‘Tip of the Iceberg?’

Economic Modelling • August 2007

finsia
FINANCIAL SERVICES
INSTITUTE OF AUSTRALASIA

ACKNOWLEDGEMENTS

Finsia thanks Econtech for conducting the economic modelling, for launch at Finsia's 'Tip of the Iceberg – the economics of sustainability risk reporting' Public Summit on 1 August 2007.

Econtech is one of Australia's leading independent economic consultancies, with an emphasis on economic modelling. Econtech specialises in consulting on taxation, policy and forecasting, as well as forecasting reports and software. Further information: www.econtech.com.au

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"Overall, the voluntary adoption of SRR by more Australian businesses appears to be a worthwhile investment for them, as well as having wider economic benefits, and so should be encouraged by Australian governments."

Econtech, July 2007

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The Financial Impacts of Sustainability Risk Reporting on Business and the Broader Economy

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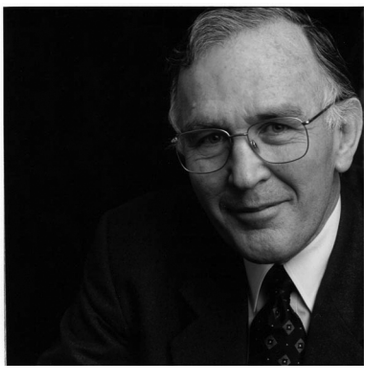
Foreword



Stephen Harrison AO
Interim CEO, Finsia

$1.2billion GDP windfall if companies adopt sustainability risk reporting

" There is still time to avoid the worst impacts of climate change, if we take strong action now."

UK Stern Report[1]

Are we at the 'tip of the iceberg?' Can the Australian economy afford the cost of companies not reporting on sustainability risks such as climate change?

In March 2007 Finsia commissioned Econtech to undertake a unique study to estimate the costs/benefits of Sustainability Risk Reporting (SRR) to businesses and the overall Australian economy. Finsia is delighted to present the findings of the economic modelling to coincide with our *'Tip of the Iceberg? The Economics of Sustainability Risk Reporting'* Public Summit.

Finsia believes this modelling – the first of its kind in Australia – will provide a substantial working model for converts and informed sceptics alike, to consider in detail the real impact of sustainability risks on the bottom-line. The Finsia/Econtech study models the effects of a rise in companies reporting on SRR from 23 per cent to 60 per cent in the percentage of large companies that use SRR reporting in Australia. SRR is already above this level and continuing to rise in Japan (80 per cent) and the UK (71 per cent).

In short, there is a strong economic case – to the tune of $1.2billion GDP per annum and a significant profit gain of 2-3 per cent for medium and large companies that voluntarily report on sustainability risks.

Finsia endorses Econtech's conclusion that "overall, the voluntary adoption of SRR by more Australian businesses appears to be a worthwhile investment for them, as well as having wider economic benefits, and so should be encouraged by Australian Governments". Finsia looks forward to continuing its dialogue with all key stakeholders to ensure we sustain our future and invest for the long-haul.

[1] Stern Review: The Economics of Climate Change, HM Treasury (October, 2006)

Macroeconomic impact of SRR Scenario - 60% uptake rate of SRR by companies

- ☑ $1.2billion increase in GDP
- ☑ $1.2billion increase in annual private consumption (a proxy for household living standards) = $61 each year for every Australian
- ☑ A significant profit gain of 2-3 per cent for medium and large companies

Issues Moving Forward

- ➡ There is a strong case for SRR to be adopted in the Australian market by companies, to the tune of $1.2billion GDP
- ➡ Reporting requirements will vary across different jurisdictions and different industries according to the size of companies and whether they are listed or not
- ➡ Australia must work towards establishing some minimum standards for reporting
- ➡ Finsia is less concerned about the specific form that the reporting takes, but is keen to ensure that the momentum behind SRR in Australia is steered by a common and respected framework, championed by a respected and appropriate body

1 August 2007

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"SRR is an issue that has not been analysed in a systematic way previously in Australia or overseas so that the costs and benefits associated with its introduction are not well understood"

Econtech, July 2007

Executive Summary

Background

The Financial Services Institute of Australasia commissioned Econtech to undertake a pioneering study to determine the costs/benefits of environmental, social and corporate governance (ESG) (or sustainability) reporting to businesses and the overall economy. In this report, we refer to this style of reporting as Sustainability Risk Reporting (SRR). The ethical case for SRR reporting is likely to be important but is outside of the scope of this report, which focuses on the business and economic impacts.

For the purposes of this report, SRR includes the following three main elements:

- the direct and indirect societal and environmental impacts of businesses activities including those of their suppliers;
- long-term performance reporting (say 5-10 years); and
- full disclosure of executive remuneration and linking it to long-term relative returns.

Reporting on these elements has the aims of better aligning the behaviour of management with the long-term interests of shareholders (i.e. reducing the well-known problem of "agency risk") and enhancing the reputation of a business to its employees and customers. What SRR can't do is overcome a general market failure that would require a broader public policy response.

To the extent that these aims are achieved, SRR can be expected to have business and economic benefits through the following channels:

- reducing the risk premium in the cost of capital;
- raising labour productivity; and
- supporting brand-based price premia.

SRR will also have costs, which this study also takes into account.

Literature Review

Some previous studies have used a case studies approach to investigate the effects of ESG issues on individual companies. Other studies have compare the financial performance of companies that report on ESG issues (compared with those that do not). Still other studies have assessed the strength of each of the three channels through which it can have benefits. However, to our knowledge this is the first study to take into account the cost burden associated with the introduction of SRR, and to model the effects of SRR reporting using an economy-wide model.

Based on our assessment of the literature, we find that SRR provides benefits through the following channels:

- a reduction in the risk premium of around 30 basis points;
- a lasting gain in labour productivity of around 0.8 per cent; and
- a brand-based price premium of around 2 per cent.

These estimates of the strength of the three channels are used in our modelling of the business and economic impacts of SRR.

Note that the first two channels are likely to provide benefits both to individual companies and the economy generally. The third channel – supporting brand price premia – may provide companies that use SRR with an advantage over other companies in the same industry that do not use SRR, without providing an overall benefit to the industry except where it is competing in international markets.

The size of the impact of SRR on the economy depends on how widespread SRR becomes. The KPMG International Survey of Corporate Responsibility Reporting 2005 found that, in 2005, 23 per cent of the top 100 companies in Australia used SRR, up from 14 per cent only three years earlier. Given this sharp rate of increase in SRR in Australia, and similar trends overseas, this study models the effects of a rise from 23 per cent to 60 per cent in the percentage of large companies that use SRR in Australia. SRR is already above this level and continuing to rise in Japan (80 per cent) and the UK (71 per cent).

Methodology

The effects of SRR are simulated using 45 representative businesses that are distinguished according to three sizes (small, medium and large) and 15 industries. To these representative businesses, we applied shocks representing the likely impacts (benefits and costs) associated with the introduction of SRR. These shocks covered the risk premia, labour productivity, brand name and compliance cost impacts mentioned above.

The business level analysis provided a starting point for modelling the economy-wide impacts of SRR. For this we used the Econtech Murphy Model 2 (MM2), which is a fully-integrated macro-industry forecasting and policy model of Australia. MM2 incorporates the economy's long-term constraints related to the supply of labour, government budget, balance of payments and domestic saving. We used the results from the business-level analysis to introduce to MM2 the likely effects of SRR in each of MM2's industries. MM2 was then simulated to trace through the broader economy-wide impacts of the risk premia, labour productivity, brand name and compliance cost impacts in each industry.

Key Results

The key findings from our average businesses analysis in terms of enterprise profits is revealed in Table A, which shows the average rate of gain in annual profits from SRR by business size. The table illustrates that all businesses do gain from SRR.

TABLE A

SRR Impact on Annual Operating Profits for the Representative Company (2004-05 $ million)

Size	Small	Medium	Large
Profits Gain ($ 000)	1	22	476
Profit (%)	2.0	3.1	2.0

Source: Econtech estimates.

Table B presents the overall macroeconomic benefits from SRR in 2004-05 dollars. It suggests that annual private consumption (a proxy for household living standards) would be $1.2 billion higher on an annual basis than otherwise, worth on average $61 each year for every Australian, as would GDP. In addition, overall investment, overseas trade and gross domestic product would be stronger. Note that private consumption provides a purer measure of net economic benefit than GDP. The annual gain in private consumption of $1.2 billion represents a worthwhile percentage gain of 0.23 per cent.

TABLE B

Permanent Annual Gains for the Australian Economy

Macroeconomic Impact of CSR Scenario	$m in 2005/06
Private Consumption	**1,247**
Government Consumption	**0**
Private Dwelling Investment	**121**
Private Business Fixed Investment	**201**
General Government Investment	**0**
Exports - Total	**1,080**
Imports - Total	**1,511**
Gross Domestic Product (Average)	**1,243**

Source: Econtech estimates in 2004-05 dollars

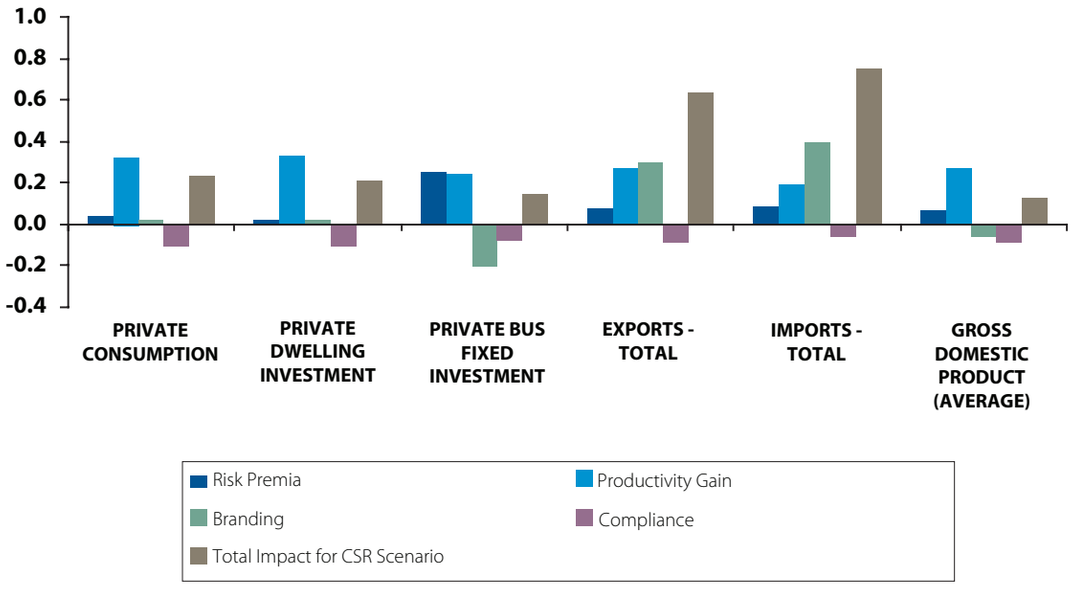
Chart A shows the different macroeconomic impacts of SRR through the risk premia, labour productivity, brand name and compliance cost channels. It shows that the major part of the gain in living standards (or private consumption) of 0.23 per cent (i.e. an annual gain of $1.2 billion) arises from the labour productivity channel, with smaller gains from lower risk premia and higher brand premiums.

Overall, the voluntary adoption of SRR by more Australian businesses appears to be a worthwhile investment for them, as well as having wider economic benefits, and so should be encouraged by Australian governments. Indeed the assumptions adopted by Econtech for this study are conservative so the benefits to households and to business are likely to be greater then we have estimated.

CHART A

OVERALL IMPACT OF SRR ON THE MACROECONOMY BY SOURCE CHANNEL

(% DEVIATION FROM BASELINE)



Source: Econtech Estimates

ECONTECH 10 JULY 2007

Introduction

The Financial Services Institute of Australasia ("Finsia") commissioned Econtech to undertake a pioneering study to determine the costs/benefits of sustainability risk reporting ("SRR") to businesses and the overall economy. Finsia is a leading membership body for financial services professionals in Australia with over 20,000 members. It is committed to raising standards in the financial services industry by fostering professional development and market integrity, through the promotion of ethical and effective practice. It is also dedicated to providing researched and well-informed advice to influence public debate on a range of issues affecting the financial services industry in Australia and within the Pacific region.

Finsia envisaged that the SRR study they commissioned would:

- explore the short and long-term impacts of better practices by businesses (including financial services providers), in terms of their profitability; and
- estimate the short and long-term impacts for the broader economy in terms of overall living standards in Australia of the widespread voluntary adoption of better practices by businesses.

Finsia's primary motivation to commission an independent research report on SRR was to inform its members about an important issue where a gap exists in the policy debate. SRR is an issue that has not been analysed in a systematic way previously in Australia or overseas so that the costs and benefits associated with its introduction are not well understood. While not prejudging the outcome of the study, Finsia felt that there are likely to be some benefits to "well behaved" businesses that voluntarily adopt SRR.

For this reason our study focuses on the benefits to businesses and the broader economy stemming from well behaved enterprises, rather than modelling the effects of specific reporting requirements.

Defining SRR

So what is meant by "well behaved" business and SRR? Unfortunately, SRR lacks a universally accepted definition, while being the sort of issue that polarises the policy debate. On the one hand there is the viewpoint best characterised by Milton Friedman, the Nobel Laureate for Economics who once wrote: "The social responsibility of business is to increase profits".[2] On the other hand there are those who believe that SRR can address market failures that in reality would be better addressed by public policy instruments. For example, in the current debate about global warming, some would argue that adopting SRR could be a solution. This type of argument confuses the identification of issues at the level of individual businesses with policy measures with built in incentives to change business behaviour.

A middle-ground position on the well-behaved business was recently articulated by the Australian Government's Corporations and Markets Advisory Committee which said:

"… a company will be seen to be socially responsible if it operates in an open and accountable

[2] In his book Capitalism and Freedom.

manner, uses its resources for productive ends, complies with relevant regulatory requirements and acknowledges and takes responsibility for the consequences of its actions."[3]

Following our review of the sustainability debate, Econtech has adopted for this study what we believe is a middle-ground and concrete explanation of the "well-behaved" business and SRR. It requests of business their voluntarily disclosure of the following three aspects:

- **direct** and **indirect** societal and environmental impacts of businesses activities including those of their suppliers;
- **long-term** performance of the business (say 5-10 years) in addition to conventional short-term 12 to 24 month reporting horizon; and
- full disclosure of details of **executive remuneration** and **performance management** policies and linking them to the longer term **relative** performance of the business.

Reporting on these elements has the aims of better aligning the behaviour of management with the long-term interests of shareholders (i.e. reducing the well-known problem of "agency risk") and enhancing the reputation of a business to its employees and customers. What SRR cannot do is overcome a general market failure that would require a broader public policy response.

Businesses Using SRR

Unfortunately it appears that Australian business is not at the forefront of sustainability reporting. There is no general requirement in Australian law for companies (let along other business types) to report non financial risks. Meanwhile compliance with voluntary, uniform reporting standards is best described as "patchy".[4]

- KPMG Global Sustainability Services, *KPMG International Survey of Corporate Responsibility Reporting 2005* (June 2005) reports that the uptake of public reporting in Australia is increasing, though still low by international standards. It has grown from 14 per cent of the top ASX 100 companies in 2002 to 23 per cent of the top ASX 100 companies in 2005. Australia is ranked 11 out of the 16 countries surveyed.
- The *State of Sustainability in Australia 2005* (Department of the Environment and Heritage) indicated that, of the 119 of the top 500 companies in Australia that produced a sustainability report in 2005, only 40 (34 per cent) had their reports independently verified by a major accounting firm and only six companies reported in accordance with the Global Reporting Initiative.[5]

[3] Australian Government, Corporations and Markets Advisory Committee, The Social Responsibility of Corporations Report, December 2006, p. iv.

[4] In relation to listed public companies, the ASX Corporate Governance Council Principles of Good Corporate Governance and Best Practice Recommendation Principle 7 (Recognise and manage risk) contains only voluntary guidance for companies disclosing their non-financial (ESG) risks. There is no "if not why not" requirement to report on SRR. According to the ASX Corporate Governance Council there has generally been a low standard of reporting against Principle 7.

[5] Internationally, the Global Reporting Initiative (GRI) 2002 Sustainability Reporting Guidelines are rapidly becoming the accepted voluntary framework for corporate sustainability or triple bottom line (environment, social and economic) reporting.

- The CPA Australia research document ***Sustainability Reporting: Practices, Performance and Potential*** (July 2005) surveyed a range of Australian private and public sector bodies that prepared triple bottom-line reports. The report noted the wide variance in the format and scope of private sector reports that were prepared and suggested this was attributable to a reluctance or inability of organisations to modify or develop tools, processes and frameworks for sustainability reporting.

A very small proportion of private production that is undertaken in Australia is undertaken by businesses that have adopted something like SRR. We estimate that less than 5 per cent of all Australian businesses representing less than 10 per cent of the total private economy in 2007 have voluntarily engaged in SRR-type reporting requirements as defined previously.

Indeed, a very small number of Australian businesses actually publicly release their audited financial details (let alone disclose their non-financial risks). Only three types of Australian business are mandated to produce audited public financial statements and directors reports. They include publicly listed companies (around 1900 entities); large propriety companies (around 5000 entities) and unlisted public companies (around 18000). These large businesses account for around 60 per cent of the private sector economy.[6] While some other forms of business have external reporting requirements (including not-for-profits, incorporated associations, and mutual associations) the vast bulk of operating businesses in Australia numbering around 2.3 million and accounting for around 40 per cent of domestic output do not produce public accounts, let alone detail consistent voluntary information about non-financial risks they face.

Econtech Study

It was necessary to "start from scratch" to develop a robust methodology to estimate the costs/benefits of sustainability reporting to businesses and the overall economy. Very little analysis has been done which pulled together all the relevant aspects of the technical literature under the SRR banner to generate meaningful estimates of the costs and benefits for businesses and the overall economy. Most of the quantitative work that specifically deals with SRR could be described as business case studies. Fortunately, the vast majority of the empirical estimates needed to undertake this study was readily available in high quality professional journals and just needed to be combined to generate useful business and overall economy results.

The purpose of this study then is to determine the costs/benefits of sustainability reporting to businesses and the overall economy. The key output of this study is a spreadsheet model that was used to calculate these costs/benefits to average businesses by firm size and industry resulting from SRR along with the results presented in this report which include details of the overall economic impact of SRR.

[6] See Section 45 A (3) of the Corporations Act 2001 (Cth). Only companies with assets greater than $12.5 million, revenue more than $25 million or 50 employees or more (two of the three criteria) have to publicly lodge accounts.

This report is structured as follows.

- Section 1 provides an extensive literature review of both the economic and financial literature from Australia and internationally focusing on empirical impacts for businesses and the broader economy from the adoption of SRR style reforms.
- Section 2 outlines the methodologies applied to measure the empirical impacts for representative businesses and the broader economy from the adoption of SRR reforms.
- Section 3 reports detailed results (in terms of profits and loss impacts) over a ten year period for representative businesses and the broader economy (in terms of private consumption, business investment, GDP and other broad aggregates) as well as the limitations of the approaches.

While all care, skill and consideration has been used in the preparation of this report, the findings refer to the terms of reference specified by Finsia and are designed to be used only for the specific purpose set out below. If you believe that the terms of reference should be different from those set out below, or you wish to use this work or information contained within it for another purpose, please contact Econtech.

The specific purpose of this report is undertake a pioneering study to estimate the costs/benefits of sustainability reporting for representative businesses and the overall economy. The study is intended as a piece of high quality independent research to help fill a gap that exists in the current Australian and international literature regarding the gains and losses that would result from the adoption of SRR.

1. Literature Review

This present study is unique in that it attempts to estimate the costs/benefits of sustainability risk reporting ("SRR") to businesses and the overall economy. To our knowledge this has never been attempted before in Australia or overseas.

Previous studies have tended to focus on elements of SRR impacting on businesses and have generally found it contributes to long run profitability. These studies have had three types:

- focusing on business case studies identifying more qualitative benefits aspects of reform;
- comparing the performance of businesses which implement SRR to those businesses that have not; and
- identifying the theoretical transmission channels through which SRR impacts on businesses and the broader economy.

To our knowledge no study has ever attempted to measure costs burden associated with the introduction of SRR, nor examined the macroeconomic impacts associated with SRR.

1.1 Business Case Studies

In *Corporate Sustainability – An Investors Perspective*, known as The Mays Report, the Department of Environment and Heritage commissioned research with the intent of contributing to financial services sector debate on the value of SRR.[7] The report included a series of case studies which presented positive examples of Australian based companies successfully applying SRR to their businesses.

The SRR Initiative at the John F. Kennedy School of Government of Harvard University has also analysed the effects of SRR on businesses more broadly through its case studies series. Some recent examples include the following.

- Kramer ***et al.*** (2006) examined the importance of SRR for a business's reputation and illustrated the positive beneficial impact of SRR on the business brand using British Petroleum as a case study of environmental responsibility.
- Kytle and Ruggie (2005) examined the importance of SRR as a new risk management tool for businesses. The authors found that businesses with a SRR policy are potentially better prepared to react to changing consumer preferences and business environments.

1.2 With & Without Studies

Several investment businesses have created sustainability index funds over the past 20 years which have allowed investors for the first time to buy shares in groups of businesses identified as SRR leaders across a range of industries. These new funds allow a new type of quantitative study. That is to compare the share market valuation of listed companies "with" and "without" a SRR policy over time.

[7] Australian Government, Department of Environment and Heritage, Corporate Sustainability – an Investor Perspective (The Mays Report), Can Print, 2003.

A naïve comparison between the *Dow Jones Sustainability Index World* (DJSIW) and the broad benchmark *Morgan Stanley Capital International* (MSCI) world index shows a performance advantage to the DJSIW of 4 per cent over most of the period since its inception in 1999.[8] The naïve comparison that finds a performance advantage for businesses with a SRR policy is reaffirmed by several rigorous contributions that analyse the relationship of corporate social responsibility and the financial performance of businesses.

- Statman (2005) who looked at the performance of a long established sustainability index, *Domini 400 Social Inde*x, and estimated an annual excess return over the Standard & Poors 500 Index to be 2.5 per cent per year from 1990 to 2004, adjusting for common drivers of returns between the two indexes.
- Gomper *et al* (2003) suggested that better corporate governance practices translate into an increase of market value of approximately 6 per cent. The Harvard economist and his two colleagues focused on the impact of corporate governance, one aspect of SRR, on Tobin's Q (which measures the market value of a business's assets relative to the replacement value of those assets). [9]
- Ruf *et al.* (2001) estimated the performance advantage of SRR to be an increase of return on equity of 6 per cent.
- Derwall et al. (2005), Margolis and Walsh (2001) and Orlitzky ***et al.*** (2003) also found a positive relationship between SRR and corporate financial performance, the later study, a meta analysis, summarised the results of over 300 previous studies.

1.3 Transmission Mechanism Studies

Another type of study attempts to demonstrate and then estimate the alleged linkages between SRR and various benefits to business.

The three main studies which are used in this analysis for modelling the effects of Social Risk reporting are presented in Table 1.1.

[8] DJSIW comprises the top 200 global companies that satisfy certain criteria on environmental protection, sustainability, social issues, stakeholder relations and human rights.

[9] A Tobin`s Q ratio greater than 1 usually means that a firm has done well with its investment decisions. Gompers et al (2003) suggests that better corporate governance practices translate into an increase of Tobin's Q of 0.089 after ten years, or a 6 per cent increase in the value of total asset (based on a business with a starting value for Tobin Q of 1.5).

TABLE 1.1

MAIN STUDIES, APPROACHES AND FINDINGS

	Measurement of SRR	Data	Country	Effect
Bohjraj, Sanjeev and Partha Sengupta (2003). Effect of Corporate Governance on Bond Ratings and Yields: The Role of Institutional Investors and Outside Directors.	Corporate governance indicators (percentage of the board of directors who are not also officers of the firm)	Based on Warga Fixed Income Database of 1005 Observations; includes information on bond yields and company characteristics for 1991-1996	USA	Capital costs are decreased by 30 basis points for one standard deviation increase of the corporate governance indicator
Ruf, Bernadette M., Muralidhar, Krishnamurty, Brown, Robert M., Janney, Jay J. and Karen Paul (2001). Building and improving a business's brand recognition or the business's recognition itself as a socially responsible business can increase businesses sales.	Corporate Social Performance (CSP) Indicator based on independent rating of company behaviour in eight different categories	Based on the Kinder, Lydenberg, and Domini, Inc. (KLD) database of 650 observations; includes information on revenues and other company characteristics for 1991-1995	USA	Revenues increase by 2 per cent for a one standard deviation increase of the CSP indicator
Nicolo, Gianni De, Laeven, Luc and Kenichi Ueda (2006). Corporate Governance Quality: Trends and Real Effects.	Corporate Governance Index	Country-level database based partly on the Penn World Table 6.1.	41 countries, including Australia	Labour productivity increases by 0.8 percent for a one-standard deviation increase of the Corporate Governance Index

Source: Econtech

As shown in Table 1.1, the literature review identified three main transmission channels for the effects of Social Risk Reporting on company performance. Based on the results of the literature review, the estimated benefits for companies which implement SRR are:

- *a 30 basis points decrease of capital costs;*
- *a 2 per cent increase of sales revenues; and*
- *a 0.8 per cent increase of labour productivity levels.*

Risk Premia

An often cited explanation for the superior financial performance of businesses that have adopted SRR is their alleged lower costs of capital. The theory is that well-behaved businesses with transparent reporting practices gain the trust of investors and bankers. Here very good to excellent corporate governance standards may reduce the risk premium charged by lenders or shareholders. This is also more likely to occur where external boards are used to verify and control the SRR standards.

- Bohjraj and Sengupta (2003) have suggested that better corporate governance is related to superior bond credit ratings and lower bond yields for businesses. They argue that this should be interpreted as evidence of lower levels of business specific or risk levels for these businesses. In particular, Bohjraj and Sengupta (2003) regress bond yields on corporate governance standards and find an estimated reduction of credit costs of 30 basis points for a one standard deviation increase of the share of board of directors who are not also officers of the firm.

- Lee and Faff (2006 draft) in a complementary study have estimated the relationship between SRR and risk levels of businesses. Their analysis suggests that leading SRR businesses have a lower risk level by between 3 to 5 per cent compared to the market average.
- Makiel and Xu (1997, 2000) and Dempsey et al. (2001) both found for Australia lower risk levels of 3 to 5 per cent from SRR correspond to lower costs of capital of between 0.5 to 1.5 per cent.[10]

Productivity

Another explanation for the financial performance of businesses with better SRR relates to workplace productivity. It is argued that more effective performance management and corporate social responsibility contribute to a greater sense of corporate identity for workers and managers. This creates incentives for all staff to work harder and smarter. Added motivation leads staff to achieve efficiency gains by finding ways to reduce costs, enhance resource allocation and apply technology to improve work practices. Here additional effort amounts to enhanced workplace productivity through time.

- Nicolo *et al* (2006) in a study for the International Monetary Fund found a strong positive relationship between corporate governance and the growth rate of Total Factor Productivity (TFP).[11] They found long-run ***labour productivity levels to be 0.8 per cent higher*** for businesses that move from average to high achievers in terms of reporting standards through the introduction of SRR.[12] This is conceptually equivalent to the range of labour productivity impacts assumed for this study. In addition, the authors found that these efficiency gains were not ongoing dynamic changes, but once-and-for-all improvements.
- Frenkel and Orlitzky (2005) found a strong relationship between supportive employment practices and organisational trust which translated into higher labour productivity for the Australian services sector.
- Koeke and Renneboog (2005) found that better corporate governance settings feed through bank-dependent and stock-market based financial regimes to higher productivity growth levels.

Several international studies find a positive relationship between profit sharing, employee share owner plans and labour productivity.

- Kruse (1992) and Jones and Kato (1995) estimated that the effects of higher worker participation levels correspond to a 2 to 3.5 per cent productivity increase for businesses.

Brand Building

So far this literature review has focused on the cost impacts for business profit and loss from SRR. However, what follows next considers the revenue impacts for the business bottom line from SRR via

[10] These studies are based on the Black-Scholes Option Pricing Model.

[11] TFP is a measure used by economists which is purported to capture the impacts of institutional and technology change on workplace productivity.

[12] This refers to businesses that move from the 50th to the 85th percentile for SRR.

the so-called brand name effects. Brand recognition for products can be increased when a business communicates its business using its stance on SRR. The objective for the businesses is to differentiate themselves from competitors by advocating SRR. But this dedication must be genuine otherwise there is the potential for negative impacts if a business fails to deliver on its promises.

- Ruf *et al.* (2001) estimate the effect of better SRR on ***sales revenues to be a 2 per cent increase*** for a one standard deviation increase of the Corporate Social Performance Indicator. This corresponds to a movement from a medium to a higher performer with regard to social risk reporting. This estimate is derived using a comprehensive dataset with more than 600 companies from 1991 to 1995.
- Verbeeten and Vijn (2006) found that the pay-off of SRR to a business's brand is better financial performance and an increase in product sales.
- Fombrun and Shanley (1990) were the first to establish that a connection between SRR and a business's brand-name reputation and recognition.

1.4 Regulatory Burden Studies

To our knowledge no study has ever attempted to measure costs burden associated with the introduction of SRR.

In Australia no public or private sector agencies has attempted to formally quantify the costs of accounting type reforms. Neither of the two accounting standard setting agencies (the Australian Accounting Standards Board or the Auditing and Assurance Standards Board) has attempted to quantify the costs of introduction of new accounting standards nor are they aware of studies that have attempted to do so. Nor do we believe has the Australian Treasury or Department of Finance and Administration ever attempted to formally cost the introduction of major accounting reforms. A good recent example was the absence of a quantitative business cost impact statement undertaken for the Corporate Law Economic Reform Program (CLERP) 9 reforms.

1.5 Macroeconomic Impacts Studies

To our knowledge no study has ever attempted to measure costs burden associated with the introduction of SRR.

Methodology

This section describes the approach used to model the costs and benefits of SRR at the level of individual businesses and for the macroeconomy as a whole.

Section 2.1 explains how we created the "average" businesses which provide the microeconomic foundations of for this study. Section 2.2 discusses some of the general assumptions which underpin the calculations which follow below. Section 2.3 details the specific approach that was adopted to estimate the benefits/cost for average businesses in different industries. Section 2.4 explains the estimates of compliance costs for businesses using SRR. Section 2.5 explains how the average business impacts were translated to the macroeconomic level to generate economy-wide results.

2.1 Representative Businesses

This section explains how Econtech arrived at "average" businesses, by business size, for different industry categories and discusses some of the key financial and economic data that characterises those businesses.

The first step was to construct representative data for "average" private sector businesses for Australian industries. The source data was taken from the Australian Bureau of Statistics (ABS) publication, Australian Industry 2004-05 (8155.0). This publication presents estimates of the economic and financial performance of Australian industries for 2004-05, together with data on a comparable basis from 2001-02 and intervening years. The data includes details for 15 broad industries as defined by the Australian and New Zealand Standard Industrial Classification (ANZSIC), 1993 edition. Two industries that are not reported in the publication are finance & insurance and government administration & defence.[13] For modeling purposes the characteristics of finance & insurance are assumed to be similar to those of property & business services, while government administration & defence is excluded from the modelling.

The definition of business adopted for use in this study is consistent with that used by the ABS publication. An employing business is either a person, partnership, or corporation engaged in business or commerce registered with the ATO's pay-as-you-go withholding (PAYGW) tax scheme.

Further, employing businesses were categorised by business size according to three ABS categories:

- small businesses, with employment of less than 20 persons;
- medium businesses, with employment of 20 to less than 200; and
- large businesses, with employment of 200 or more persons.

Characteristics of the "average" business by industry category are represented in Table 2.1. This table reports the number of participants in each industry, the average number of employees in each industry, the profitability of the average business in each industry and the indebtedness of the average business in each industry for 2004-05.

[13] Aggregates excluding these industries are presented at the total selected industries level. Please note that the education and health and community services industries, where shown (or included in totals) in this publication, exclude any public sector components. Data for agriculture, forestry and fishing are only available from 2002-03, so aggregates excluding this industry (as well as Divisions K and M) are presented at the selected industries level to facilitate comparison between 2001-02 and later years.

TABLE 2.1

CHARACTERISTICS OF THE AVERAGE AUSTRALIAN BUSINESS BY INDUSTRY

Industry	Small				Medium				Large			
	Number Participants	Average Staff No.	Profit/ Revenue	Interest Expense/ Output	Number Participants	Average Staff No.	Profit/ Revenue	Interest Expense/ Output	Number Participants	Average Staff No.	Profit/ Revenue	Interest Expense/ Output
Agriculture, forestry and fishing	72,272	3	9%	17%	1205	38	6%	19%	28	506	-6%	14%
Mining	2,451	4	46%	6%	264	59	20%	8%	86	733	21%	7%
Manufacturing	54,919	4	9%	4%	6986	46	6%	5%	622	695	9%	5%
Electricity, gas and water supply	694	4	8%	22%	168	57	10%	44%	51	953	15%	22%
Construction	113,139	2	7%	5%	2254	43	5%	4%	121	619	4%	5%
Wholesale trade	44,289	3	4%	5%	2730	48	4%	6%	242	615	4%	6%
Retail trade	120,126	4	4%	4%	5124	46	3%	4%	298	2,010	4%	4%
Accommodation, cafes and restaurants	36,224	4	5%	7%	3602	46	6%	6%	138	645	4%	5%
Transport and storage	35,731	2	5%	8%	1497	52	5%	8%	154	1,134	8%	7%
Communication services	8,065	1	6%	7%	144	58	2%	9%	20	5,044	18%	5%
Property and business services	166,768	2	12%	10%	5582	49	9%	11%	510	838	16%	10%
Education (private)	8,699	3	10%	4%	1911	63	7%	3%	128	581	6%	3%
Health and community services (private)	50,374	4	15%	2%	3595	50	7%	2%	393	711	7%	2%
Cultural and recreational services	19,279	3	6%	6%	722	54	6%	7%	83	727	15%	5%
Personal and other services	40,925	3	10%	4%	1419	45	6%	4%	71	555	8%	4%
Total selected industries	**701,682**	**3**	**8%**	**7%**	**35997**	**48**	**6%**	**8%**	**2917**	**896**	**9%**	**7%**

Source: ABS Cat. No. (8155.0)

Some noteworthy features of the average businesses by industry include the following.

- Property & business services, retail trade & manufacturing have the most participating businesses by size overall for small, medium and large enterprises.
- Communication services, retail trade & transport industries have the largest average business size by employee numbers overall for small, medium and large enterprises.
- Mining, electricity, gas & water services and property & business services were the most profitable businesses overall for small, medium and large enterprises in the year of the survey.
- Electricity, gas & water services, agriculture and property & business services were the most indebted businesses overall for small, medium and large enterprises in the year of the survey.

2.2 Some General Assumptions

The second step was to decide some guiding principles that would apply to all the benefit and cost calculations undertaken as part of the analysis for "average" businesses. Three general assumptions underpin the analysis and they are outlined in turn below.

Low Benefits and High Costs

A conservative approach was adopted in relation to the benefit and cost scenarios adopted for this study.

The benefits of SRR are modeled using the three studies that were identified in Table 1.1 of section 1.3. As noted in section 1.3, those studies found a decrease in capital costs of 30 basis points, a gain in sales revenues of 2 per cent, and a productivity boost of 2 per cent.

We assumed large upfront transaction costs for Australian businesses. These are twice as large as those that were modelled for the introduction of the Goods and Service Tax in Australia. In addition, we assumed a smaller permanent cost associated with the introduction of SRR that was not been included for previous comparable modelling exercises undertaken in Australia.

Deferred Benefits and Upfront Costs

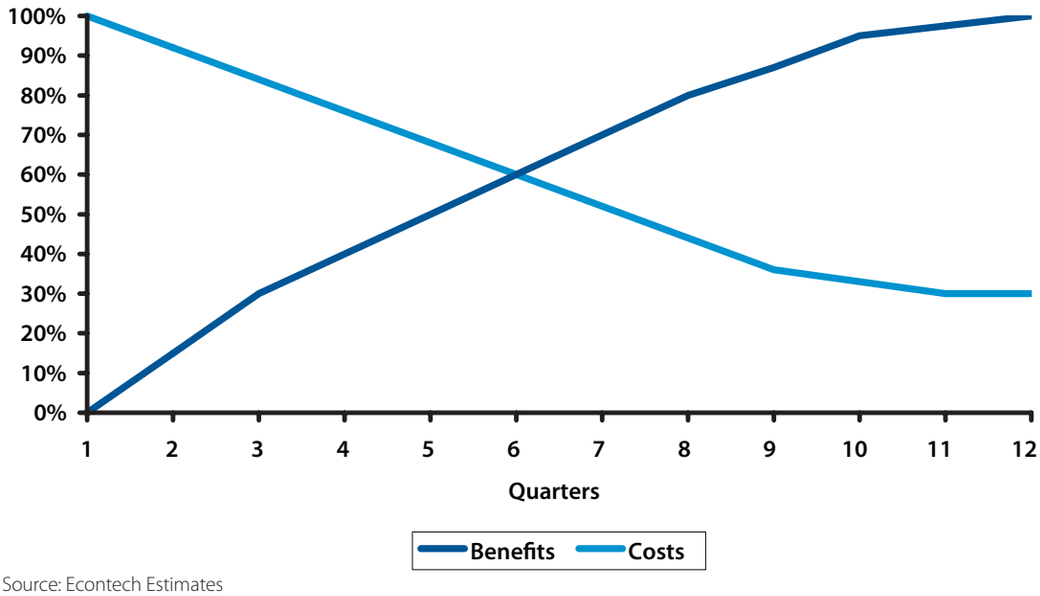
Another conservative assumption that was adopted for this study is the implementation assumption, i.e. how many quarters does it take for benefits to accrue compared to when costs are borne.

On the benefits side we assumed that no benefit from SRR were experienced during the first quarter after the introduction of SRR to a business. However, by the end of the first year, all benefit levels had risen to around 30 per cent of the final level. They then continue to rise before attaining a plateau at the permanent level at the end of year three (quarter 12) (see Chart 1.1).

On the cost side we assumed the full cost of implementation of SRR is incurred upfront by business in the first quarters of the implementation of the reform. After the first full year costs were expected to decline until the end of year three (quarter twelve) when they stabilise at their permanent level at around 30 per cent of the upfront cost (see Chart 1.1).

CHART 2.1

TIME PROFILE OF BENEFITS AND COSTS



Source: Econtech Estimates

Discounting

All estimates presented in this study are based on 2004-05 dollars and the real discount rate applied to equate costs and benefits into 2004-05 dollars was 3.5 per cent p.a.

2.3 Modeling Business Benefits from SRR

The third step was to model the specific benefits that we anticipated would arise from the introduction of SRR. Our approach was to model three specific benefit types, namely, risk premia, productivity and brand name effects. Each is discussed in turn below.

Risk Premia

The risk premia effect is gained for business from SRR if capital markets perceive a business to be less risky because it has adopted reporting standards that should help it be well behaved.

To model the cost of capital impact on average businesses from the introduction of SRR, we did the following. Using the ABS business data described previously, we calculated the average business

expense by business size for each industry.[14] We then took the standard business lending rate from RBA Bulletin Table F05 and adjusted it for the likely risk reduction estimates associated with SRR outlined in the literature review. Based on Bohjraj and Sengupta (2003), SRR is estimated to reduce the standard business lending rate by 30 basis points. We then adjusted the average business expense calculation in each industry to reflect the risk premium under each scenario. In the final step, the resulting interest expense savings were translated directly into an increase in operating profits for the average businesses in each industry.

Productivity

The productivity effect for business from SRR is gained through the efficiencies stemming from better aligning the behaviour of management with the interests of shareholders and staff being motivated by an enhanced reputation of the business for social responsibility.

To model the productivity impact on average businesses from the introduction of SRR, we did the following. Based on Nicolo et al. (2006), a one standard deviation higher corporate governance quality index, increases labour productivity by 0.8 per cent. This labour productivity increase translates according to the model setup to a labour costs decrease of a company. This labour productivity related cost reduction translates into higher profits for the average company.

Brand Name

The brand name effect for business from SRR is gained via the higher prices a business can charge for its products.

To model the brand name impact on average businesses from the introduction of SRR, we did the following. Consistent with Ruf et al. (2001), we assumed that companies which employ SRR can raise prices by around 2 per cent for two years (eight quarters) to reflect the likely short term nature of these gains and that competition would eventually take these away. Without any further adjustment, these price increases could be assumed to feed directly into higher revenues and business profits. However, we then adjusted these gains for the fact that consumers have different propensities to spend their disposable incomes on SRR related products. We assumed that only 10 per cent of consumers are prepared to pay higher prices for SRR products. The final impact was to raise the level of revenues for businesses by around 0.2 per cent over two years.

Unlike the risk premia and productivity effects considered previously, the brand name effect is not considered to be a permanent effect over time. Nor is it considered to be an average effect that is appropriable for every business that adopts SRR. We believe it is a first-mover effect appropriable for businesses in each specific industry that appear to their customers to be "well-behaved" relative to their competition. Finally, it is worth noting that any benefit that is gained by a business in an industry is a

[14] The methodology for the interest rate effect assumes that interest expenses for each business type equal the ratio for all business provided by the ABS. Interest expenses are not reported for each industry by business size.

zero sum game for the domestic market. This means that for the most part the gains of one business are offset by the losses of others. However, it is possible for businesses in export industries (such as agriculture, manufacturing, mining, other business services and transport industries) to achieve net gains for the Australian economy and that these gains can be maintained through time (as explained in Section 2.5 below).

The results generated at the business level for the three benefits types are presented in Section 3.1 below.

2.4 Compliance Costs for Business from SRR

Modelling the costs associated with the introduction and ongoing application of SRR is very difficult as there is little guidance available in terms of the empirical literature. Typically an average assumption is made to cover the costs imposed on businesses regardless of their size or nature. However, costs may vary by business size and industry. Larger businesses may have relatively lower cost shares compared to smaller businesses. More capital intensive businesses may have a more complex reporting task than those with more labour intensive processes.

To model the labour productivity impact on the average business (in the absence of primary research) we used the average assumption that had been adopted by Australian governments when modelling major regulatory reforms in the past. However, we imposed a higher upfront benchmark than has been used for official modelling associated with other major regulatory reforms and we also applied an ongoing cost for business to perform SRR.

To model the labour productivity impact on the average business we assumed that the cost is borne through lost labour productivity and that most of this cost was incurred upfront. We assumed that size of this upfront cost is equal to the long term benefit associated with greater labour productivity from SRR which is estimated to be around 0.8 per cent in quarter one of the first year. We felt it was important to reflect the compliance cost on business upfront due to the initial cost of setting up the SRR system. This cost was expected to decrease over time, as some of the set-up costs are non-recurring. So we assumed the large upfront cost diminishes over time before becoming a permanent reduction of 0.24 per cent of labour productivity by the end of the third year. This productivity shock was then translated through to business output and to the profit and loss statement, in the form of lower business profits.

The results generated at the business level for this cost scenario are presented in Section 3.2.

2.5 Macroeconomic Impacts of SRR

The impacts of SRR calculated from our average businesses analysis can be extended to the macroeconomy. This is because the associated benefits (or costs) for businesses of adopting SRR can be accrued for the whole economy.

There are two factors to consider when estimating the impact of SRR on the whole economy. First, it is important to know the impacts of SRR for each business. This is discussed in the sections above. Second, it is necessary to decide what share of businesses is likely to adopt SRR in addition to the businesses who already have SRR in place. This is because the overall economic impact is likely to be directly proportional to the number businesses that are adopting SRR. The more businesses that adopt SRR, the greater the broad economic impact over time. We have assumed an additional take up rate among existing small, medium and large businesses of 10, 20 and 37 percentage points respectively, over three years. This implies a lift in the take-up rate for large business from 23 per cent in 2005 to a future rate of 60 per cent.

We believe this take up rate assumption is reasonable given the high growth of SRR take-up rates from 2002 to 2005 (cf. KPMG Global Sustainability Services, *KPMG International Survey of Corporate Responsibility Reporting 2005*). Considering Australia's relatively low level of SRR take-up among large companies of 23 percent compared to other countries like Japan and the United Kingdom which have take-up rates of 80 per cent and 71 per cent respectively, an assumed take-up rate increase of 37 percentage points would reduce the take-up rate gap and likely place Australia in the group of average performing countries.

The overall economic impacts of SRR were simulated using the Econtech Murphy Model 2 (MM2). MM2 is a state-of-the-art, fully integrated macroeconomic forecasting model with national, industry and state level detail that is updated quarterly. It produces quarter-by-quarter nine-year-ahead forecasts. While the model has a Keynesian short run (i.e. demand driven), it has a neoclassical long run (i.e. supply driven). At the same time, MM2 has built-in rational expectations, in which the financial sector is forward looking. This is an important assumption for this report, as any expected movements in the financial sector are assumed to be largely factored into financial variables, such as interest rates and exchange rates. The model is well known and used by various Australian governments, industry associations, financial institutions and major businesses.[15]

The business impacts of SRR (risk premium, productivity, and brand name and compliance costs) were modelled in MM2 as follows.

- The reduction in the risk premium was modelled as a fall in the required rate of returns to capital in the investment equations for each industry.
- The increase in labour productivity is a direct input into the MM2. A permanent increase feeds directly into the production technology for each industry to raise each industry's level of production for the same inputs.

[15] For more information on MM2, download the model documentation from the website (www.econtech.com.au).

- The increase in brand name effect was modelled as a price shock for each of the relevant export industry equations (agriculture, manufacturing, mining, other services and transport). Here it is seen as permanent improvement in the terms of trade of domestic producers.

- The increase in compliance costs (as with labour productivity) feeds directly into the production technology for each industry but this time to reduce each industry's level of production for the same inputs.

TABLE 2.2

SHOCKS APPLIED TO MM2 SOURCED FROM THE AVERAGE BUSINESS ANALYSIS

Industry	Risk Premia	Labour Productivity	Brand Name	Compliance Cost
Agriculture, forestry and fishing	-0.04%	0.11%	0.27%	-0.03%
Mining	-0.09%	0.25%	0.56%	-0.07%
Manufacturing	-0.09%	0.20%	0.57%	-0.06%
Electricity, gas and water supply	-0.09%	0.26%	-	-0.08%
Construction	-0.05%	0.14%	-	-0.04%
Wholesale Trade	-0.07%	0.18%	-	-0.05%
Retail Trade	-0.07%	0.20%	-	-0.06%
Accommodation, cafes and restaurants	-0.06%	0.16%	0.39%	-0.05%
Transport and storage	-0.08%	0.21%	0.51%	-0.06%
Communication Services	-0.10%	0.27%	-	-0.08%
Finance and business services	-0.08%	0.18%	-	-0.05%
Property and business services	-0.08%	0.18%	0.42%	-0.05%
Education	-0.05%	0.10%	-	-0.03%
Health and community services	-0.07%	0.09%	-	-0.03%
Cultural and recreational services	-0.08%	0.19%	-	-0.06%
Personal and other services.	-0.06%	0.14%	-	-0.04%

Source: Econtech Estimates

Table 2.2 shows the permanent shock (after three years) assumed in MM2 from SRR from the risk premium, productivity, brand name and compliance cost impacts for each industry. It is worth noting that there are only permanent brand name impacts for export industries and that the longer term compliance cost impacts are smaller than the upfront costs. These business level impacts of SRR were based on business costs and benefits modelling. However these effects are further scaled down in MM2 to reflect the additional SRR take-up rates for small (10 percentage points), medium (20 percentage points) and large (37 percentage points) businesses over three years.

Section 3.1 reports the net gains and losses from SRR to the average business in terms of profit by business size for 15 private broad industry categories. Section 3.2 reports the overall macroeconomic impacts from the achievement of higher SRR take-up among existing Australian businesses. Section 3.3 briefly interprets the key microeconomic and microeconomic trends resulting from this study. Section 3.4 considers the key limitations of the study.

3. Results

3.1 Gains and Losses from SRR for Business

The bottom-line results for the average business in terms of benefits and cost analysed for this study are brought together in Table 3.1 by business size and industry. This table summarises the net impact of SRR in term of the risk premia, labour productivity, brand name and compliance cost impacts. The table reports the total 10 year cumulative benefits resulting from SRR as well as the annual gains. It shows that the largest absolute gains from SRR accrue to capital intensive activities (communication services, electricity, gas & water supply and mining) regardless of the business size. Whereas labour intensive industries do better in percentage terms (accommodation, cafes and restaurants, education, transport and most personal services) with the possible exception of transport which also does well but is more capital intensive. The total impact of SRR on average business profitability is worth an average gain in profits ranging from 2.0 per cent to 3.1 per cent, depending on business size. We will see just what is driving these results by examining the individual contribution of each benefit and cost impact below.

Interest Rates

The risk premium impact for the average business in terms of profits is shown in Table 3.2 by business size and industry. The table reports the total 10 year cumulative benefit resulting from a lower risk premium for business from SRR as well as the annual absolute profit gains. It shows that the largest absolute gains from SRR from the risk premia accrue to capital intensive and/or more heavily indebted activities (electricity, gas & water supply, communication services, and agriculture, fishing & forestry) as would be expected. The total impact of the lower risk premium on average business profitability ranges from 0.9 per cent to 1.3 per cent, depending on business size.

Labour Productivity

The labour productivity impact for the average business in terms of profits is shown in Table 3.3 by business size and industry. The table reports the total 10 year cumulative benefit resulting from higher labour productivity for business from SRR as well as the annual profit gains in dollar and percentage terms. It shows that the largest absolute and percentage gain for any single effect occurs via this channel. In addition, the largest percentage profit gains from SRR accrue to labour intensive activities (education, health and community services, accommodation, cafes and restaurants) as would be expected. The overall impact of higher labour productivity on the average business in terms of profits ranges from 1.5 per cent to 2.6 per cent, depending on business size.

TABLE 3.1

OVERALL IMPACT ON AVERAGE BUSINESS OPERATING PROFITS BY BUSINESS SIZE AND INDUSTRY (2004/05 $ 000)

Industry	Small			Medium			Large		
	10 year Sum of Net Benefits	Annual Long Term Net Benefit	% Increase in Net Benefit	10 year Sum of Net Benefits	Annual Long Term Net Benefit	% Increase in Net Benefit	10 year Sum of Net Benefits	Annual Long Term Net Benefit	% Increase in Net Benefit
Agriculture, forestry and fishing	8	1.1	2.8%	152	20.4	4.6%	1,936	260	-6.9%
Mining	77	10.3	0.3%	548	73.7	0.9%	8,960	1,205	1.0%
Manufacturing	11	1.4	1.5%	130	17.4	2.6%	3,226	434	1.6%
Electricity, gas and water supply	148	19.9	4.4%	1431	192.4	3.7%	24,322	3,272	3.1%
Construction	7	0.9	1.9%	162	21.8	2.9%	3,120	420	3.9%
Wholesale Trade	12	1.6	1.8%	192	26.3	1.7%	2,793	376	1.9%
Retail Trade	6	0.8	2.7%	93	12.5	3.0%	2,677	360	2.2%
Accommodation, cafes and restaurants	8	1.0	4.3%	93	12.5	3.8%	1,358	183	6.8%
Transport and storage	10	1.4	3.9%	232	31.2	4.7%	6,089	819	3.7%
Communication Services	6	0.8	3.3%	326	43.9	8.4%	29,440	3,960	1.2%
Property and business services	12	1.6	2.8%	252	33.9	4.1%	3,695	497	2.6%
Education	5	0.7	3.0%	128	17.3	5.7%	1,270	171	7.2%
Health and community services	7	1.0	1.6%	76	10.3	4.8%	1,195	161	4.9%
Cultural and recreational services	6	0.9	3.1%	167	22.5	2.9%	2,462	331	1.1%
Personal and other services	4	0.5	2.2%	86	11.5	4.4%	1,368	184	3.2%
Total selected industries	9	1.2	2.0%	161	21.3	3.1%	3,535	476	2.0%

Source: ABS Cat. No. (8155.0) and Econtech Estimates

TABLE 3.2

RISK PREMIUM IMPACT ON AVERAGE BUSINESS OPERATING PROFITS BY BUSINESS SIZE AND INDUSTRY (2004/05 $ 000)

Industry	Small			Medium			Large		
	10 year Sum of Net Benefits	Annual Long Term Net Benefit	% Increase in Net Benefit	10 year Sum of Net Benefits	Annual Long Term Net Benefit	% Increase in Net Benefit	10 year Sum of Net Benefits	Annual Long Term Net Benefit	% Increase in Net Benefit
Agriculture, forestry and fishing	6	0.8	2.1%	100	13.4	3.0%	1,117	150	-4.0%
Mining	65	8.8	0.3%	364	48.9	0.6%	5,989	806	0.7%
Manufacturing	3	0.4	0.5%	39	5.2	0.8%	1,327	179	0.6%
Electricity, gas and water supply	139	18.7	4.1%	1317	177.1	3.4%	21,646	2,912	2.8%
Construction	2	0.3	0.6%	46	6.1	0.8%	995	134	1.2%
Wholesale Trade	4	0.5	0.6%	72	9.6	0.6%	1,188	160	0.8%
Retail Trade	1	0.2	0.7%	26	3.5	0.8%	844	114	0.7%
Accommodation, cafes and restaurants	3	0.4	1.8%	33	4.4	1.3%	488	66	2.4%
Transport and storage	5	0.7	2.1%	107	14.4	2.2%	2,717	365	1.7%
Communication Services	3	0.4	1.7%	181	24.3	4.7%	6,984	2,285	0.7%
Property and business services	6	0.8	1.5%	118	15.9	1.9%	1,814	244	1.3%
Education	1	0.2	0.8%	25	3.3	1.1%	252	34	1.4%
Health and community services	1	0.2	0..3%	10	1.4	0.6%	196	26	0.8%
Cultural and recreational services	2	0.3	1.1%	66	8.9	1.2%	1,283	173	0.6%
Personal and other services	1	0.1	0.6%	18	2.5	0.9%	358	48	0.8%
Total selected industries	4	0.5	0.9%	66	8.9	1.3%	1,701	229	1.0%

Source: ABS Cat. No. (8155.0) and Econtech Estimates

TABLE 3.3

RISK PREMIUM IMPACT ON AVERAGE BUSINESS OPERATING PROFITS BY BUSINESS SIZE AND INDUSTRY (2004/05 $ 000)

Industry	Small			Medium			Large		
	10 year Sum of Net Benefits	Annual Long Term Net Benefit	% Increase in Net Benefit	10 year Sum of Net Benefits	Annual Long Term Net Benefit	% Increase in Net Benefit	10 year Sum of Net Benefits	Annual Long Term Net Benefit	% Increase in Net Benefit
Agriculture, forestry and fishing	3	0.4	1.0%	75	10.0	2.3%	1,170	157	-4..2%
Mining	16	2.2	0.1%	263	35.4	0.4%	4,244	571	0.5%
Manufacturing	10	1.4	0.4%	130	17.4	2..6%	2,713	365	1.3%
Electricity, gas and water supply	13	1.7	1.5%	163	21.9	0.4%	3,823	514	0.5%
Construction	7	0.9	1.8.%	167	22.4	2.9%	3,035	408	3.8%
Wholesale Trade	11	1.5	1.7%	177	23.8	1.6%	2,293	308	1.5%
Retail Trade	6	0.9	2.9%	96	12.9	3.1%	2,618	352	2.1%
Accommodation, cafes and restaurants	6	0.9	3.7%	85	11.5	3.5%	1,243	167	6.2%
Transport and storage	7	0.9	2.6%	178	23.9	3.6%	4,818	648	2.9%
Communication Services	4	0.5	2.3%	208	28.0	5.4%	7,794	2,393	0.7%
Property and business services	8	1.1	1.9%	192	25.8	3.1%	2,688	362	1.9%
Education	5	0.7	3.2%	148	19.9	6.6%	1,454	196	8.2%
Health and community services	9	1.2	1.8%	95	12.8	5.9%	1,429	192	5.8%
Cultural and recreational services	6	0.8	2.8%	145	19.5	2.5%	1,684	227	0.7%
Personal and other services	4	0.6	2.3%	96	13.0	4.9%	1,443	194	3.3%
Total selected industries	7	1.0	1.6%	135	18.5	2.6%	2,620	352	1.5%

Source: ABS Cat. No. (8155.0) and Econtech Estimates

Brand Name Effects

The brand name effects which are available to first mover businesses over short time periods are shown in Table 3.4 by business size and industry. The table reports the two year annual profits gains that are possible in absolute and percentage terms from SRR. It shows the largest percentage gains are achievable by retail trade, wholesale trade and accommodation, cafes & restaurants. This is due in part to the fact that these are generally speaking low margin businesses where any price differential feeds directly into business profits. The overall impact of the brand name effect on the short term profits of the average business ranges from 2.1 per cent to 3.9 per cent depending on business size, but this gain is temporary. There is not expected to be any permanent impact for average businesses via this channel.

Compliance Costs

The compliance cost impact for the average business in terms of profits is shown in Table 3.5 by business size and industry. The table reports the total 10 year cumulative cost resulting from SRR introduction as well as the annual loss in absolute and percentage terms. As the compliance cost is modeled as a labour productivity shock it is not surprising that the largest percentage losses from SRR accrue to labour intensive activities (education, health and community services, accommodation, cafes and restaurants) as would be expected. The overall impact of lower labour productivity resulting from compliance costs is an average loss in profits ranging from 0.4 per cent to 0.8 per cent, depending on business size.

TABLE 3.4

BRAND NAME EFFECT ON AVERAGE BUSINESS OPERATING PROFITS BY BUSINESS SIZE AND INDUSTRY (2004/05 $ 000)

Industry	Small		Medium		Large	
	Annual Gain	% Gain	Annual Gain	% Gain	Annual Gain	% Gain
Agriculture, forestry and fishing	2	4.7%	15	3.3%	125	-3.3%
Mining	15	0.4%	79	1.0%	1,053	0.9%
Manufacturing	3	3.1%	23	3.3%	612	2.2%
Electricity, gas and water supply	12	2.6%	102	2.0%	1,367	1.3%
Construction	2	4.7%	28	3.6%	477	4.4%
Wholesale Trade	5	5.5%	72	4.8%	967	4.8%
Retail Trade	3	8.7%	29	7.1%	761	4.6%
Accommodation, cafes and restaurants	2	8.2%	11	3.3%	120	4.4%
Transport and storage	2	6.7%	28	4.2%	558	2.5%
Communication Services	2	7.4%	46	8.9%	3,487	1.1%
Property and business services	2	3.4%	19	2.3%	224	1.2%
Education	1	6.6%	10	3.2%	72	3.0%
Health and community services	2	2.8%	7	3.1%	90	2.7%
Cultural and recreational services	2	6.5%	24	3.2%	372	1.2%
Personal and other services	1	5.8%	9	3.5%	133	2.3%
Total selected industries	2	3.9%	24	3.5%	491	2.1%

Source: ABS Cat. No. (8155.0) and Econtech Estimates

TABLE 3.5

COMPLIANCE COSTS IMPACT ON AVERAGE BUSINESS OPERATING PROFITS BY BUSINESS SIZE AND INDUSTRY (2004/05 $ 000)

Industry	Small			Medium			Large		
	10 year Sum of Net Benefits	Annual Long Term Net Benefit	% Increase in Net Benefit	10 year Sum of Net Benefits	Annual Long Term Net Benefit	% Increase in Net Benefit	10 year Sum of Net Benefits	Annual Long Term Net Benefit	% Increase in Net Benefit
Agriculture, forestry and fishing	-1	-0.1	-0.3%	-22	-3.0	-0.7%	-1351	-47	1.2%
Mining	-5	-0.6	-0.0%	-79	-10.6	-0.1%	-1273	-171	-0.1%
Manufacturing	-3	-0.4	-0.4%	-39	-5.2	-0.8%	-814	-109	-0.4%
Electricity, gas and water supply	-4	-0.5	-0.1%	-49	-6.6	-0.1%	-1147	-154	-0.1%
Construction	-2	-0.3	-0.5%	-50	-6.7	-0.9%	-911	-122	-1.1%
Wholesale Trade	-3	-0.4	-0.5%	-53	-7.1	-0.5%	-688	-93	-0.5%
Retail Trade	-2	-0.3	-0.9%	-29	-3.9	-0.9%	-785	-106	-0.6%
Accommodation, cafes and restaurants	-2	-0.3	-1.1%	-26	-3.4	-1.0%	-373	-50	-1.9%
Transport and storage	-2	-0.3	-0.8%	-53	-7.2	-1.1%	-1445	-194	-0.9%
Communication Services	-1	-0.2	-0.7%	-62	-8.4	-1.6%	-5338	-718	-0.2%
Property and business services	-2	-0.3	-0.6%	-58	-7.7	-0.9%	-806	-108	-0.6%
Education	-2	-0.2	-1.0%	-44	-6.0	-2.0%	-436	-59	-2.5%
Health and community services	-3	-0.3	-0.6%	-28	-3.8	-1.8%	-429	-58	-1.7%
Cultural and recreational services	-2	-0.2	-0.8%	-43	-5.8	-0.8%	-505	-68	-0.2%
Personal and other services	-1	-0.2	-0.7%	-29	-3.9	-1.5%	-433	-58	-1.0%
Total selected industries	-2	-0.3	-0.5%	-41	-5.5	-0.8%	-786	-106	-0.4%

Source: ABS Cat. No. (8155.0) and Econtech Estimates

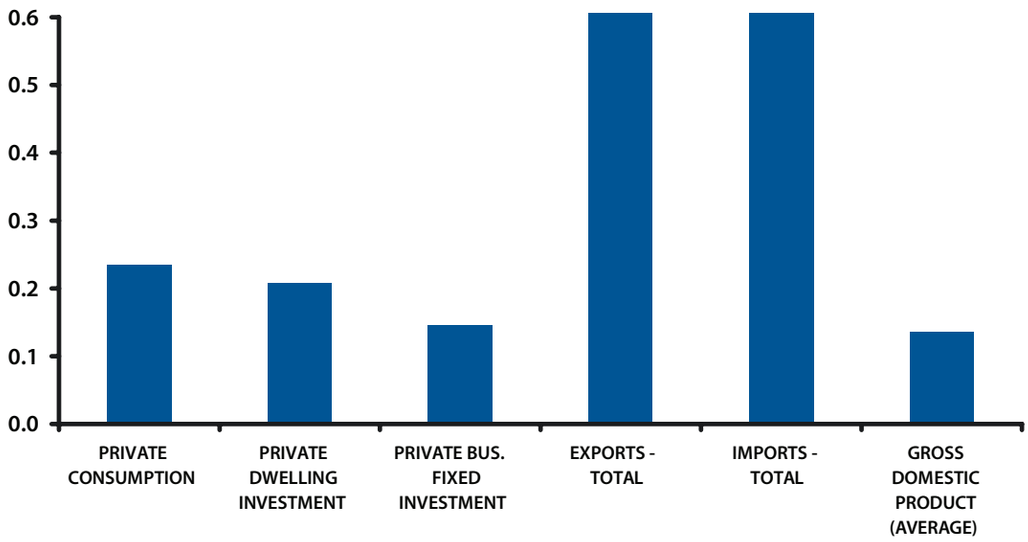
3.2 Macroeconomics Impacts

This section examines the overall economy impacts stemming from SRR and building on the analysis of the previous section. Essentially it focuses upon the situation where additional Australian businesses take up SRR. This involves additional take-up of 10, 20 and 37 percentage points respectively for small, medium and large businesses.

The overall impacts of SRR for the macroeconomy are presented in Chart 3.1 as percentage deviations from baseline. It summarizes the permanent impacts of SRR in term of the risk premia, labour productivity, brand name and compliance cost impacts on key macroeconomic aggregates. It shows that the level of private consumption which is the main determinant on household living standards will be around 0.23 percentage points higher (or $1.2 billion on an annual basis) because of the introduction of SRR. It also shows higher overall investment, exports, imports and overall gross domestic product. We will see what is driving these results by examining the individual contribution of each benefit and cost impact below.

CHART 3.1

PERMANENT MACROECONOMIC BENEFITS RESULTING FROM SRR TAKE UP (2004/05 % DEVIATION)



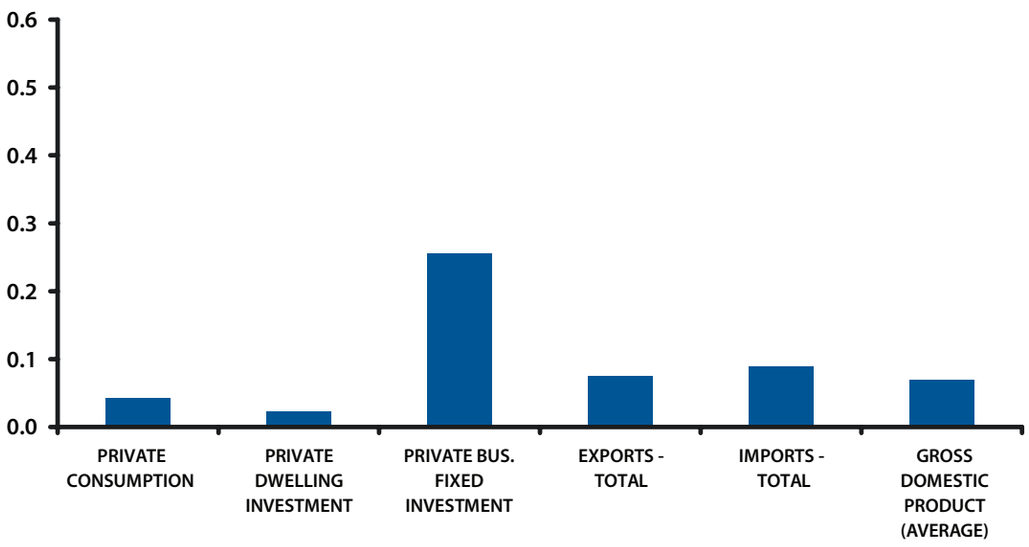
Source: Econtech Estimates

Interest Rates

The impact of the lower risk premium for the macroeconomy is shown in Chart 3.2 below. The lower risk premium will lead to lower required rate of returns to capital. This in turn leads to an increase in investment. Indeed the chart shows investment is 0.26 per cent (or $0.4 billion on an annual basis) higher given the rise in SRR take up rates. Higher investment will also lead to second round effects. For instance, imports of capital goods will be higher. Higher investment also leads to an increase in production capacity. This increases overall output, and also leads to higher exports volumes. Overall, total GDP is 0.07 per cent (or $0.6 billion on an annual basis) higher and household living standards are up by 0.04 per cent (or $0.2 billion on an annual basis).

CHART 3.2

IMPACT OF LOWER RISK PREMIA ON THE MACROECONOMY (% DEVIATION)



Source: Econtech Estimates

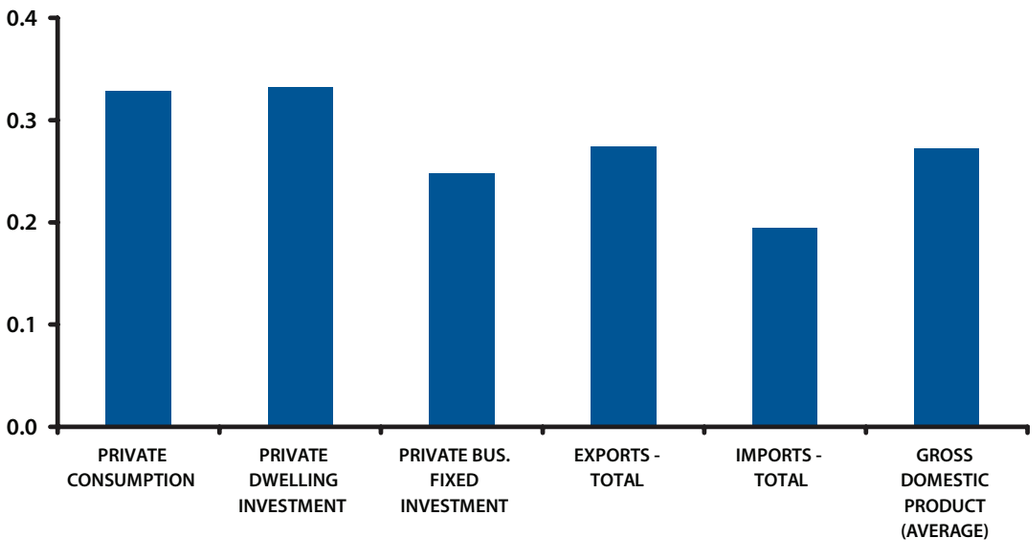
Labour Productivity

The impact of the higher labour productivity for the macroeconomy is shown in Chart 3.3 below. Higher productivity feeds through to increases in output. At the same time, higher productivity encourages high wages rates that increase the spending power of consumers and also boost private consumption.

Chart 3.3 shows that in the long run, GDP is higher by 0.27 per cent (or $2.5 billion on an annual basis). Similarly, private consumption is higher by 0.33 per cent (or $1.7 billion on an annual basis). The positive impact of gains in labour productivity flows throughout the economy. An increase in labour productivity also leads to an increase in investment to maintain the effective labour to capital ratio. In addition, higher productivity also leads to a general rise in the level of exports and imports. Worth noting is the overall significance of the labour productivity channel, which is a key benefit of SRR.

CHART 3.3

IMPACT OF HIGHER LABOUR PRODUCTIVITY ON THE MACROECONOMY (2004/05 % DEVIATION)



Source: Econtech Estimates

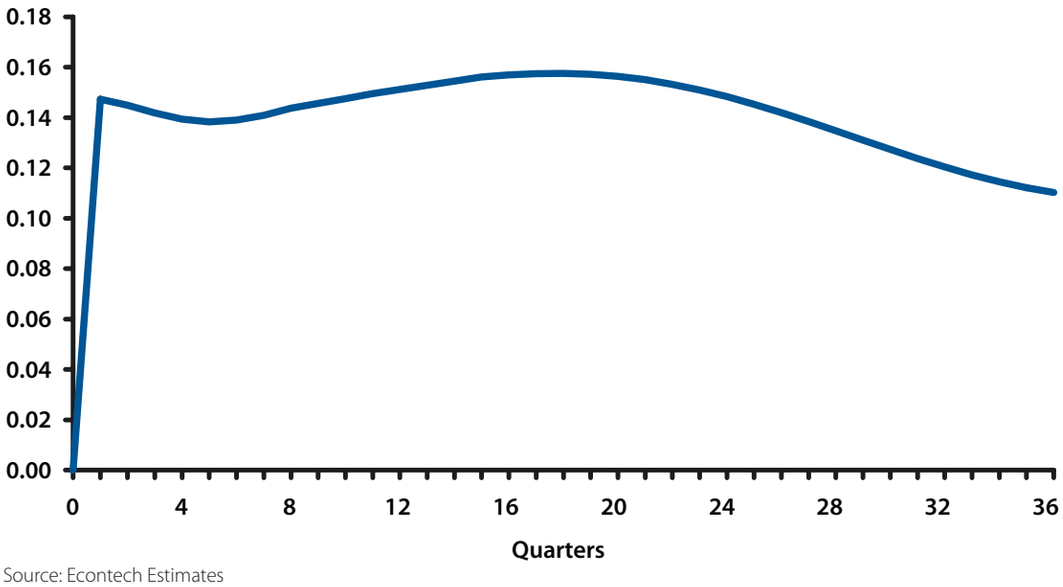
Brand Name Effects

The impact of greater brand name recognition for the macroeconomy is shown in Charts 3.4 and 3.5 below. The impact of branding works via an increase in exports prices. This is because foreign customers are assumed to be willing to permanently pay higher prices for products from businesses that adopt SRR. This impact on exports prices is shown in an improvement in the terms of trade (see Chart 3.4).

In the long run, the branding effects will feed in throughout the economy. The higher exports prices effectively represent a modest upwards shift in the demand curve. This in turn boosts exports volumes. Higher prices feed incomes and private consumption and imports. At the same time productive resources in the domestic economy are moving toward labour intensive activities such as tourism that benefit from an upswing in demand and away from highly capital intensive industries. This helps to explain a slight decline in business investment and GDP stemming from the brand name effect. However, living standards, as measured by private consumption, rise slightly.

CHART 3.4

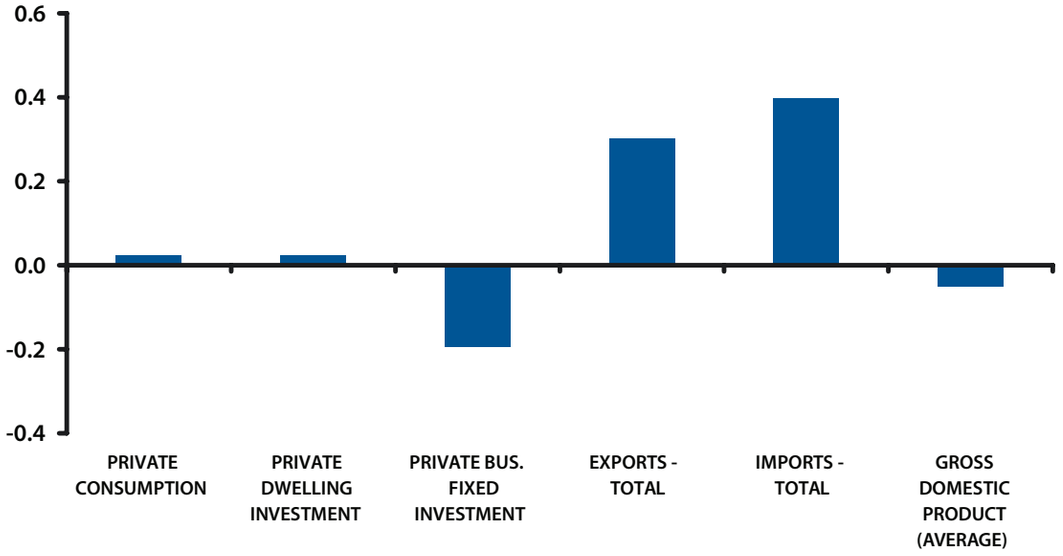
IMPACT OF BRANDING ON THE TERMS OF TRADE (% DEVIATION FROM BASELINE)



Source: Econtech Estimates

CHART 3.5

IMPACT OF BRAND NAME RECOGNITION ON THE MACROECONOMY (% DEVIATION FROM BASELINE)



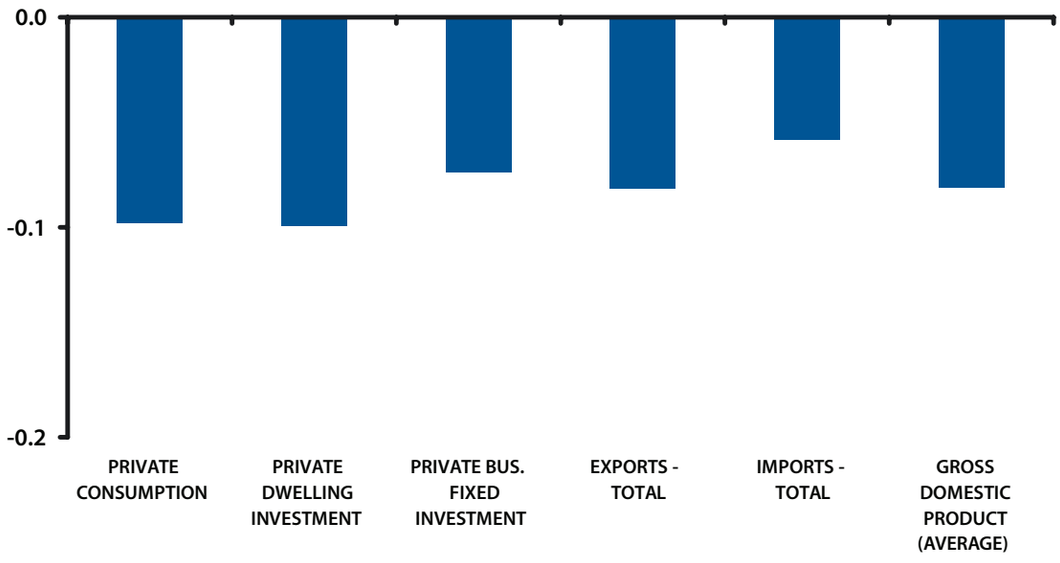
Source: Econtech Estimates

Compliance Costs

The impact of increased compliance costs for the macroeconomy is shown in Charts 3.6. Adoption of SRR is not without its cost. This means there will be some loss in productivity. Chart 3.6 shows the long term macroeconomic impact of the cost of implementing SRR. First, the loss in productivity will lead to a fall in output. In addition, this leads to a fall in investment. On the whole GDP is lower by 0.08 per cent (or $0.7 billion on an annual basis). At the same time, private consumption (i.e. living standards) is lower by 0.10 per cent (or $0.5 billion on an annual basis) in the long run.

CHART 3.6

IMPACT OF HIGHER COMPLIANCE COSTS ON THE MACROECONOMY (% DEVIATION FROM BASELINE)



Source: Econtech Estimates

3.3 Overall

Overall, the voluntary adoption of SRR by more Australian businesses appears to be a worthwhile investment for them, as well as having wider economic benefits, and so should be encouraged by Australian governments. Indeed the assumptions adopted by Econtech for this study are conservative so the benefits to households and to business are likely to be greater then we have estimated.

3.4 Limitations of the Study

Leaving aside the novelty of the current study, we believe the analysis is as reliable as possible given the constraints of available information. We did face a number of data limitations in conducting this study.

One limitation was the fact that the ABS data we used to build the average businesses analysis excluded data on the finance & insurance industry, so that impacts on this industry had to be indicatively estimated using information on the characteristics of the property & business services industry. However, this limitation cannot be overcome with available ABS data.

Another limitation of this study was the lack of explicit modeling of the costs associated with SRR. While we believe this deficiency has been overcome by overcompensating on the cost side, it would be preferable to devise a methodology that estimates average costs levels imposed on different businesses based on their specific characteristics.

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