (see Appleyard and Field, 1992). The balance of payments comprises the current account (the balance of exports and imports of goods and services and net income flows) and the capital account (the balance of financial capital inflows and outflows). The balance of payments always must balance, so if a deficit on the current account results

11 The MP relationship is a modification of the LM relationship. The key difference is that the MP relationship depicts the central bank implementing monetary policy by setting the short-term interest rate, whereas the LM curve assumes the central bank implements monetary policy by setting the money supply.

from higher imports than exports, the capital account must be in surplus; net capital inflow is required to finance the current account deficit.

The BP relationship is a function of the (floating) exchange rate, output and Australian interest rates compared to foreign interest rates. Changes in the exchange rate affect net exports and the balance of payments, changing output for a given interest rate. Changes in output lead to changes in imports, affecting the balance of payments. Changes in domestic interest rates relative to foreign interest rates affect the balance of payments through the capital account.

Chart 26: IS-AMP-BP Framework

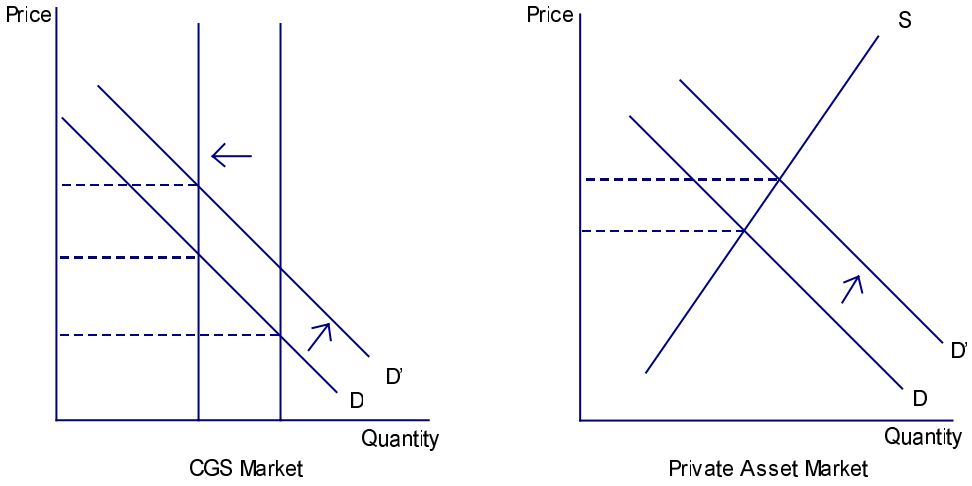


Implications of a diminishing Commonwealth Government Securities market

The following analysis considers a reduced supply of CGS resulting from government fiscal surpluses. The IS curve describes a given level of government spending and taxation, assuming the level of government spending is less than the level of taxation, so the budget is in surplus. As this is a static analysis, a budget surplus does not necessarily imply a contractionary fiscal policy (which is driven by changes in fiscal policy from one year to the next). However, if government spending or taxation change, the IS curve would shift. Budget surpluses provide the government with resources to reduce CGS supply (by repurchasing).

Reduced CGS supply would increase the price of remaining CGS. This shifts the supply curve left in the CGS market (Chart 27), reducing CGS interest rates. In other words, investors with a higher demand for CGS would accept a lower return to hold the scarce CGS.

Chart 27: Reduced supply of CGS



Private assets are substitutes for CGS for investors. Consequently, higher CGS prices would increase demand for private assets, shifting the private asset demand curve to the right, increasing the private assets prices and reducing yields on these assets. The net effect of reducing CGS outstanding is to lower interest rates on both the remaining CGS and private assets.

In addition, higher private assets prices would increase the demand for CGS, as the two markets are substitutes. While not depicted in Chart 27, these changes in the relative prices of CGS and private assets would continue until the marginal change was very small. That is, higher CGS prices would lead to higher demand for private assets, which increases their price, which increases the demand for CGS, which increases their price, and so on. As the two assets are imperfect substitutes, each successive increase in demand would be smaller than the last, so eventually the system would stabilise at a new, higher price for both assets. If price expectations were purely rational, the market immediately would move to the new equilibrium without iterations.

Three factors will influence the magnitude of price and interest rate changes.

- First, the size of change in private asset demand induced by a change in CGS prices will influence the magnitude of price changes. For a given

change in CGS supply, the larger the increase in private asset demand, the larger the fall in interest rates. The closer the two are as substitutes, the more a given increase in the CGS price will lead investors to purchase private assets.

- Second, the sensitivity of the demand for CGS for a given change in the price will influence the magnitude of price changes, so the steeper the slope of the demand curve for CGS, the larger the change in CGS prices resulting from reduced supply. That is, the less sensitive investors are to changes in CGS prices, the more a given change in CGS supply will change the price.

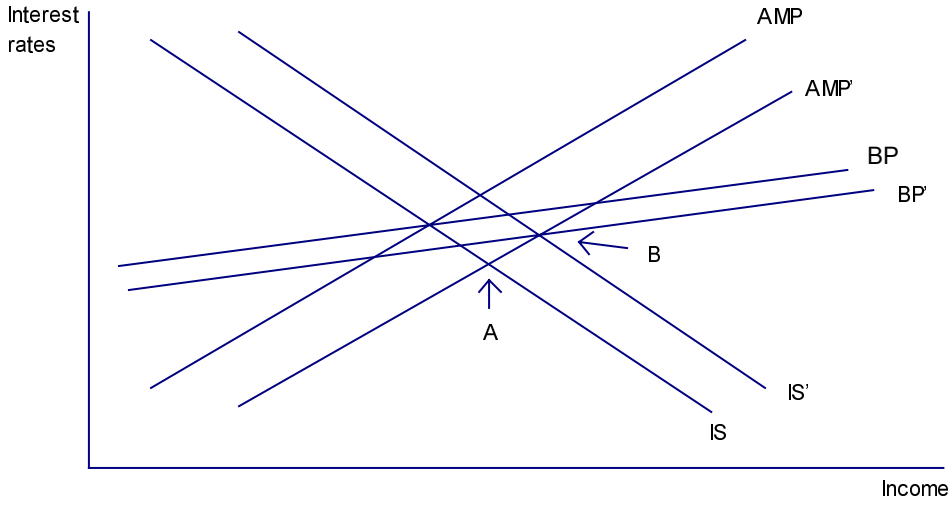
- Third, the sensitivity of the supply of private assets for a given change in price will influence the magnitude of price changes. The steeper the private asset supply curve (that is, the larger the price increase or interest rate decrease required to induce further capital spending), the larger will be the change in private asset prices.

While average interest rates in the long-term funds market will fall as a result of reduced CGS supply, the effect may not be the same for all private assets. Assets that are close substitutes for CGS will experience a larger fall in interest rates. Reduced CGS supply will benefit some private asset issuers more than others.

Private asset (and CGS) interest rates will fall in relation to short-term money market interest rates. Thus, the AMP curve shifts to the right and output rises while overall interest rates fall.[12] In IS terms, lower interest rates increase consumption and investment by moving along the IS curve. The new IS-AMP equilibrium will be at a higher output and lower interest rate (point A in Chart 28).

12 The analysis assumes that the RBA does not increase short-term interest rates in response to lower long-term interest rates. If this were the case, the AMP curve would shift back to the left and there would be no effect on output.

Chart 28: Effect of reduced CGS supply in the IS-AMP-BP model



Increasing output and falling interest rates create an imbalance in the balance of payments (the sum of the current account and capital account). The exchange rate is the mechanism that resolves this imbalance. Higher income encourages higher imports and lower interest rates encourages capital outflow. Both factors push the exchange rate down: consumers sell Australian dollars to buy foreign currency to pay for imports; and investors sell Australian dollars to buy foreign assets. Thus, the exchange rate depreciates, shifting both the BP curve and the IS curve to the right. The IS curve shifts due to increasing net exports and the BP curve shifts due to the depreciation of the exchange rate.

The new equilibrium occurs at higher income and lower exchange rate than the initial position (point B in Chart 28). The increase in net exports will lead to a decrease in the current account deficit.

The size of the reduction in interest rates resulting from the reduced supply of CGS will determine the size of the shift in the AMP curve, determining the size of the exchange rate depreciation and the increase in output.

The more responsive international capital is to changes in interest rates, the flatter the BP curve. For perfectly mobile capital, lowering interest rates leads to a large volume of capital outflow, inducing a large depreciation of the exchange rate and a large expansion in net exports. The increase in net exports offsets the increase in capital outflow. The capital outflow induces a rise in interest rates back towards the original position. This reduces the demand for

CGS and other domestic assets, reducing the price of these assets and so increases interest rates back to their original levels.

A net decrease in interest rates and net increase in income is consistent with imperfectly mobile capital. Perfect capital mobility requires Australian financial assets to be perfect substitutes for foreign financial assets, which is unlikely.

The fiscal position that provides the resources to repurchase government debt reduces domestic interest rates, increasing domestic output. Increased domestic output, and a depreciating exchange rate, may generate some pressure to increase prices in the economy generally. These price pressures are likely to be modest if the economy is operating below full capacity. However, if the economy is operating at full capacity, then price rises may result in little change in overall economic output. The increase in investment resulting from lower interest rates should increase the economy's productive capacity in subsequent periods. Expanded economic activity may occur before price pressures emerge.

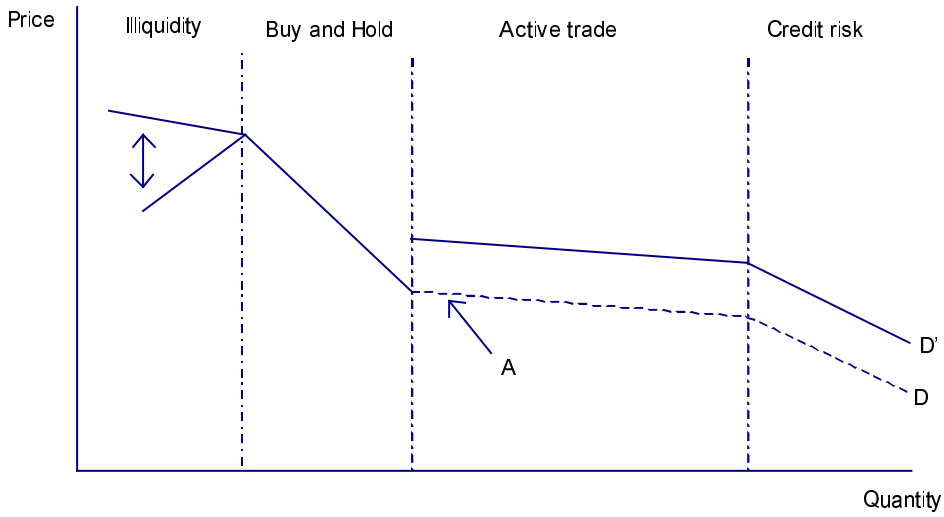
Although changes in interest rates, exchange rates and domestic output are likely to occur, in reality the impacts are likely to be relatively small. Changes in CGS supply will occur over a relatively long time, so the macroeconomic impacts are likely be spread out.

Global bond index argument

Some investors may follow a global bond index in their investment strategy. Sovereign global bond indices, such as the Salomon Smith Barney Global Bond Index typically rank sovereign bonds by the amount on issue in each bond line. For example, $250 million on issue in a given line and US$20 billion overall outstanding by a government is sufficient to be included the index, and issuance above that would boost the country's position in the index compared to other countries (assuming issuance in other countries did not change).

This introduces a discontinuity in CGS demand. CGS demand might not be a uniform downward sloping function of the price, but might be affected by the dominance of various types of investors, or at extremes be, affected by perceptions of default risk, or lack of liquidity. A third type of investor could be introduced into the market for CGS — the foreign investor following a global bond index.

Chart 29: CGS demand with global bond index investors



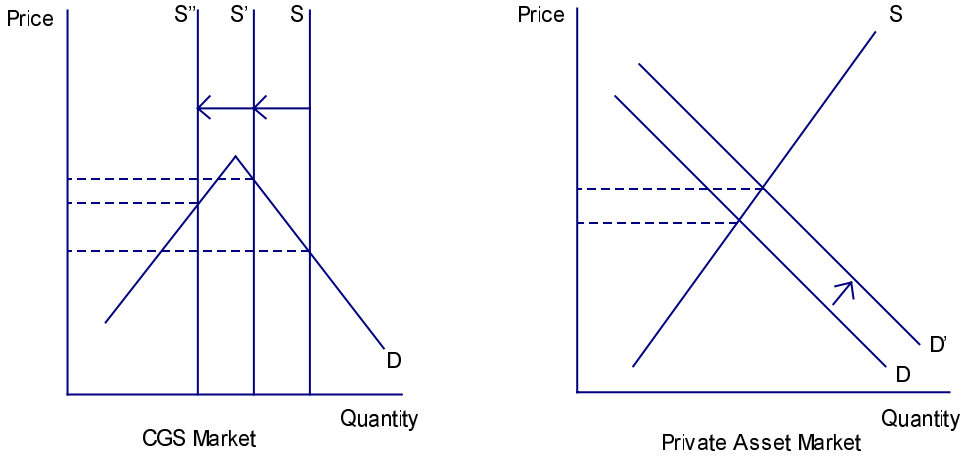
A minimum amount of CGS on issue will generate an exogenous increase in demand for CGS from global bond index investors, causing the CGS demand function to shift to the right, as more investors will want to purchase CGS at a given price. For convenience, this is assumed to occur at point A in Chart 29.

As the CGS supply decreases past point A, the demand for CGS falls as the CGS market falls off the global bond indices. At this point, CGS prices would fall and CGS interest rates rise. However, as the supply continues to diminish the price would begin to rise from the lower base. This makes the dynamics of the adjustment more complex.

Extreme illiquidity in the Commonwealth Government Securities market

In the case of an upward sloping segment of the demand curve for CGS due to the illiquidity of the market, reduced CGS supply leads to an initial increase in CGS prices. Then, as the supply passes the peak in the demand curve, further reductions in supply would lead to falls in the price of CGS. Further falls past this point would lead to increases in CGS interest rates (Chart 30).

Chart 30: Extreme illiquidity and reduced CGS supply



The initial rise in CGS prices would increase demand for private assets, causing private asset prices to rise. Lower CGS prices, once supply has passed the peak, would normally lead to falling private asset prices, as investors would move from private assets into CGS. However, investors may not see private assets as substitutes once the CGS market is this small. Hence, demand for private assets may not fall; indeed demand may increase. Thus, reduced supply, past a certain point, may generate higher interest rates on CGS but not necessarily on private assets.

Falling prices and increasing interest rates associated with this effect would partially offset the macroeconomic impacts outlined previously. Final income levels would be lower than otherwise and final interest rates higher. The exchange rate would not fall as much, and the current account contraction would be smaller.

Implications of maintaining the Commonwealth Government Securities market

The previous section assumed that the government had a budget surplus, and therefore the resources to reduce CGS supply, resulting in lower domestic interest rates and higher domestic income. However, if the absence of the CGS market reduced the efficiency of financial market infrastructure, the government could decide to maintain the CGS market. Instead of using budget surpluses to repurchase CGS, the government could invest in private financial

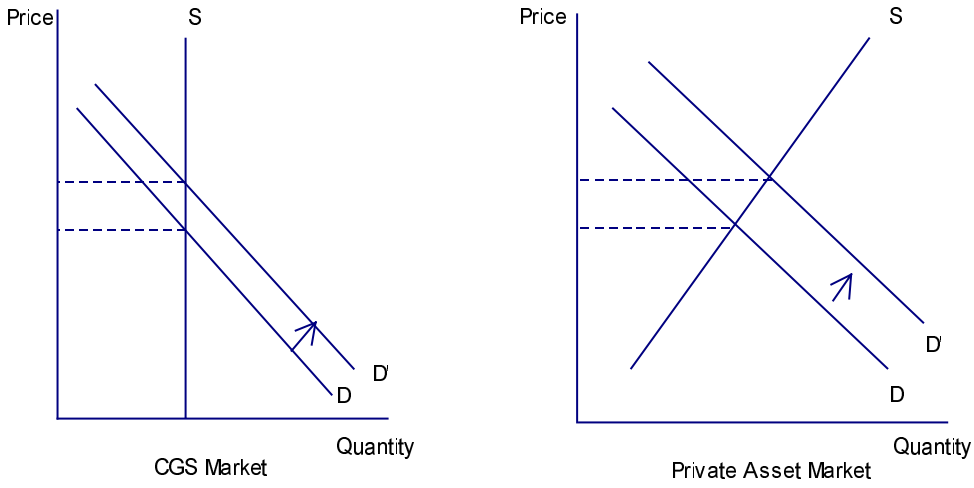
assets. The macroeconomic implications would depend on whether the government invested in domestic or foreign assets.

Also, if the CGS market needed to increase from its current size, the government could consider increasing the supply of CGS and using the proceeds to purchase financial assets.

Government investment in domestic assets

In the first case, the government investment activity is restricted to domestic securities. The CGS market is maintained in its original form and the budget surpluses are used to purchase domestic financial assets. The supply of CGS would not change but the demand for private assets would increase, so the price of private asset would rise and interest rates fall. Higher private asset prices would increase the demand for CGS, so CGS prices also would increase. Hence, both private asset and CGS interest rates would fall.

Chart 31: Investment of budget surpluses in domestic financial assets



The impact would be broadly similar to if the government repurchased CGS. Average interest rates in the economy would be lower than if the government did not have budget surpluses. Income would be higher, the exchange rate lower and current account deficit would also be lower (Chart 28).

If the government increased the CGS market from the size depicted in Chart 31, additional demand for private assets from Government purchases would

match increases in CGS supply. Increased CGS supply would decrease CGS prices and increase CGS interest rates. At the same time, government purchases of private assets would increase their prices and reduce their interest rates. Further increases in CGS supply would not increase interest rates.

Any government investment in private financial assets, while reducing average interest rates on those assets, would affect some assets more than others. The government is unlikely to invest in all private financial assets. Government purchases of some assets and not others may create distortions in the private asset market. If the Government purchased equities in one company, that would increase their market price and reduce the future cost of capital raising for that company. However, any companies whose equities were not purchased by the government would not get the same benefit.

To summarise, government purchases of private assets with budget surpluses would reduce domestic interest rates, but at the risk of creating distortions in the private financial asset market.

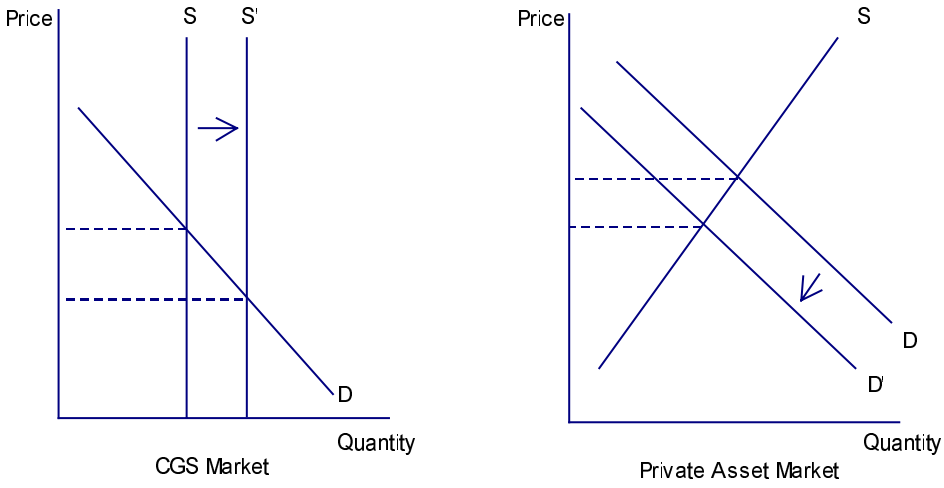
Government investment in foreign assets

In the second case, the government investment portfolio is restricted to foreign assets. The CGS market remains unchanged, and as the government's budget surpluses are invested in foreign assets, demand for domestic private assets is unchanged. Domestic average interest rates do not change so there is no change in consumption and investment.

However, the government's investment of budget surpluses in foreign assets could push the exchange rate down. At the margin, this would stimulate exports, improving the current account deficit.

If the government decides to increase CGS supply above the existing level, the price of CGS would fall and CGS interest rates would rise (Chart 32). This would cause lower demand for private assets, as they would be relatively more expensive than CGS. In this case, no offsetting increase in demand for private assets would result from Government investment of issuance proceeds. The overall impact is that average interest rates would increase.

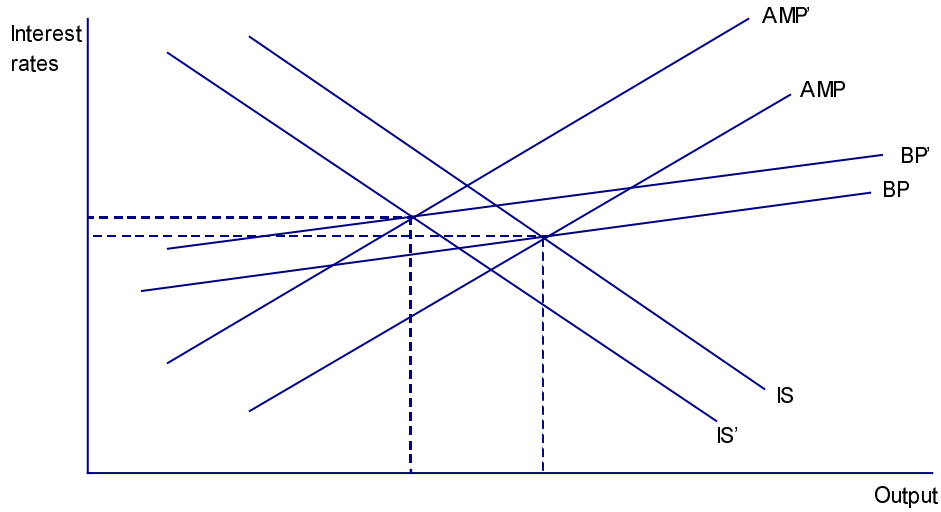
Chart 32: Increased CGS supply and foreign investment of proceeds



The AMP curve will shift to the left as long-term interest rates increase, reducing consumption, investment and domestic output (Chart 33). This shift creates an imbalance in the balance of payments, due to lower imports and capital inflow associated with higher interest rates. However, capital outflow would occur as the government invested bond proceeds in foreign assets.

Higher interest rates and lower imports would put upward pressure on the exchange rate, but the government investing overseas would partly offset this. The BP curve would shift to the left due to the exchange rate appreciation and IS curve would shift to the left as the exchange rate appreciation reduced net exports. The new equilibrium would be reached at a lower level domestic output and higher current account deficit.

Chart 33: Effect of increased CGS supply in the IS-AMP-BP model when government invests in foreign assets



Effect of hedging foreign exchange exposure

When the government invests in foreign assets, it creates an exposure to exchange rate risk. The government could hedge to remove this risk. To agree to entering a hedging arrangement with the government, the counterparty would have an opposite risk exposure to the government. For example, a US investor buys Australian dollar-denominated assets, but wants certainty in the US dollar value of the investment, while the government buys US dollar investments but wants certainty in Australian dollar returns.

If the government used budget surpluses to purchase foreign assets and hedged the exchange rate risk, the effect would be similar to the government investing in domestic securities. The government's foreign investment would match a domestic investment in private assets (the US investor buying Australian dollar-denominated assets). Hence, domestic private assets prices rise and interest rates fall. The macroeconomic effects of lower interest rates would apply.

If CGS supply increases and the proceeds are invested in foreign assets with exchange rate hedging arrangements, domestic average interest rates would not change. Increase CGS supply would raise interest rates, while increased demand for domestic private assets due to the hedge counterparty's domestic investment would reduce interest rates. No broader macroeconomic implications would arise.

If no hedge counterparty has an opposite risk exposure to the government, another counterparty could be willing to bear the risk in exchange for some compensation. This would create the same net economic impacts as the unhedged case, but would involve a transaction cost. The hedging arrangement may be a mix of 'natural' counterparties and counterparties that require compensation, so the net interest rate effect may be somewhere in between the two cases.

Longer-term stability issues

The above analysis considers the short-term implications of the government's fiscal position. This section outlines some longer-term implications for the path of interest rates, government finances and economic output.

The IS curve in the analysis is based on a government fiscal surplus. This fiscal surplus provides the government with resources to repurchase CGS or purchase private financial assets, pushing domestic interest rates down and increasing domestic output. With no policy change, higher domestic output leads to a higher surplus, through the income tax and social welfare systems.

The higher surplus provides the government with more capacity to repurchase CGS or purchase private financial assets in the next period, further reducing interest rates and further increasing domestic output.

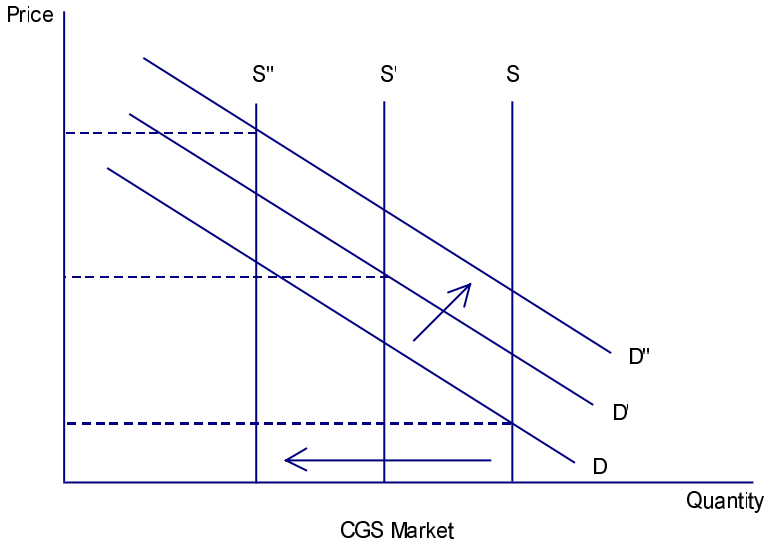
If everything else were equal, this would imply that maintaining ongoing fiscal surpluses would lead to ongoing reductions in interest rates. In the model, the opposite also would be true. Ongoing fiscal deficits would lead to ongoing increases in interest rates. This may appear to produce an unstable result. However, a number of factors may mitigate the likelihood or extent of this instability. The constraining factors will be different for budget surpluses and deficits.

In the case of budget surpluses, Chart 34 indicates how ongoing budget surpluses would lead to reductions in the supply of CGS (or increases in the demand for private financial assets), reducing interest rates.

As discussed previously, when CGS supply diminishes, the degree of substitutability of CGS for private assets diminishes, so increases in CGS prices will not have as large an impact on demand for private assets. In addition, when the Government begins investing budget surpluses in private financial assets, it will initially only purchase small volumes of private assets, so the initial impacts on private asset prices will be small. However, growth in

private asset markets due to economic growth will increase CGS demand and so mitigate the price impacts of Government purchases of private assets.

Chart 34: Ongoing budget surpluses



There are several factors that would reduce or prevent the instability implied in the model.

- First, Australia is a small open economy with a close relationship between domestic interest rates and interest rates in international markets. The more responsive international capital flows are to changes in interest rates, the smaller the net change in domestic interest rates for a given budget surplus. International capital mobility would constrain downward pressure on interest rates, constraining the investment, consumption and output effects.

- Second, as mentioned previously, increased domestic output due to lower interest rates may lead to price pressures as the economy approaches potential output. Higher prices would offset the increased output, leading to a diminished feedback to the budget. The economy's potential output would constrain a budget surplus from leading to perpetual decreases in interest rates.

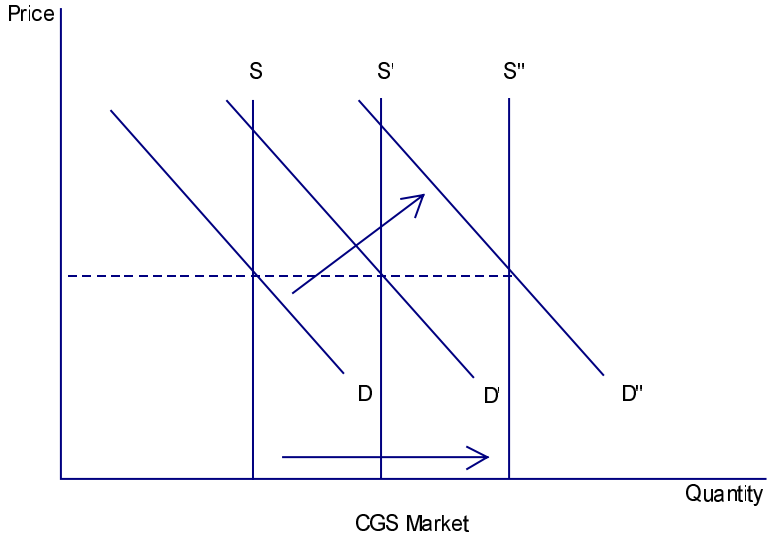
  – That said, budget surpluses that lead to lower interest rates (either by repurchasing CGS or by directly purchasing private assets) would increase investment, increasing productive capacity in subsequent periods. Through this channel, budget surpluses can contribute to

growth in potential output. This allows greater increases in domestic output to accumulate before the potential output constraint begins to offset the effects of budget surpluses.

- Third, a budget surplus may have less impact on domestic output if the private sector does not expect the policy to be sustained. If the private sector views the surplus as temporary with deficits to follow, then they may not increase their spending as much. Then decreases in interest rates associated with current budget surpluses may not generate as large an increase in domestic output, reducing the future surpluses and mitigating against the ongoing decline in interest rates.

In the case of budget deficits, the analysis needs to be considered in the context of a growing economy. Ongoing deficits would increase the supply of CGS in each period, pushing interest rates up. However, this ignores changes to CGS demand. Growth in the economy would lead to increased demand for all assets, including CGS. This would shift the demand curve for CGS, to the right, pushing interest rates down. The net effect on interest rates depends on the balance of these two considerations. If the deficit in each period causes CGS supply to grow faster than increased CGS demand, then interest rates will increase on an ongoing basis. In contrast, if CGS supply grows more slowly than CGS demand, then interest rates will fall. If the growth in CGS supply is matched by growth in demand for CGS, interest rates will be unchanged (Chart 35).

Chart 35: Ongoing budget deficits



Empirical evidence on the change in CGS demand for a change in domestic output is unclear. However, one assumption may be useful. If the elasticity of demand of the CGS market with respect to GDP were one, then changes in the debt to GDP ratio would lead to changes in interest rates. If a one per cent increase in GDP led to a one per cent increase in CGS demand, then a rise in the debt to GDP ratio would increase interest rates. An elasticity of one may be a reasonable starting point as the demand for assets increases with income.

- To illustrate, if the debt to GDP ratio were 10 per cent, and the nominal GDP growth rate were 6 per cent, then a deficit of 0.6 per cent would not change the debt to GDP ratio or interest rates. The 0.6 per cent deficit would mean that CGS supply would be 10.6 per cent of period one GDP in period two. However, CGS demand also would increase to 10.6 per cent of period one GDP. The new equilibrium would be at the same interest rate.

The sensitivity of interest rates to the income elasticity of demand for CGS also would depend on the price elasticity of demand for CGS. The more elastic the demand, the less sensitive interest rates would be to the income elasticity of demand.

In summary, the model outlined implies budget surpluses lead to lower interest rates, which lead to higher output, which leads to higher surpluses providing greater capacity to retire debt or purchase assets. This result may appear to be a potentially unstable result. However, a number of factors affect the likely magnitude of the interest rate changes. Further, the unstable result assumes that fiscal policy does not change and budget surpluses continue to increase. This is unlikely to be a relevant case in practice.

Conclusion

The analysis is highly stylised and somewhat abstractly represents Australia's financial markets and domestic output determination. It clearly does not capture the full breadth and sophistication of Australia's financial markets, nor does it fully encapsulate the interaction between financial markets and other economic activity. However, it does provide a useful economic framework for assessing the likely effects of changes in the size of the CGS market.

Given the size of Australia's financial markets, any changes in broader interest rates associated with changes in CGS supply are likely to be small. Consequently, the broader macroeconomic impacts are likely to be modest.

With other changes in economic activity occurring at any time, the impacts of changes in the CGS market may not be discernible at a particular point.

If the CGS market shrinks, interest rates in the economy are likely to fall, leading to higher consumption and investment activity and, therefore, higher domestic output. At the same time, lower interest rates would likely lead to a depreciation of the exchange rate. This would reduce the current account deficit and reduce net foreign investment in Australia. These effects most likely would be modest and occur over a relatively long time.

If the government were to maintain or increase the CGS market and invest in domestic securities, average interest rates would again fall, and the broader macroeconomic implications would be the same as if the CGS market shrank. However, as the Government most likely would only buy a subset of all domestic private assets, relative price changes may create distortions in the domestic private asset market.

If the government were to maintain the CGS market and invest in foreign assets, domestic average interest rates would not change. If it hedged the foreign exchange exposure, domestic interest rates would fall.

If the government increased the supply of CGS and invested the proceeds in foreign assets, domestic average interest rates would increase and domestic output would fall. If the government hedged this foreign exchange position, domestic average interest rates would not change.

Government debt markets

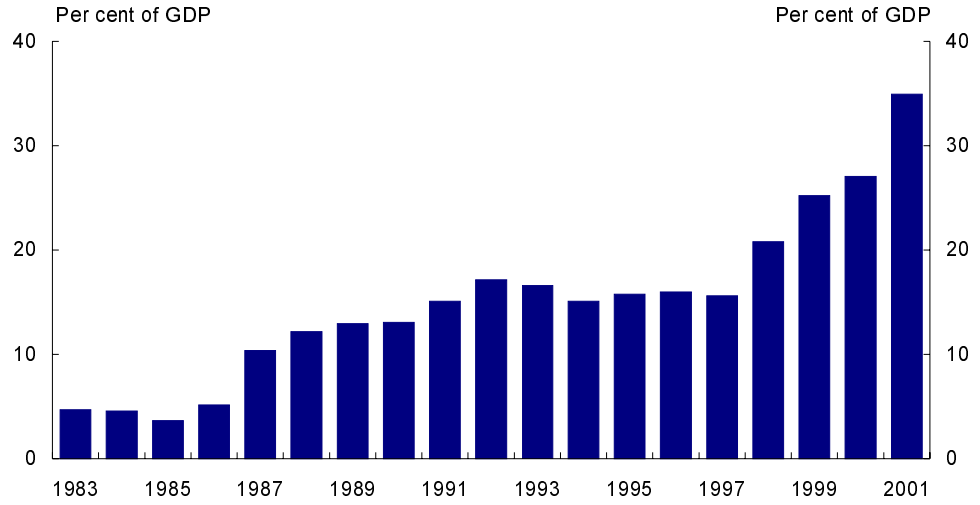
Singapore

Size of market

The Government initiated the Singapore Government Securities (SGS) programme in 1987. Prior to this there was very little issuance of government securities, and no active secondary market for government securities existed. The Government primarily issued securities to meet the investment needs of Singapore's national pension scheme, and commercial banking sector liquidity requirements. As a result there was very little turnover in the market.

Over the first decade of the programme, the government bond market developed slowly with minimal increase in issuance size and turnover. However, in 1998 the Government implemented a number of reforms to enhance the bond market's efficiency and liquidity. This included increasing the issuance of SGS, especially longer-dated bonds. Since 1998, the SGS market has grown by an average rate of around 23 per cent per year. Outstanding SGS at June 2002 totalled S$53 billion (US$30 billion) (Chart 36).

Chart 36: Singapore Government securities on issue



Source: CEIC Asia Database, 2002.

Motivation

The Singapore Government does not need to issue government bonds to finance its expenditures. The Government has operated substantial fiscal surpluses for many years and accumulated sizeable reserves. The government debt market therefore is maintained for reasons other than meeting the funding requirements of the government.

The principal objectives of developing the SGS market, as outlined by the Government, are to:

- provide a liquid investment alternative, with little or no risk of default, for individual and institutional investors;
- establish a liquid government bond market which serves as a benchmark for the corporate debt securities market; and
- encourage the development of skills relating to fixed income securities and broaden the spectrum of financial services available in Singapore.

Institutional arrangements

Singapore's central bank, the Monetary Authority of Singapore, issues government securities on behalf of the Government.

All proceeds from the issuance of government securities are placed in the Government Securities Fund established by the Government Securities Act. The Fund is managed by the central bank.

The Government Securities Act and the Financial Procedure Act outline the instruments in which funds held in the Government Securities Fund can be invested. Funds can be invested in any stocks, funds or securities authorised for the investment of trust funds, or in securities issued or guaranteed by any government or international financial institution except those issued by the Government of Singapore. Funds also may be invested in gold and other bullion, or held on deposit in any bank.

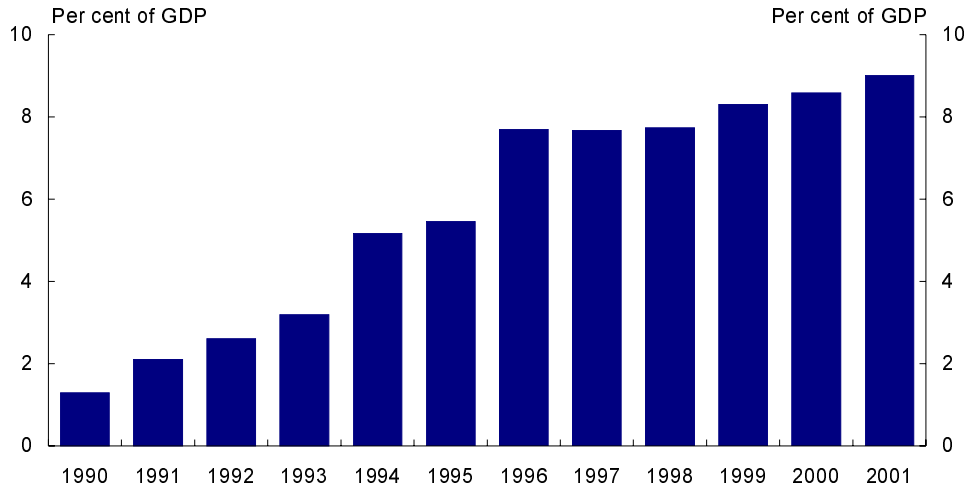
Hong Kong

Size of market

The Hong Kong Government began issuing debt in 1990, with the introduction of the Exchange Fund Bills and Notes programme. Exchange Fund Bills and Notes are Hong Kong dollar debt securities issued by the central bank. They constitute direct obligations of the Hong Kong Government.

After the programme was introduced, the total size of the government securities market in Hong Kong increased by an average of around 30 per cent per year. At June 2002, HK$115.7 billion (US$15 billion) of government securities were on issue (Chart 37).

Chart 37: Hong Kong Government securities on issue



Source: CEIC Asia Database, 2002.

Motivation

The Hong Kong Government established the Exchange Fund Bills and Notes programme with the objective of maintaining monetary and financial system stability. The programme is also aimed at promoting the development of the domestic bond market more generally. The Government considers the development of the domestic bond market to be an important factor in the continued promotion of Hong Kong as an international financial centre.

The Government does not need to issue government securities to finance its expenditures. Prior to the onset of the Asian financial crisis, the Government

had recorded large and consistent budget surpluses, resulting in the accumulation of large financial reserves. In 1998, these reserves totalled around HK$460 billion (US$60 billion) or 34 per cent of GDP. While the government recently has run budget deficits, it has largely financed them by drawing on these fiscal reserves.

Institutional arrangements

Proceeds from the sale of government debt instruments are held in the Exchange Fund. The Fund, established in 1935 under the Exchange Fund Ordinance, currently holds most of the Government's financial assets. The Financial Secretary controls the Fund and may use it to maintain monetary and financial system stability and integrity, with a view to maintaining Hong Kong's position as a key Asian international financial centre.

The Fund's day-to-day management is delegated to the Hong Kong Monetary Authority, which functions as the central bank of Hong Kong. The Monetary Authority directly manages part of the Fund, but has delegated the management of 30 per cent of total assets to external fund managers. Externally managed portfolios are subject to the same guidelines as internally managed portfolios.

The Fund is mainly held in assets denominated in US dollar and other OECD currencies. The current asset allocation strategy indicates that 80 per cent of assets are to be held in bonds, with 20 per cent invested in equities. Equity investment guidelines limit investments in domestic equities to 5 per cent of the total asset portfolio. This strategy is reviewed annually in light of changes in the volatility of financial markets.

United States

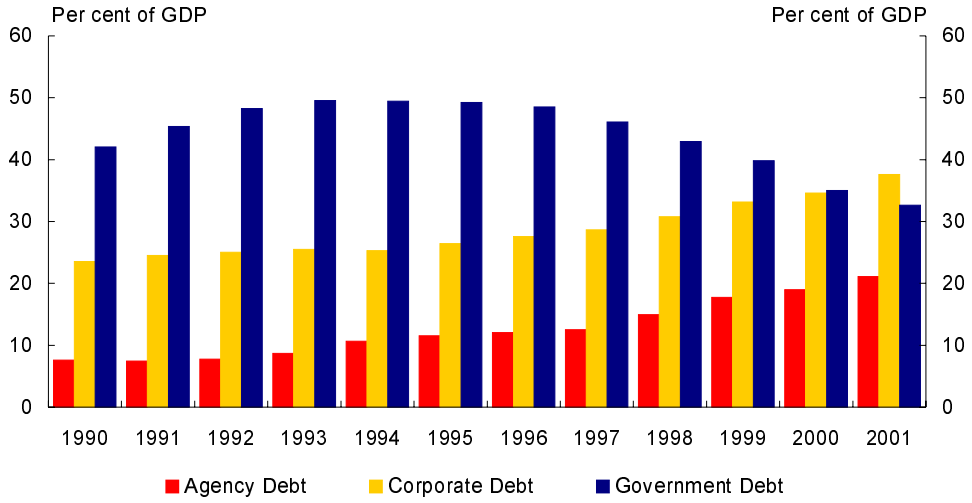
Size of market

Prior to the recent turnaround in the US fiscal position, there had been significant reductions in the amount of publicly held Treasury securities. Projections indicated that the market could be virtually eliminated by 2013. The large reductions in publicly held debt were made possible by large consecutive fiscal surpluses. Debt held by the public fell from around 50 per cent of GDP in 1993 to 33 per cent in 2001. Current projections now indicate that publicly held debt will fall to around 15 per cent by 2012 (Congressional Budget Office, 2002).

While the size of the US Treasury market has declined, private sector debt markets have expanded. Total debt outstanding in the corporate and agency debt markets totalled almost US$6,000 billion or around 60 per cent of GDP at the end of 2001.

The corporate debt market grew considerably from 1996 to 2001, with debt outstanding increasing by 10 per cent of GDP (Chart 38). This compares to relatively slow growth between 1990 and 1995. The agency debt market has grown by an average of 20 per cent per year since 1998. Agency securities constitute obligations of government-sponsored enterprises, which operate under federal charter.

Chart 38: US government, corporate and agency securities on issue[a]



(a) Government debt refers to government debt held by the public.
Source: The Bond Market Association, 2002; Organisation of Economic Cooperation and Development, 2002b.

Motivation

The Government issues Treasury securities to meet its fiscal funding requirements, and has adopted a policy of retiring debt, as budget proceeds become available.

The reduction in publicly held Treasury securities, has raised concerns among some market participants, because of the traditional role these securities have played in financial markets. The Treasury securities market has served as a pricing and hedging benchmark for financial markets, reflecting the minimal credit risk and high liquidity of the Treasury market.

While the International Monetary Fund and the US Federal Reserve have acknowledged the role US Treasury securities play in the financial market, they consider private sector alternatives exist that could fill this role. Indeed, several markets already have assumed a limited benchmark role for risk management, monitoring and analytical purposes. These markets include the corporate debt, the agency debt and interest rate swap markets.

The corporate debt market has responded to the declining market for Treasury securities by increasing issuance sizes and regularity to appeal to investor demand. Some large corporate borrowers have moved to position themselves as benchmark issuers. In 1998, Ford Motor Credit and the General Motors

Acceptance Corporation, two US finance companies with single-A credit ratings, announced billion dollar issues with an expressed intention to create international benchmarks.

Despite sound growth in the corporate debt market, some commentators suggest its potential as a benchmark may be limited by its fragmented nature, lack of infrastructure and supporting markets, and potential credit risk and firm-specific factors. Currently, corporate debt primarily is used as a benchmark to monitor the performance of the market, evaluate other outstanding corporate debt securities and assist in pricing of new corporate debt issues. Hedging activity using corporate issues is limited.

The agency debt market also serves a benchmark role for hedging and pricing purposes. In response to the declining supply of Treasury securities, some agencies have introduced their own benchmark debt issuance programs, modelled on the issuance practices of Treasury securities.

The US interest rate swap market serves a benchmark role for hedging positions taken in other markets. The high level of correlation between changes in the interest rate on swaps and other debt instruments makes swaps a useful hedging instrument. Swaps also have been used to price new issues of debt securities.

The recent turnaround in the US fiscal position and subsequent increase in debt issuance over the medium-term, means that the Government may not have to decide on the future of the Treasury securities market for some time.

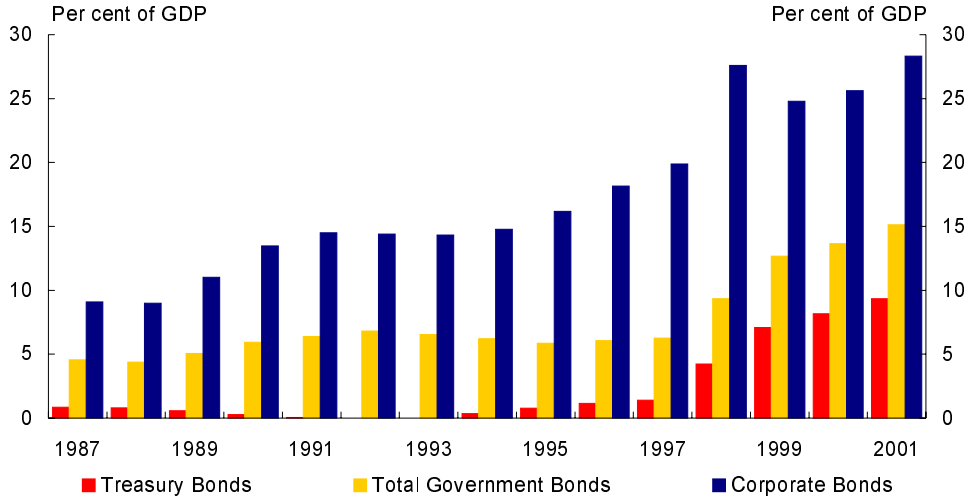
Republic of Korea

Size of market

The Korean Government bond market has undergone significant transformation since the Asian financial crisis. Before 1997, the government bond market was relatively underdeveloped, with outstanding government bonds on issue comprising around 6½ per cent of GDP, significantly lower than that of most other industrialised countries.

The small government bond market reflected the Government's strong fiscal position. However, in 1998, the fiscal position changed significantly as a result of the financial crisis. The emergence of large budget deficits, financed largely through the issuance of Treasury bonds, has increased substantially the amount of bonds on issue. By 2001, the government bond market had expanded to around 15 per cent of GDP (Chart 39).

Chart 39: Korean government and corporate securities on issue[a]



(a) Total Government bonds comprise of Treasury Bonds, Foreign Exchange Stabilisation Bonds, National Housing Bonds and Grain Securities.
Source: Korea National Statistics Office, 2002.

The limited supply of government bonds has meant that corporate bonds have dominated the Korean bond market. Prior to the financial crisis government bonds did not serve a benchmark role due mainly to limited issuance. Instead market participants used three-year corporate bonds as benchmark instruments of debt, reflecting the relative size and liquidity of the bond markets.

Motivation

Some market participants have considered the lack of a well-established debt market to be a major contributing cause of the financial crisis. It was believed that the lack of development in the domestic bond market may have resulted in heavy reliance on bank borrowing, and reduced capacity to evaluate credit risk.

The Government has stated that the development of the government bond market is an important factor in developing the domestic bond market as a whole. Consequently, the Government has adopted several measures to make government bonds a reliable benchmark. The Government has promoted three-year Treasury bonds as the benchmark debt instrument. In particular, it has allocated over half the total issuing volume to the three-year bond in order to raise liquidity of the issue. Furthermore, it plans to extend benchmarks to a longer maturity and establish a benchmark yield curve over a reasonable range of maturities.

Managing Government asset portfolios

New Zealand

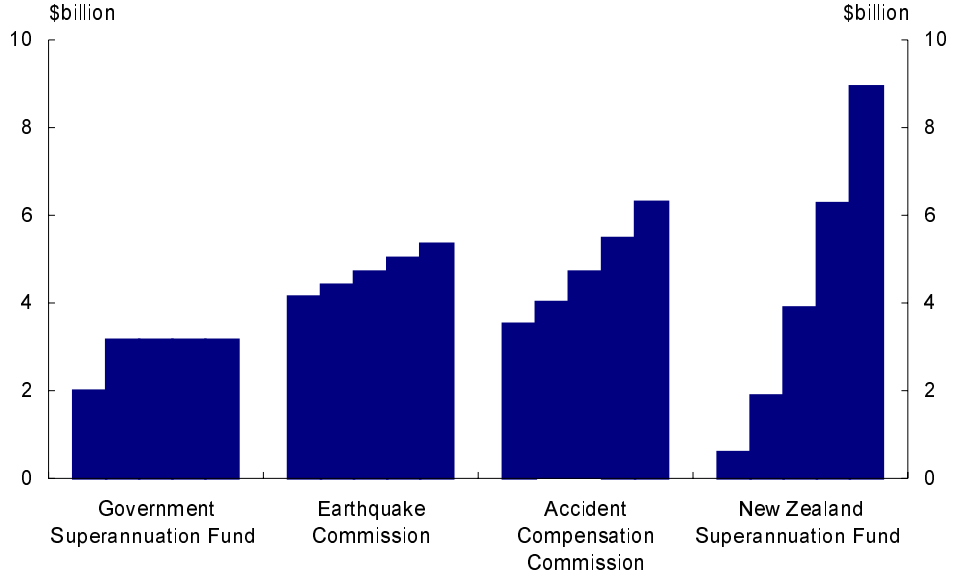
Size of asset portfolio

The New Zealand Government maintains a number of financial asset portfolios. These portfolios are expected to total around NZ$25 billion (US$12 billion) at end June 2002, and increase to around NZ$40 billion (US$20 billion) by 2006.

The expected growth in the Government's total financial assets is primarily due to the recent establishment of the New Zealand Superannuation (NZS) Fund. Assets in the NZS Fund are expected to increase from their current size of $600 million (US$260 million), to around $9 billion (US$4 billion) by 2006.

Chart 40 shows the growth in the NZS Fund and other Government financial asset funds, established for the purposes of meeting specific government obligations.

Chart 40: New Zealand Government asset portfolios: 2002 to 2006[a]



(a) A number of other substantial asset portfolios are held by the Government, including assets held by the Reserve Bank of New Zealand, and the New Zealand Debt Management Office.
Source: New Zealand Treasury, 2002.

Motivation

The NZS Fund was established to smooth the rising fiscal costs of the Government's universal pension system stemming from the ageing of the population. Under current pension arrangements, annual pension payments are expected to rise from their current levels of about 4 per cent of GDP to around 9 per cent of GDP over the next fifty years. Although exacerbated slightly by the 'baby boomer' generation, this increase is primarily due to the permanent effects of increasing longevity and declining fertility.

The Government's intention to pre-fund its future pension liabilities will require it to make capital contributions to the fund starting at around 2 per cent of GDP each year and steadily winding down to zero by the mid 2020s as the annual cost of NZS rises. To ensure the Government meets these obligations, it has put in place a long-term fiscal strategy aimed at achieving an operating balance, on average over the economic cycle, sufficient to meet the requirements for contributions to the NZS Fund.

Other NZ government funds have been established to meet specific government obligations. The Accident Compensation Corporation and the Earthquake Commission have been established to meet insurance liabilities associated with national insurance schemes. The Government Superannuation Fund is a defined benefit superannuation scheme for public servants, which was closed to new members in the early 1990s.

Institutional arrangements

The NZS Fund will operate independently of the Government and is to be managed by a Crown entity board, appointed through an independent nominating committee process. The New Zealand Superannuation Act sets out the investment objectives of the NZS Fund. The Act stipulates that the Fund must be invested on a prudent commercial basis, in a manner consistent with best-practice portfolio management, and aim for maximum returns without taking undue risk. Moreover, the fund must not operate or invest in a way that is damaging to the nation's reputation.

The Board will establish the Fund's investment strategy independently of Ministers. While Ministers are free to make their expectations as to the Fund's performance known to the Board, and the Board must have regard to that, the Board's over-riding responsibility is to invest the Fund on a prudent, commercial basis.

To further address some of the governance issues associated with the management of government owned asset portfolios, the New Zealand

Superannuation Act requires that the Fund avoid taking a controlling interest in any other entity. In addition, there are reasonably extensive accountability and reporting requirements, including publication of the Fund's statement of investment policies, standards and procedures.

The Board of the Fund has only recently met for the first time and has yet to establish its investment strategy. As a result it is not yet clear what asset composition and management strategy the NZS Fund will adopt. However, it is reasonable to expect that it will pursue a diversified portfolio across international capital markets.

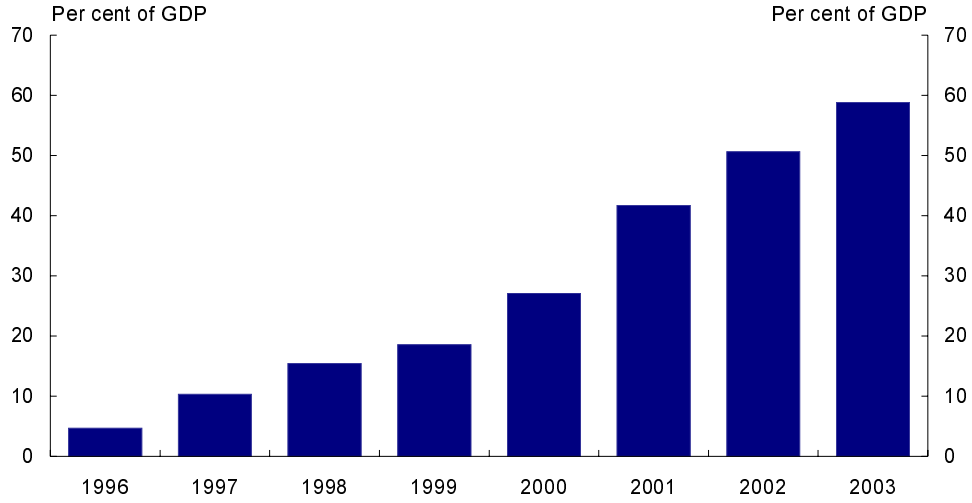
The Government's asset portfolios may be managed actively or passively. However, the choice of active or passive equity management is heavily influenced by the taxation status of the fund. A passive investment strategy can have advantages under the New Zealand taxation system. The NZS Fund will be subject to domestic taxation arrangements and therefore might face incentives to implement a passive equity investment strategy.

Norway

Size of asset portfolio

The Norwegian Government Petroleum Fund was established in 1990 to manage the large government surpluses that resulted from petroleum revenues. The Petroleum Fund's income consists of the central Government's net cash flow from petroleum activities and return on the Fund's capital. At the end of 2001, the Fund held assets totalling NOK 613 billion (around US$80 billion) or 42 per cent of GDP (Chart 41).

Chart 41: Accumulated assets in the Government Petroleum Fund[(a)]



(a) Data for 2002 and 2003 are projections.
Source: Norges Bank, 2001; Ministry of Finance estimates.

Motivation

The Petroleum Fund provides a mechanism to assist with long-term fiscal challenges. Norway faces increased pension expenditure as its population ages, at a time when petroleum revenues are expected to decline. These two trends may place significant pressure on government finances in the long-run. The Petroleum Fund seeks to address both these concerns, by smoothing the use of petroleum revenues over time, and providing an instrument for meeting the long-term increases in pension expenditure.

The Petroleum Fund is an integrated part of the Government's finances. Government guidelines for its fiscal strategy state that the structural, non-oil budget deficit should correspond to the expected real return on the Petroleum Fund at the beginning of the fiscal year. This strategy implies a gradual

increase in the use of Petroleum Fund revenues to finance the budget deficit over the medium-term, without depleting the Fund's assets.

Further, the Government can draw on petroleum revenues during periods of slower economic activity. During a recession in the early 1990s, large government budget deficits were funded from petroleum revenues, and the Government did not make any transfers to the Petroleum Fund.

Institutional arrangements

The responsibility for operation of the Government Petroleum Fund has been delegated to the central bank of Norway. The investment strategy of the Fund, is to invest capital in a way that maximises the Fund's international purchasing power, taking into account an acceptable level of risk.

The Fund is invested entirely in foreign financial assets as regulations prohibit it from investing in the domestic market. This is intended to prevent the Fund from becoming a supplementary source of financing government expenditures, and to avoid distorting the domestic economy.

The Fund's asset allocation is set at 60 per cent bonds and 40 per cent equities. To avoid some of the governance issues that arise when governments hold equity in private companies, regulations stipulate that the Fund's investments must not exceed 3 per cent of the voting shares or share capital in any one company. In addition, the central bank may only exercise the voting rights, associated with its shareholdings, if it is necessary to secure the financial interests of the fund.

Initially, the Fund's equity management was almost entirely conducted by external fund managers. These funds were passively managed, that is funds were invested with reference to stock exchange indices. In 1998, the Government allowed external fund managers to actively invest the Fund's assets.

The composition of Fund management has changed significantly since the Fund's inception. In 2001, the central bank took over the management of a large number of external index managed portfolios, and now manages 57 per cent of total Fund assets both actively and passively.

In 2001, an Environmental Fund was established with NOK 2 billion of capital holdings to invest in shares of companies which satisfy certain environmental criteria, or which have little negative influence on the environment. This Fund's performance will be evaluated after three years to determine whether the ethical investments affect overall Fund performance.

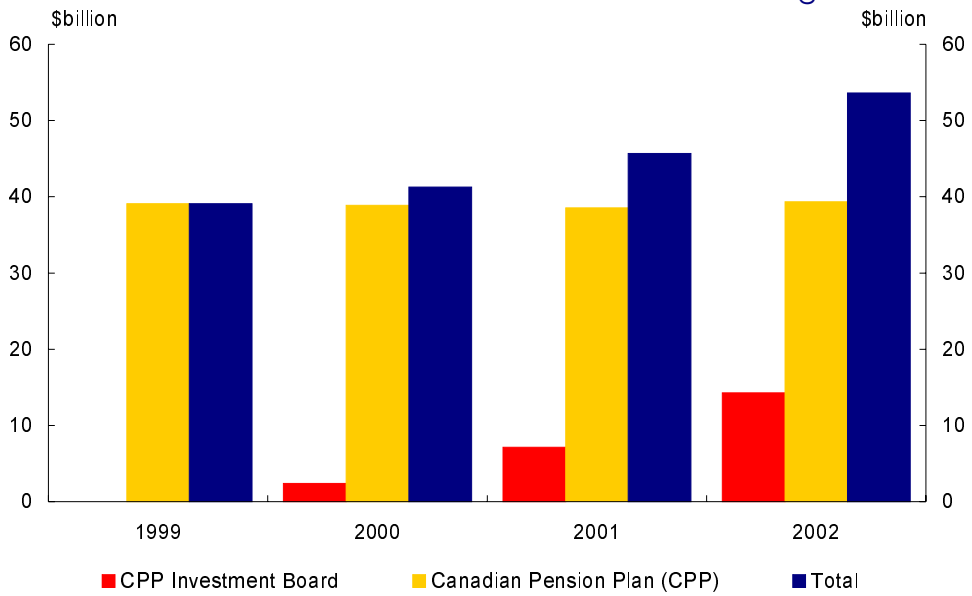
Canada

Size of asset portfolio

The Canadian Government established the Canadian Pension Plan (CPP) in 1966, to provide all working Canadians with retirement income. The Federal and Provincial Governments jointly manage the CPP, however, it does not form part of general government revenue or expenditure and therefore does not directly affect government budget positions.

In June 2002 the CPP held assets totalling C$56 billion (US$35 billion). Of these assets, around 31 per cent were managed by an investment board and invested in equities with a view to securing maximum returns without undue risk of loss. The CPP holds the remaining assets in fixed-income securities consisting of federal and provincial bonds and an interest-bearing cash reserve (Chart 42).

Chart 42: Canadian Pension Plan asset holdings



Source: Canadian Pension Plan various years; Canadian Pension Plan Investment Board various years.

Motivation

The CPP was initially established as a pay-as-you-go plan, where benefits paid to each generation of current retirees were financed from the contributions of the following generation. However, in 1996 the Government realised that the CPP had insufficient assets to meet its long-term obligations. Consequently, the Government agreed to increase contribution rates to levels that would

generate funds in excess of those required to pay current entitlements. That is, the system moved to partial funding. It is anticipated that the CPP will be 20 per cent funded by 2017.

Institutional arrangements

The Government established the Canadian Pension Plan Investment Board to invest excess funds in the CPP which are not currently required to meet pension payments. The Board is an independent investment corporation, operating at arms length from governments.

The Canadian Pension Plan Investment Board Act requires the Board to invest in assets with a view to achieving a maximum rate of return without undue risk of loss. The Board can invest in any asset they think is appropriate, including equities, bonds and real estate. So far, it has invested almost entirely in equites, to balance the large fixed-income portfolio held by the CPP.

The CPP Investment Board may invest in both domestic and international assets, however, its foreign asset holdings are restricted to 30 per cent of the total portfolio. This restriction applies to most retirement saving or pension plans in Canada.

Initially, investments in Canadian equities could only be conducted passively, that is through stock index funds that replicated established stock exchange indices. This restriction was removed in 2001. The Investment Board now has full discretion over its investment policy.

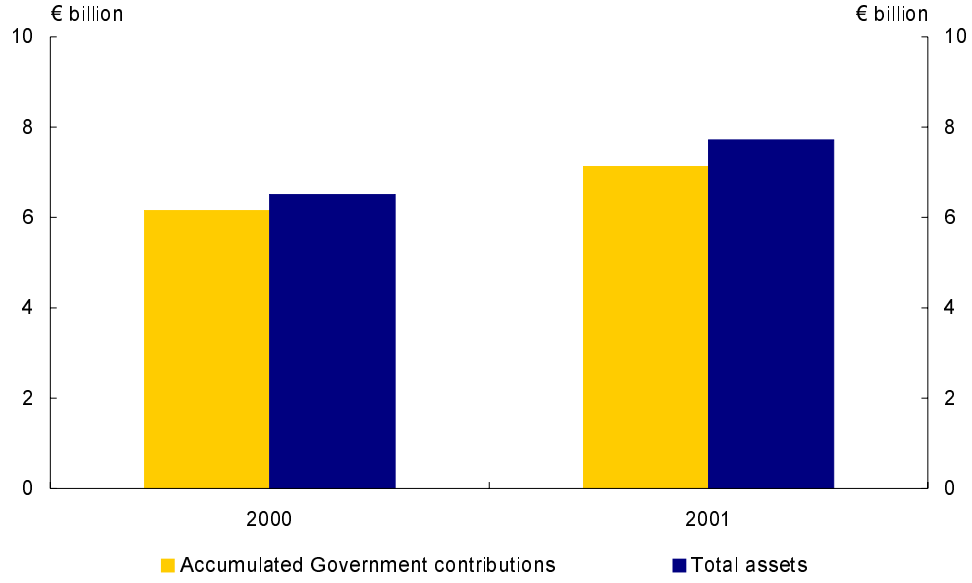
The Government tabled legislation in Parliament in June 2002 that proposes the transfer of the CPP assets currently managed by the Government to the CPP Investment Board, consolidating the investment management of all CPP assets in the one organisation. The transfer will be phased-in over three years.

Ireland

Size of market

The National Pensions Reserve Fund was established in 2001, and held assets totalling Euro 7.7 billion (US$7.5 billion) at December 2001 (Chart 43). It is expected that the Fund will grow to Euro 40 billion by 2025.

Chart 43: Accumulated assets in National Pensions Reserve Fund



Source: National Pension Reserve Fund Commission, 2001.

Motivation

The National Pensions Reserve Fund was established to meet part of the increasing costs of government social welfare pensions and public service pensions arising from the projected ageing of the population. The Government estimates the annual cost of public pensions will increase by around 8 per cent of gross national product (GNP) by 2056.

In order to pre-fund part of the future cost of pension expenditures, the Government is required to make contributions to the Fund equal to 1 per cent of GNP each year up to 2055.

The Government is restricted from withdrawing any assets from the Fund before 2025. Thereafter, withdrawals must be for the specific purpose of meeting social welfare or public service pension expenditures. Further,

withdrawals from the Fund in any year are limited to the total government expenditure on pensions in that year.

Institutional arrangements

The National Pensions Reserve Fund Commission is responsible for the control, management and investment of the Fund's assets. The Commission has appointed the National Treasury Management Agency as manager of the Fund, to act as agent of the Commission.

The National Pensions Reserve Fund Act outlines the broad investment strategy of the Fund. The Act states that the Fund shall invest in a manner that secures the optimal total financial return, having regard to both capital and income, subject to an acceptable level of risk.

The Fund can invest in all asset classes except Irish Government securities. The Commission has determined, that given the long-term nature of the Fund's liabilities, the broad asset allocation should be 80 per cent equities, and 20 per cent bonds. Equity investments are to be evenly distributed between Euro and non-Euro investments. All bond holdings will be Euro denominated.

To avoid some of the governance issues that may arise as a result of the Government's equity holdings, the Fund is prohibited from taking a controlling interest in any one company.

While the National Treasury Management Agency has the authority to manage the Government's asset portfolio, it has outsourced the majority of investment activities to external fund managers, and only manages a small Euro bond portfolio. Around half the Fund's asset portfolios are actively managed.

APPENDIX 5: DECISION ON CONSOLIDATING COMMONWEALTH AND STATE DEBT MARKETS

NO.057

Debt Issuance By Australian Governments

At the request of the Ministerial Council for Commonwealth State Financial Relations in March 2001, State, Territory and Commonwealth Heads of Treasuries considered the benefits of moving to a consolidated system of issuing State and Commonwealth debt. The States, after receiving this consideration, have unanimously agreed not to proceed with such a proposal. The Commonwealth concurs with this view.

This assessment reflects the following issues:

- The current arrangements, where each jurisdiction has responsibility for its own debt issuance, provide a direct link between the jurisdictions' financial position and its cost of funds in the financial markets. Substantial benefits have accrued from these arrangements, which promote greater fiscal discipline and superior financial management outcomes;

- The savings attributed to the consolidation proposal are uncertain, likely to be small in the short term and difficult to quantify in the longer term; and

- Consolidation is unlikely to have any material impact on the investment decisions of international portfolio managers.

While Treasurers have agreed that the consolidation of debt issuance is not appropriate, they consider it important to continue to promote the effective operation of the government bond market within the existing framework.

CANBERRA
2 August 2001

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