

Suncorp delivers Queensland an 'Economic Sugar Hit'

- **Nearly 3,700 new jobs created**
- **\$1.2 billion generated in economic activity**
- **93% of repair and rebuilding activities carried out by local contractors**

28 October 2011: A Deloitte Access Economics report *The Road to Recovery* released today has confirmed that one of Australia's largest insurers Suncorp's rapid response to QLD's summer of disasters, helped create nearly 3,700 new jobs in the immediate post-disaster period and more than \$1.2 billion in longer term economic activity.

The report follows the recent Q3 Deloitte Access Economics Business Outlook which highlighted the beginning of a big rebound in Queensland growth, boosted by flood recovery expenditure and a stunning surge in the engineering work now commencing in the State.

The *Road to Recovery* report highlighted that the economic stimulus had also had a big impact on local communities and contractors – with 93% of repair and rebuilding activities carried out by local companies, driven by Suncorp's local purchasing policy.

The Suncorp Group's Personal Insurance CEO Mark Milliner said the report, by Deloitte Access Economics, was commissioned as part of a detailed review into the business' performance following last summer's events.

"As a business we've managed approximately 40,000 personal insurance claims worth more than \$750 million from the Queensland floods and Tropical Cyclone Yasi.

"This report shows that our claims systems and policies allowed us to process claims quicker, while spending and employing faster than any government or council.

"This quick and targeted spending ensured Queensland received an effective financial stimulus that helped drive retail, small business and construction growth in what was an already depressed market.

"Suncorp's disaster-related payments are estimated to contribute 0.16% to Queensland's economic growth in 2011 adding an additional \$422.3 million to the state's economy."

Mr Milliner said that Suncorp had an established and tested local supply policy that helped drive additional economic increases of 1.22% in South-East Queensland's building and construction sector in 2011.

"Our local purchasing policy has ensured that 93% of trades and builders were sourced locally while balancing customer expectation about returning to their homes in a timely manner.

"We know the use of local trades is far more financially viable due to the high cost of transport and temporary reallocation for imported services.

"It is also in any insurer's best interest to ensure premiums paid by customers return to their local economies in order to secure jobs and business trade.

Mr Milliner said the Deloitte Access Economics report clearly showcased the important role of the insurance industry in a region's economic bounce back after a natural disaster.

"It is clear that the role of an insurance company goes far beyond premium pricing and claims payments.

“Our fast and responsible approach to large scale claims management, recovery and rebuilding in the aftermath of last summer’s disasters delivered an extremely positive outcome for Queensland.

“This report shows that the Suncorp Group played a significant role in the region’s economic recovery.”

Snapshot: Replacement costs of items lost by Queenslanders in floods and Cyclone Yasi

More than \$165 million in household items and \$600 million in building and materials is being spent by the Suncorp Group after Queenslanders summer of disasters.

The table below shows an example of how some of that money was spent helping Queenslanders get back on their feet, and back into their homes.

Item	Total spend
General jewelry items (including necklaces, bracelets and earrings)	\$19.6 million
Computers	\$14 million
Engagement and Wedding Rings	\$12.9 million
Fridges	\$3.9 million
Televisions	\$3.9 million
Mobile communication devices and accessories	\$1.7 million
Major laundry appliance	\$1.4 million
Windows	\$1.1 million
Game consoles, games and accessories	\$640,000
Major kitchen/cooking appliances	\$480,000
Household cleaning appliances	\$290,000
Prescription glasses	\$22,000
Hair products and appliances	\$20,000
Body massage tables and other equipment	\$13,000

FULL REPORT AVAILABLE ON NEWS PAGE OF SUNCORP.COM.AU

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The Road to Recovery:
The impact of insurance
following the Queensland
summer of disasters

Suncorp Group Limited

October 2011

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Acronyms

ABS	Australian Bureau of Statistics
AGDRP	Australian Government Disaster Recovery Payment
DIRS	Disaster Income Recovery Subsidy
GDP	Gross Domestic Product
LGA	Local Government Area
NDRRA	Natural Disaster Relief and Recovery Arrangements

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Key messages

- Over the summer of 2010-11, a spate of natural disasters inflicted substantial damage to many Queensland communities and the broader economy.
- These weather events came at a time when the Queensland economy was especially vulnerable. The State had been hit hard by the global financial crisis, with notable weakness in the housing and commercial construction sectors and a general downturn in consumer confidence. While resource demand and prices remained robust, the disasters severely disrupted coal production in the State further contributing to the financial and budgetary costs.
- The summer disasters are estimated to have reduced gross state product (GSP) in Queensland by around **\$6 billion in 2010-11**, lowering annual economic growth by **2¼ percentage points**.
- As the largest insurer in Queensland, Suncorp and its other insurance brands played a substantial role in assisting the process of economic recovery in the aftermath of the summer disasters. For the Suncorp Group alone, around **40,000 claims** have been received across Queensland from the disaster events in 2010-11 to date, valued at **just over \$1 billion**. Residential insurance claims totalled \$767.7 million, and commercial claims were approximately \$267.2 million.
- In addition to directly assisting residential and business policyholders restore property losses in the direct aftermath of the disasters, Suncorp's claims payments also contributed to a more rapid return to normal patterns of economic activity. Claims expenditures continue to flow through the economy providing an important impetus to recovery in the longer term, especially by supporting employment and businesses continuity.
- The extent of the fiscal stimulus impact was highlighted by analysis of Suncorp's claims profile. Most immediately, Suncorp's disaster-related payments were estimated to contribute around 0.16% to Queensland economic growth in 2011, adding an additional **\$422.3 million** to the Queensland economy. Much of this stimulus was undertaken in regional areas of the State where the economic costs of disasters were more acute.
- Over the long term, there is a more sustained stimulus effect, primarily through the impact of construction-intensive activities. In 2020, the economic contribution from claims payments is estimated at around **\$210 million**.
- Over a 10-year period, the overall impact to the Queensland economy is projected to be **\$1.2 billion** in present value terms. This represents the estimated contribution over and above that provided by governments in their post disaster responses.
- The balanced composition of the stimulus is also highlighted in projected employment impacts. In the first year of reconstruction, about **3,700 full time jobs** are generated through Suncorp's claims payments, with most of these located in South East Queensland. As reconstruction efforts moderate, the positive employment impact also scales down. At 2020, employment is boosted by around 500 full time jobs.
- Many short term economic effects from the natural disasters are still being felt and some areas of the Queensland economy such as trade and construction remain especially fragile. Against this background, Suncorp's claims payments are expected to continue providing a beneficial stimulus effect across the State which will be instrumental in helping restore Queensland's economic growth path over the medium term.

Executive summary

Over the summer of 2010-11 Queensland endured a cruel sequence of severe and widespread natural disasters. These disasters, namely the Queensland regional floods, Brisbane and Toowoomba floods and Tropical Cyclone Yasi, involved tragic loss of life, devastated communities and inflicted substantial damage to the Queensland economy.

From a general insurance perspective, the three Queensland natural disasters have been significant. Indeed, the Queensland floods (excluding Cyclone Yasi) have been the biggest single insurance event in Queensland and one of the largest catastrophes by claims value in Australia's history. For the Suncorp Group alone, around 40,000 claims have been received to date, valued at just over \$1 billion.

The broader economic impact of insurers following a natural disaster is commonly not well understood — and often this is caught up in the traumatic and emotive period immediately following a catastrophe. This study has examined the role played by Suncorp in the wake of Queensland's summer of disasters.

A particular focus has been on Suncorp's contribution to the process of economic recovery following the disasters through delivering important and timely financial stimulus via claims payments to policyholders and helping restore productive commercial activities.

How natural disasters affect economic performance

Natural disasters damage economies in two main ways. Most immediately and directly, they destroy existing physical capital such as roads, homes and buildings, essential services networks and productive infrastructure. They also interrupt the normal flows of production and consumption thus reducing economic output.

These induced changes to commercial activity in the wake of a disaster can be unevenly spread. Some damaged sectors may not be able to return to usual production for many months, for instance if they require extensive infrastructure rebuild or for new crops to be planted. Other particularly less capital intensive sectors can rebound more quickly. In fact, certain sectors benefit from positive stimulatory spending flows associated with reconstruction — for example, construction services and some retail sectors.

The extent of such impacts clearly differs for each natural disaster, with much depending on the specific nature of the event, its magnitude and where it strikes. On these accounts, the summer disasters in Queensland were unprecedented in their scale and economic cost (see box below).

The macroeconomic consequences of the summer disasters

The summer natural disasters in Queensland are estimated to have reduced gross state product (GSP) in Queensland by around \$6 billion in 2010-11, disrupting annual economic growth by 2¼ percentage points (Queensland Government Budget 2011-12). Much of this impact has been caused by substantial declines in production in the coal and agricultural sectors, as well as reduced tourism exports.

The disasters also involved significant direct fiscal costs associated with rebuilding public infrastructure and providing community support. These costs are currently estimated at \$6.8 billion and are being principally funded by the Queensland and Commonwealth Governments through the Natural Disaster Relief and Recovery Arrangements (NDRRA).

Because capital stocks are not measured in national or state income accounts (GDP and GSP), the damage to physical capital from a natural disaster is not directly captured. However, the cost of rebuilding destroyed capital and replacing durable goods is reflected in post-disaster income accounts, providing a (somewhat paradoxical) short-term boost to economic growth.

The role of insurance: promoting economic resilience

Insurance provides a way to mitigate the risks to the community of natural disasters, with policyholders reimbursed in line with their wealth losses. The income flows provided by insurance claims payments play a key role in stabilising the economy following the initial shock from a disaster event and the destruction of private and public assets. In this regard, the financial stimulus from claims payments promotes a more rapid adjustment to normal economic functioning and growth patterns.

However, some sections of the community affected by a physical disaster are either not insured or underinsured. Even with other complementary forms of disaster support, such as government assistance, there will remain some level of unreimbursed wealth losses to residents. For this reason, natural catastrophes involve net costs to the broader economy.

That said, the level of economic impairment, not only to individual policyholders but to the wider community, would be substantially greater in the absence of private insurance coverage. Certainly, by reducing the financial vulnerability of the community to the risks presented by natural disasters, the availability of insurance has provided an important economic contribution in the post-disaster recovery.

Suncorp's post-disaster contribution

An empirical analysis was conducted to illustrate the economic contribution made by Suncorp in the wake of the summer disasters. These events were treated as a single external economic 'shock' to the dynamics of the Queensland economy given their highly sequential timing.

Claims were apportioned to major geographic regions according to actual payments records, which reflected the extent of private asset damage covered by Suncorp. Claims were also decomposed into payments made to residential and commercial policyholders. This allowed the stimulus effect to be calibrated according to whether payments were primarily channelled into retail or construction based activities.

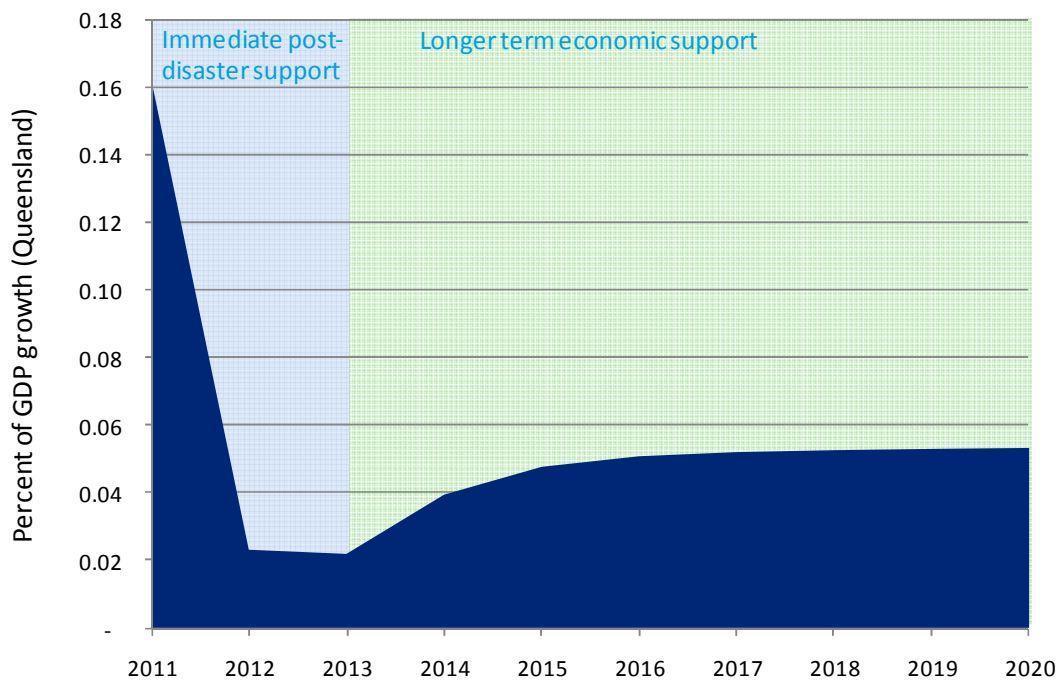
A balanced and enduring economic impact

Suncorp’s claims expenditure profile over late 2010 and the course of 2011 provided immediate and substantial support to the Queensland economy. Within the modelling framework, the stimulus effect via claims payments effectively recycles through the economy over a 10-year period, raising the level of economic activity.

Modelling shows that Suncorp’s claims payments contributed an additional \$422.3 million to the Queensland economy in 2011. Crucially, this impact ‘hit the ground’ when activity was most disrupted, in the direct aftermath of the disaster events. This post disaster support can be seen in the light blue shaded area in Chart i.

After the immediate injection of funds (which are expected to be completed over 2011), expenditures continue to flow through the economy providing an important impetus to recovery in the longer term (see green shaded area). This pattern of support principally represents the impact of construction-intensive activities which, although it takes longer to materialise, yields a sustained and stable stimulus effect. In 2020, the economic contribution from claims payments is estimated at around \$210 million.

Chart i: Contribution to Queensland economic growth



Source: Deloitte Access Economics

Over a 10-year period, the overall impact to the Queensland economy is projected to be \$1.2 billion in present value terms (see Table i). This represents the estimated contribution over and above that provided by governments in their post disaster responses.

Table i: Economic impacts, contribution to GDP

	NPV	2011	2015	2020
	<i>\$ million</i>	<i>\$ million</i>	<i>\$ million</i>	<i>\$ million</i>
South East Queensland	768.6	265.0	92.0	131.3
Central	126.9	29.3	16.2	21.4
Northern	342.8	122.2	41.0	55.0
Rest of Queensland	8.1	5.8	0.8	1.8
Queensland	1,246.4	422.3	150.0	209.6
Rest of Australia	-108.6	-54.4	-6.7	-16.3
Australia	1,137.8	367.9	143.3	193.3

Note: Based on total insurance claims of \$1.035 billion, comprising \$631 million in paid claims (at September 2011) and \$404 million in reserve claims.

Source: Deloitte Access Economics estimates

Critical employment support

In Queensland in the first year of reconstruction, about 3,700 full time jobs are generated through Suncorp's claims payments, with most of these located in South East Queensland (see Table ii). As reconstruction efforts moderate, the positive employment impact also scales down. At 2020, around 10 years after the disasters, employment is boosted by around 500 full time jobs.

Table ii: Economic impacts, contribution to employment

	2011	2015	2020
	<i>FTE</i>	<i>FTE</i>	<i>FTE</i>
South East Queensland	2,302	171	299
Central	280	28	44
Northern	998	83	138
Rest of Queensland	75	5	11
Queensland	3,656	287	492
Rest of Australia	-834	-52	-144
Australia	2,822	235	348

Source: Deloitte Access Economics estimates

Regional impacts

Regional areas of Queensland were particularly devastated by the natural disasters. Suncorp plays a major role in providing catastrophe risk services to business and households in regional Queensland, with Suncorp having a market share of about 50% in northern parts of the State.

Regional communities commonly have a narrower economic base (often dominated by capital intensive sectors like resources and agriculture) and more limited employment opportunities than cities and larger urban centres. As such, insurance often plays a more acute role in mitigating the damage to physical capital from natural catastrophes and restoring normal economic activities.

This has been highlighted in the assessment, with Suncorp's claims expenditures generating greater economic support, as a percentage of regional income (GRP), in the northern and central areas of Queensland.

Complementing government disaster responses

State and Commonwealth Governments provided a range of responses to the summer disasters, including to assist with immediate emergency situations and to provide relief payments to individuals. Suncorp's insurance activities formed a key complement to recovery and investment efforts made by governments.

Government reconstruction investment is principally directed at public infrastructure assets such as damaged transport networks. These involve considerable logistical demands and time lags, for instance to coordinate large engineering rebuilds and let construction and contracts. In contrast, Suncorp was able to activate a rapid fiscal response to the damage — particularly directed at residential housing repair and replacement of private assets. This is facilitated by established supply chain arrangements which enable claims assessments and critical construction activities to be commenced soon after the disaster.

Concluding comments

The Queensland summer disasters were notable by their disaster 'footprint' which devastated vast areas of the State, including major urban centres, agricultural land and coal fields. As the largest general insurer in the Queensland market, Suncorp played a major role in providing catastrophe risk services to affected businesses and households across the State, especially in light of its greater coverage of flood risks.

The natural perils caused a rapid and substantial contraction of economic activity, destroying capital and arresting normal flows of production and consumption patterns. In this precarious environment, as highlighted by the analysis, Suncorp provided critical support to business and consumer activity through its rapid claims response. The costs of the disasters would have been substantially greater without the risk mitigation services provided by Suncorp.

The events of the summer are not long past and many short term economic effects are still being felt. For instance, commodity exports and retail trade activity in Queensland continue to exhibit signs of weakness which can be attributed to the negative shock from the summer catastrophes.

Going forward, Suncorp's claims payments covering the damage from the summer disasters are expected to continue providing a beneficial stimulus effect across the State which will be instrumental in helping restore Queensland's economic growth path over the medium term.

1 Introduction

Deloitte Access Economics was engaged by Suncorp to provide economic analysis of the broader economic and community impacts generated by insurance companies in the wake of major insurance events like the Queensland natural disasters over the summer of 2010-11.

The overall aim of the analysis is to highlight the significant economic role that insurance companies such as Suncorp play following a catastrophic event.

1.1 Analytical approach

An empirical analysis was conducted to highlight the role of Suncorp and its subsidiary insurance brands in attenuating the economic damage from the recent summer disasters in Queensland. A core focus was to examine the impact on the short and longer term performance of the Queensland economy provided through Suncorp's extensive insurance coverage and resultant post-disaster stimulus from claims payments.

The analysis involved the following stages.

Macroeconomic stimulus effect

This examined the economic stimulus provided by claims payments made by Suncorp within a general equilibrium framework. Deloitte Access Economics' in-house Computable General Equilibrium model was utilised to model the impact of these claims. Detail on the model can be found in Appendix A.

The model simulates the dynamics of the Queensland economy and uses historical data on gross state product (GSP). In this way, the model accounts for the different channels in which disaster impacts and their recovery activities are transmitted throughout the economy.

- In order to simulate the localised aspects of the three respective disaster events within the formal modelling framework, the Queensland economy was divided into major regions (see Table 1.1). Claims were then apportioned to geographical regions according to actual payments records, which reflected the extent of private asset damage covered by Suncorp.
- Suncorp's disaster related claims were also categorised, according to actual claims patterns, into payments made to residential and commercial policyholders and for specific types of insurance product. This allowed the stimulus effect to be calibrated according to whether payments were primarily channelled into retail or construction based activities.

Given the highly sequential timing of the three main summer disasters, these events were treated in the formal modelling framework as a single external economic 'shock' to the dynamics of the Queensland economy.

Payments made by Suncorp to policyholders over late 2010 and 2011 were modelled in comparison to a reference (or business-as-usual) case in which insurance coverage and attendant claims payments were unavailable following a disaster event. The modelling was undertaken over a 10-year period to 2021, a timeframe considered sufficient to fully capture both the short and medium-term impacts of reconstruction and restoration of growth paths in a modern, open and flexible economy following a severe disaster event.

Table 1.1: Regional model disaggregation of disaster areas

South East Queensland flood affected regions	Central Queensland flood affected regions	Cyclone Yasi affected regions
<i>Ipswich / Brisbane floods</i>	Rockhampton	Mackay
Sunshine Coast	Gladstone	Whitsunday
Somerset	Bundaberg	Charters Towers
Moreton Bay	Fraser Coast	Tablelands
City of Brisbane	North Burnett	Shire of Cook
Redland City	Western Down	Cairns Region
Logan City	Shire of Banana	Cassowary Coast
City of Ipswich	Central Highlands	Shire of Hinchinbrook
Scenic Rim	Barcaldine	City of Townsville
Gold Coast City	Gympie	Burdekin Shire
<i>Toowoomba Lockyer floods</i>	South Burnett	
Toowoomba	Isaac	
Lockyer Valley		
Southern Downs		
Goondiwindi		

Note: Other State regions were modelled as Rest of Queensland.

Regional impacts

The impact of claims payments in supporting economic activity across regional Queensland after the natural disasters is dependent on the actual economic structure of regions.

Regional communities commonly have a narrower economic base (often dominated by capital intensive sectors like resources and agriculture) and more limited employment opportunities than cities and larger urban centres. As such, insurance often plays a more acute role in mitigating the damage to physical capital from natural catastrophes and restoring normal economic activities.

The distributional pattern of Suncorp's claims payments were examined at a Local Government Area (LGA) across Queensland's disaster affected areas. This analysis highlighted the differentiated impacts of claims expenditure payments largely directed at engineering and construction and retail related sectors. Local economies (LGAs) were stratified according to their respective economic profile, factor shares and patterns of employment in order to gauge the regional stimulus impact of claims payments.

Some limitations

This analysis has illustrated the important contribution made by the insurance industry on the transitional dynamics of the Queensland economy following the summer natural disasters. However, some limitations in the analysis should be noted.

While Suncorp is the largest single general insurer in Queensland (with higher market penetration in northern parts of the State) and covers flood risk as part of its general house and contents policy, it is not the only provider of broad risk management services. If Suncorp did not provide these services, it can be assumed that other insurers would absorb part of the market. As such, the analysis demonstrates the scale of Suncorp's contribution in restoring economic activity in the aftermath of the summer disasters but inferences about what would have happened in the absence of Suncorp's payments inflows cannot be made.

It should be noted that the analysis does not measure the broader impacts that insurance markets play in the economy.

Structure of the report

Chapter 2 outlines how natural disasters impact the functioning of economies, including in the immediate aftermath of a disaster event and over the longer term. It also highlights the role of insurers in providing risk mitigation services to the community and supporting the broader process of economic recovery.

Chapter 3 details the three natural disasters which struck Queensland over the summer 2010-11, the collective scale of their damage 'footprint', and the efforts by governments to assist businesses and the community rebuild.

The economic analysis of Suncorp's disaster related claims expenditures is set out in Chapter 4. This focuses on how Suncorp and its subsidiary insurance brands have assisted the process of economic recovery in Queensland, principally through provision of timely and balanced fiscal stimulus and broad-ranging employment support across the State.

2 The economic impacts of natural disasters

The effects of major natural disasters extend well beyond the initial destruction caused. This chapter discusses the broader economic consequences of natural disasters, including the implications for the process of recovery and longer term growth. The role of insurance companies in mitigating the risks of natural disaster for the community is also examined.

While disasters can differ greatly in their pattern of destruction, for instance floods and fires have different impacts on property, the general effects are broadly similar. All types of disasters cause disruption or damage to capital stocks, the labour force and natural resources. In particular, the effects can be classified as direct, indirect and intangible impacts (as shown in Figure 2.1).

Direct effects are the immediate physical damage caused by the disaster. This includes the damage which is immediately visible (for instance a collapsed roof) and that which takes longer to appear (such as water damage which accelerates road deterioration).

Indirect impacts are those financial costs which are not directly caused by the natural disaster. These impacts include the disruption to the community, households and businesses. They also cover clean up and repair costs, the costs of securing alternative accommodation and transport, and lost business production.

Figure 2.1: Economic impacts of a disaster

Direct impacts	Indirect impacts	Intangible impacts
Damage to structure, contents, and equipment related to: <ul style="list-style-type: none"> • Agriculture • Residential housing • Commercial buildings • Infrastructure 	<ul style="list-style-type: none"> • Business disruption • Clean-up costs • Accommodation for displaced persons • Emergency response – eg relief agencies • Disruption to transport and essential services networks • Disruption of public services – eg health and education 	<ul style="list-style-type: none"> • Environmental damage • Death and health impacts • Dislocation • Cultural and heritage losses

The **intangible effects** of a natural disaster are more difficult to quantify due to the absence of market prices. They include effects such as the loss of business confidence, reduced community health, loss of items of cultural/historical significance and a reduction in overall quality of life.

There is some economic debate concerning the combined extent of these overall impacts on the economy and future growth. There are, broadly, two perspectives:

- Firstly, after a natural disaster there is a requirement to repair and rebuild damaged infrastructure and private capital. There is an argument that this recovery process essentially provides *additional* economic activity than would otherwise occur and, accordingly, some disaster events can actually yield a positive net outcome on the economy.
- The alternative view — and one which has more bearing in the evidence — is that in the absence of the disaster, growth would have continued as normal. The spending on recovery following a disaster therefore helps restore an economy to this pre-disaster ‘starting point’ before any real growth can occur. While some sectors (such as construction) can benefit from the recovery, this is merely expenditure which is brought forward rather than truly additional. Other sectors will effectively miss out on the expenditure as funds are allocated to less discretionary disaster responses.

Aspects of these effects are discussed in more detail below.

2.2 Short and longer term economic impacts

In the direct aftermath of a natural disaster, a range of recovery and reconstruction responses are necessary, with the level of requisite efforts clearly dependent on the nature and scale of the actual damage.

This activity can have a stimulatory effect on the economy, which is often supported by insurance payments for property damage (as highlighted in this analysis). For instance, individuals often need to purchase items such as whitegoods and other home products which have been damaged, and which they may not otherwise have needed to replace. Repair and clean-up activities also constitute additional spending which would not otherwise have occurred.

It is important to note that much disaster related spending is essentially brought forward from future periods, by necessity, and often comes at the expense of expenditures in later periods. The effect of this temporal shift is to boost short term demand but moderate spending and consumption options into the future.

A large part of disaster recovery spending is also diverted from other areas of the economy. Sectors that are likely to be most affected by this displacement effect are those which tend to be associated with human capital (say, education) rather than physical capital accumulation (say, construction). Resultant unemployment in some industries may have flow-on effects, reducing consumer spending overall.

With higher demand for particular industries, there may be a ‘demand surge’ which attracts qualified workers to reconstruction and away from other sectors. While this can accelerate reconstruction and reduce the total economic cost of a disaster, it can lead to acute price pressures which have cost impacts on other sectors of the economy.

Regional impacts

Natural disasters tend to have a sharp regional element, affecting particular areas and industries more than others. As such, there are typically important regional transfers of activity from disaster-affected producers to those which are not affected. While this does not represent an overall economic loss, the distributional effects of such a transfer can be significant in the performance of a regional economy. Crucially, this loss of production can exacerbate directly incurred losses, say to physical infrastructure and private assets.

However, where key regional activity is export focused, there is no offsetting gain by other domestic producers. In this situation, economic income is lost from the domestic economy and transferred internationally. This was a key aspect of the Queensland floods, where reduced export income from stalled coal production represented a major economic cost of the disasters.

Establishing a relevant reference point

These shorter term effects also have longer term implications for the economy. While, as noted, induced spending immediately following a disaster is unlikely to be supplementary or additional to that which would otherwise have occurred, they have a key role in restoring economic damage in the aftermath of a disaster.

An important perspective in viewing these effects is the obvious fact that natural disasters are not a deliberate choice by communities — indeed, they are an adverse and unwanted external shock to the economy. Therefore, the new post-disaster economic environment, encompassing the destruction to the capital base, becomes the most relevant ‘starting point’ for the analysis. It is how quickly economic recovery can occur from this (entirely non-discretionary) position which becomes the most practical consideration. In this context, issues of displacement from pre-disaster patterns of activity and changes to long term growth trajectories become mostly theoretical propositions.

The focus of this study was to highlight, within the process of broader recovery, how insurance claims payments provide additional economic support.

2.3 Role of insurance companies

As highlighted above, insurance companies play a significant role in stabilising the economy following major natural disaster events. Their contribution to the disaster recovery is critical to the re-establishment of homes and businesses.

While insurance may not be claimed by policyholders for extended periods (if at all), it can sometimes be viewed as ‘unused’ and not providing explicit benefit. However, it is precisely through underwriting the financial risk of high consequence and low probability events like natural disasters that insurance policies protect customers. It is this protection, and the confidence it provides for longer term investment decisions, that is more important than the actual claims record.

Generally, the role of insurance companies is to pool individual risk. Individuals or businesses that are insured, pay premiums which are based on the likelihood of losses (say

the probability of a natural disaster), the potential cost of damage due to the event and the number of people who pool their risk. As the likelihood of loss events increase, potential damages rise or the insurance pool shrinks, premiums are likely to be higher.

As some regions in Australia are more prone to natural disasters than others, insurance underwriters reduce their risk exposure by passing on the risk to reinsurers which do not have exposure to such risks in their portfolio. For instance, Australian insurers have ceded a large part of their flood insurance cover to major global reinsurers including Swiss Re, Munich Re, General Re and Lloyd's of London. However, in regions that are considered riskier to insure due to their vulnerability to natural disasters, insurance policy and premiums are developed to represent that risk.

In light of increasing claims to insurers in recent years, due in large part to more severe natural disasters, there is a role for encouraging greater access to the insurance market by individuals, and thereby reducing reliance on public assistance. Improved understanding of the value of insurance is likely to play a key function in encouraging broader participation by individuals. This will generally assist insurance companies in covering more of the risk of financial damage from disaster events and lower the costs to taxpayers.

2.1 Macroeconomic impacts of the disasters

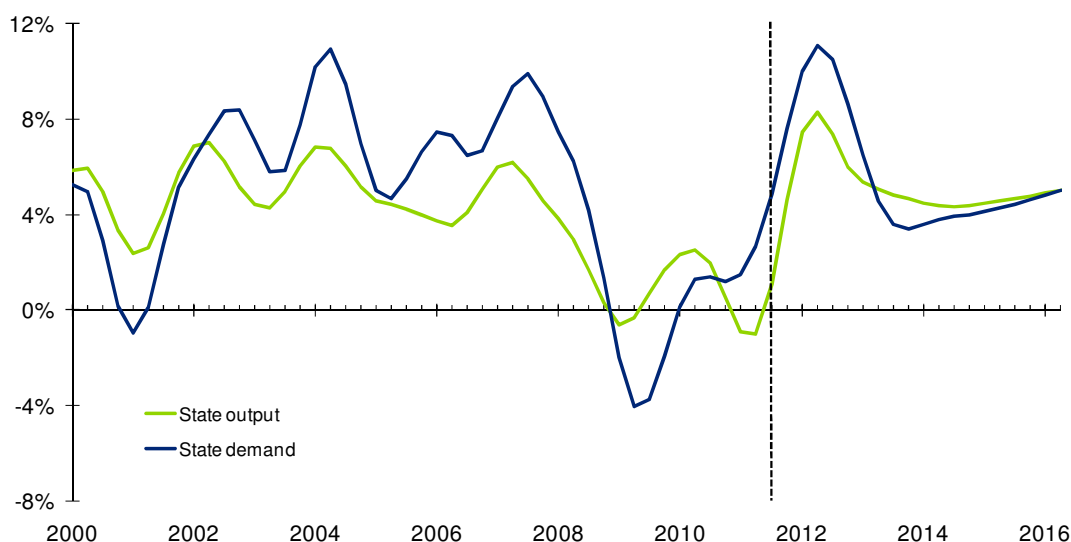
Encompassing both the direct and indirect impacts of natural disasters, as outlined above, the Queensland floods and Cyclone Yasi have had a major contractionary impact on the State economy — both in the direct aftermath of the events and concerning the more gradual adjustments and recovery over the medium term.

The initial impact of the disasters encompassed the costs of the destruction and lost production, which are estimated to detract 2.25 percentage points, or \$6 billion in real terms, from GSP in 2010-11 (Queensland Government Budget 2011-12). As growth prior to the floods was estimated at 2.25%, the overall effect was zero growth in the Queensland economy during the last financial year (see Chart 2.2).

The National Disaster Relief and Recovery Arrangements (NDRRA) account for the bulk of the recovery expenditure, including State roads, government assets and support and loans to small businesses and primary producers. In total, the cost of recovery to 2013-14 is expected to be approximately \$6.8 billion.

In the medium term, the reconstruction expenditure is expected to coincide with the resumption of prior levels of export production to boost economic growth above what would otherwise have been the case. Despite this, the level of GSP is expected to be below that in the absence of the disasters until around 2012-13.

Chart 2.2: Queensland output and demand (change on year earlier)



Source: Deloitte Access Economics forecasts

Losses to economic output as a result of the natural disasters have been largely driven by the reduction of coal and tourism exports, as well as agricultural production. These losses represented more than \$7 billion to the Queensland economy in 2010-11. Particular sectoral impacts of the disasters are set out below.

Disruption to coal production

Coal production was disrupted by the heavy rainfall associated with the flooding events, with mines flooding and supply networks damaged. Further, coal terminals were temporarily forced to close following Cyclone Yasi. Repair of transport networks and mine de-watering led to a dramatic fall in coal production.

Initially, coal export volumes in December 2010 were sustained through running down inventories, though this could not be sustained in January and February 2011. Exports began to recover in mid-March, though they were still only 75% of pre-flood capacity in early May.

Some of this impact was cushioned by the surge in coal prices in the June quarter of 2011. Partly due to the reduced supply, hard coking contract prices were up US\$105/t from the previous quarter to \$330/t, while thermal coal spot prices surpassed US\$120/t. On the other hand, some demand was diverted to lower quality coal available in the region. In total, production is expected to be down 27 million tonnes in 2010-11, amounting to a loss of around \$5.7 billion to GSP.

Damage to agriculture

The combined loss to agriculture from reduced production is estimated at \$1.4 billion. The major crops affected by the floods were sugar cane and cotton, while Cyclone Yasi devastated the banana crop and damaged avocado and other horticultural crops. This has had flow-on implications to the rest of the Australian economy through increased prices for these crops.

While many winter crops (notably wheat) were harvested before the floods, there are ongoing impacts for the quality of crops which remained planted. However, yields in some regions are expected to be above average due to favourable soil water conditions.

Reduced tourism activity

The major impact of the natural disasters on tourism has been through the negative publicity which has reduced demand for travel to popular (but unaffected) areas of Queensland, such as the Gold Coast, Sunshine Coast, Cairns and the Whitsundays. Tourism exports declined due to unfavourable weather conditions, and to some extent travel disruptions which occurred in Brisbane and other locations. Reduced tourism activity is expected to be around \$400 million in 2010-11.

Lower demand from key export markets

While not directly related to Queensland's natural disasters, the earthquake and tsunami in Japan will have implications for the recovery of the Queensland economy through reduced demand for commodities. Japan is Queensland's largest market for coal, accounting for over a quarter of sales (around \$6.6 billion in 2010). It is also the largest market for meat, comprising 40% of the State's exports (primarily beef), valued at \$1.3 billion; and accounts for about 11% of overseas tourist visitations to Queensland.

3 Summer of disasters

In the summer of 2010-11, the east coast of Australia experienced several major rainfall events and related natural disasters. The most severe effects were in Queensland, with floods in regional Queensland as well as in the Brisbane and Toowoomba regions. These floods were followed by Cyclone Yasi which affected tropical North Queensland.

The following sections provide a brief outline of the three natural disasters, their impacts on the affected regions and damage estimates. A profile of Suncorp's claims payments related to the disasters is also provided.

3.1 Queensland regional floods

The rainfall event associated with the regional flooding in Queensland occurred over 23 to 28 December 2010. It was influenced by the circulation associated with Cyclone Tasha, which made landfall south of Cairns on 25 December. Over this period, about 200 mm of rain fell over a large area of central eastern Queensland, roughly bounded by Rockhampton, Carnarvon Gorge and Hervey Bay, with some areas experiencing rainfall exceeding 400 mm.

This rainfall led to major flooding in many parts of central and southern Queensland. Almost every river in Queensland south of the Tropic of Capricorn and east of Charleville and Longreach experienced a major flood level. The most extreme flooding occurred in the Fitzroy and Condamine-Balonne catchments, with record flood levels at the Dawson River at Theodore, the Nogoia at Emerald, the Comet at Rolleston and Comet Weir, and in the Condamine-Balonne system at Tummaville, Millmerran, Condamine Township and Surat.

Properties were inundated in at least 17 towns in Queensland and bordering New South Wales, with Theodore, Dalby, Chinchilla, Emerald, Bundaberg and Rockhampton among the worst affected regions. There were 13 casualties attributed to the floods, with 9 people still missing.

Other impacts included the flooding of numerous mine sites and the closure of coal railway lines (as noted earlier). This substantially reduced export production of coal from Queensland for a number of months, until mine de-watering issues and rail network repairs could be undertaken. In the March quarter of 2011, coal exports were lower by 27% and overall mining production fell by 6.6% (ABS 2011). Agriculture in the region was also affected, with widespread losses, damage and disrupted harvests for fruit and vegetables, cotton, sugarcane and grains. In the March quarter of 2011, there was a 10.2% fall in agricultural production (ABS 2011).

3.2 Brisbane/Toowoomba floods

Following the regional flooding, heavy rain hit southeast Queensland and northeast New South Wales between 10 and 12 January 2011, with the heaviest falls north and west of Brisbane. The area bounded by Brisbane, Gympie and Toowoomba experienced in excess

of 200 mm of rain during this period, with Mount Glorious and Peachester recording over 600 mm of rainfall.

The Brisbane River broke its banks on 11 January and reached a peak of 4.46 metres on 13 January. The resulting floods in southeast Queensland occurred through most of the Brisbane River catchment, most severely in the Lockyer and Bremer catchments, as well as in the Toowoomba area. The Mary River around Maryborough and Gympie and the Macintyre River around Tenterfield and Goondiwindi also experienced major flooding.

Flooding and inundation of properties extended from metropolitan Brisbane inland to the upper Condamine-Balonne catchment. The Brisbane Riverwalk broke from its moorings, Suncorp Stadium filled with water to a depth of 2 metres. The worst affected areas in Brisbane were in St Lucia, West End, Rocklea and Graceville. Flash flooding devastated the Toowoomba CBD and communities in the Lockyer Valley.

Overall, approximately 20,000 homes were inundated, with 22 casualties as a result of the flooding. Losses were sustained to infrastructure, businesses, tourism and retail. Figure 3.1 shows areas of major flooding across Queensland, for both major flooding events during the summer.

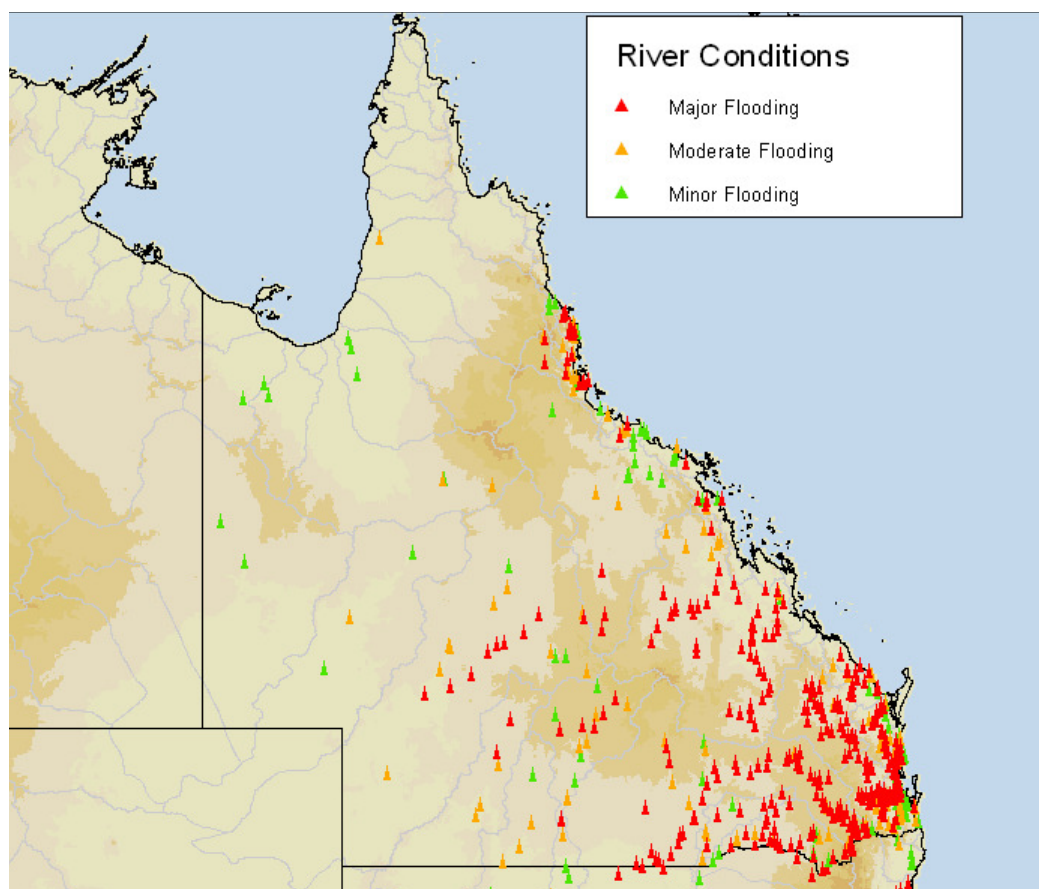
3.2.1 Response to the floods

The damage resulting from the Queensland floods (both the regional flooding in late December 2010 and the Brisbane/Toowoomba floods in January 2011) was about \$5.6 billion. The extent of the damage placed substantial costs on governments. In March 2011, the Australian Government passed a flood levy bill to raise \$1.8 billion to assist in funding reconstruction.

One of the conditions of legislative passage was the 'Xenophon amendment' to the Natural Disaster Relief and Recovery Arrangements (NDRRA). This involved the States being responsible for taking up disaster insurance or creating their own disaster funds, which would reduce their claims to the Australian Government following natural disasters in the future. This is intended to reduce the burden on the taxpayers in other jurisdictions and minimise the likelihood that any future Commonwealth taxation levies would be required for disaster recovery.

As part of its assistance, as of 2 September 2011, the Australian Government has granted 399,484 claims for the Australian Government Disaster Recovery Payment (AGDRP) to eligible individuals, representing in excess of \$465 million. Further, 53,440 claims have been granted for the Disaster Income Recovery Subsidy (DIRS), in excess of \$61.5 million. As of 25 August 2011, the Insurance Council of Australia had valued around 57,730 claims related to the Queensland floods at approximately \$2.45 billion.

Figure 3.1: Queensland flood peaks, November 2010 to January 2011



Note: Flood peaks shown for Queensland and northern NSW from 26 November 2010 to 20 January 2011.
Source: Bureau of Meteorology 2011

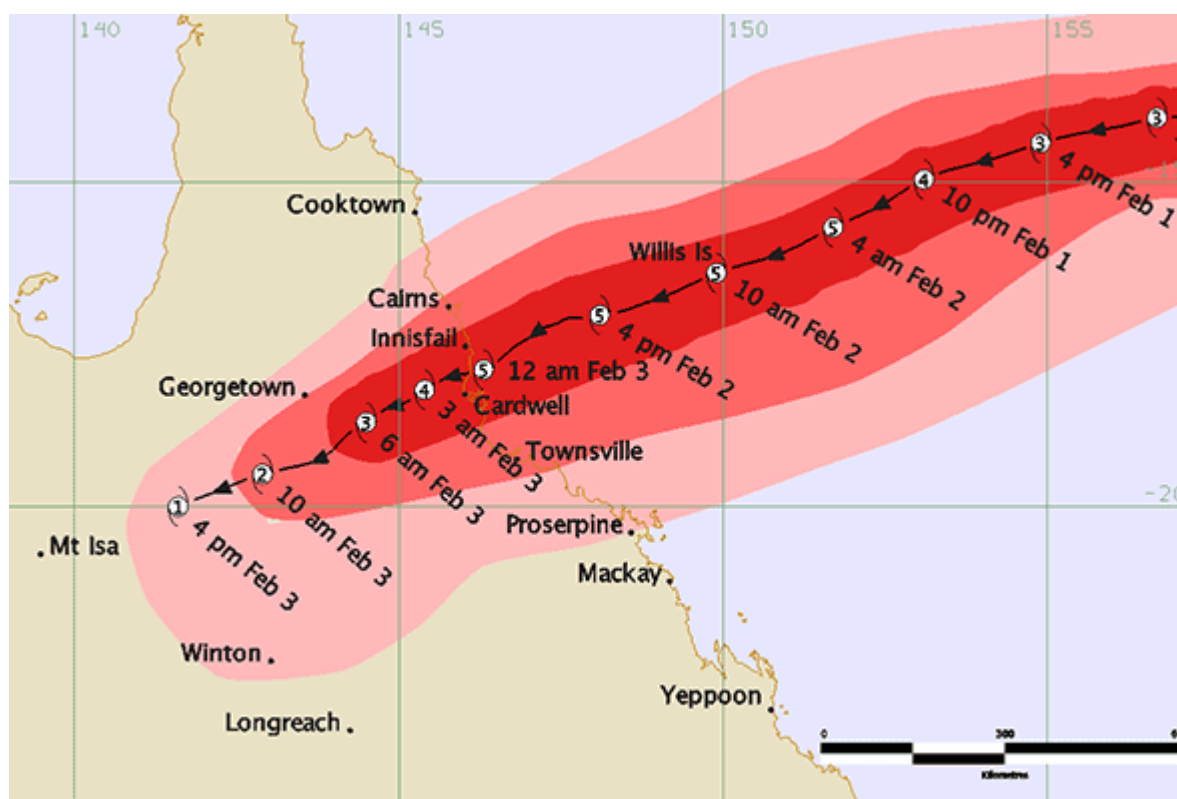
3.3 Cyclone Yasi

Severe Tropical Cyclone Yasi was a Category 5 cyclone system that made landfall in northern Queensland on the morning of 3 February 2011. It originated from a tropical low near Fiji and crossed the Queensland coast at Mission Beach, between Innisfail and Cardwell. Its effects were felt as widespread as Ingham and Cairns. The path of Cyclone Yasi is shown in Figure 3.2.

Wind gusts during Cyclone Yasi were estimated up to 285 km/hr with sustained wind speeds of 205 km/hr. An associated storm surge was estimated up to 7 metres, which destroyed structures along the coast and up to 300 metres inland.

The damage included destruction of homes, including facade and roof damage. Reports estimated that up to 90% of structures along the main avenue in Tully had sustained extensive damage. There was widespread loss of power and the water system in Townsville failed, further exacerbated by flooding which prevented emergency workers reaching affected residents from Townsville to Ingham. Communities were isolated after the event, though the casualties were low due to warnings and evacuations. Only one indirect death was recorded for the event.

Figure 3.2: Track and intensity of Cyclone Yasi



Source: Bureau of Meteorology 2011

The total economic losses from Cyclone Yasi are estimated at approximately \$3.5 billion. This is mostly attributable to the \$2 billion lost to agriculture (mainly banana and sugarcane plantations), mining and local government. A further \$1 billion is expected to be lost in tourism and the total damage bill after the event is estimated at \$800 million.

Following Cyclone Yasi, as of 2 September 2011, the Australian Government has granted 273,879 AGDRP claims totalling approximately \$310 million to assist affected residents. For individuals who suffered loss of income as a result of the cyclone, the Australian Government has granted 5,689 claims representing over \$8 million. The Insurance Council of Australia has valued the 71,145 claims related to Cyclone Yasi at \$1.25 billion.

3.4 Insurance payments made by Suncorp

As a result of these Queensland natural disaster events, a total of \$1.03 billion in claims has been made by Suncorp (see Table 3.1). The majority of these claims are in South East Queensland. These regions include Brisbane, the Lockyer Valley and Toowoomba. Claims in the Northern region of the State, the area affected by Cyclone Yasi, totals about \$305 million. The Central region, primarily affected by the widespread floods in the central interior of Queensland, involved total claims of \$101 million.

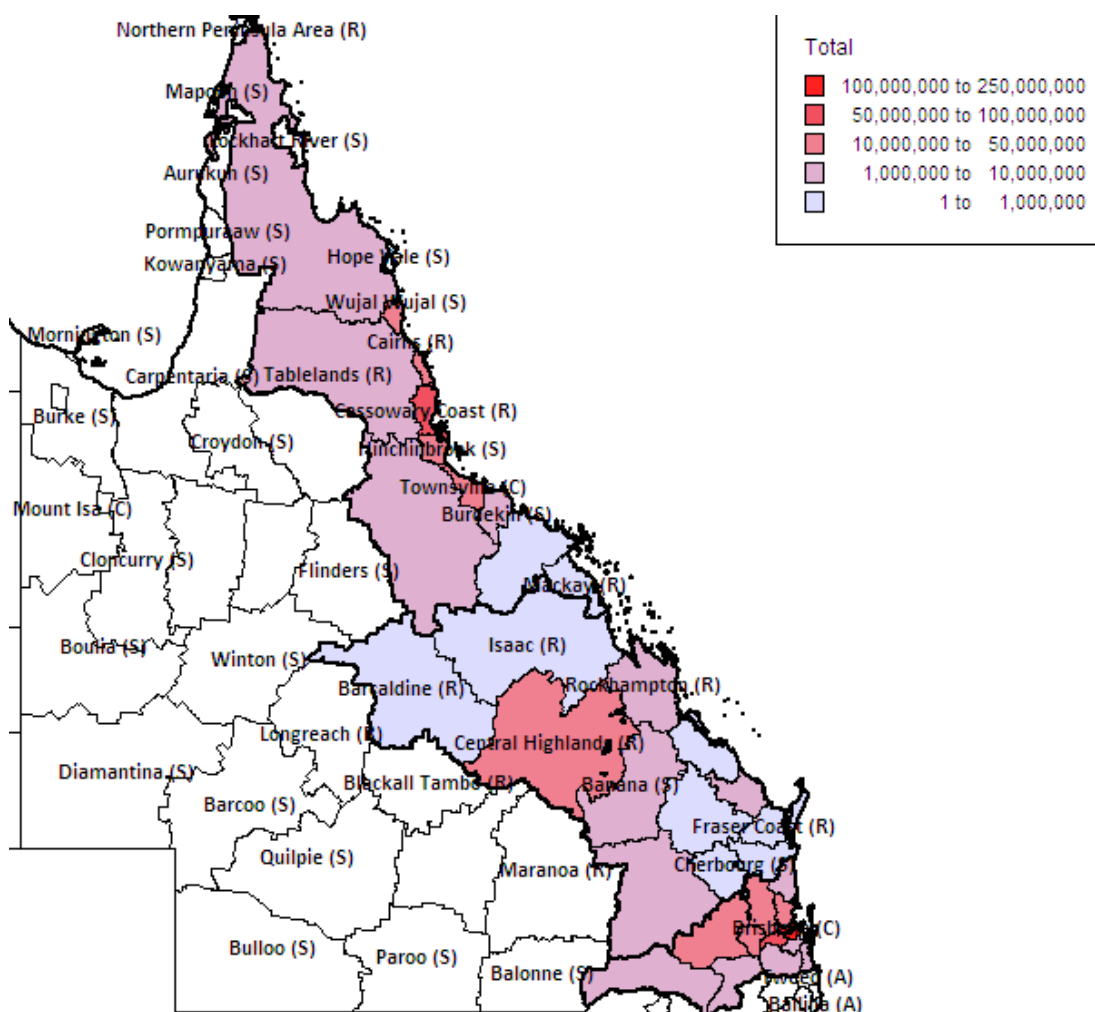
Table 3.1: Total insurance claims, Suncorp, at September 2011

Region	Gross reserve	Paid	Total
	\$ million	\$ million	\$ million
South East Queensland	236.0	393.0	628.2
Central	32.3	68.2	101.2
Northern	135.0	170.1	305.2
Rest	0.2	0.1	0.5
Total	403.5	631.4	1,034.9

Source: Suncorp, Deloitte Access Economics estimates

Figure 3.3 outlines the total claims by Local Government Area (LGA) region. Due to population and infrastructure density, claims are concentrated in the Brisbane LGA, the regions north and west of the city, the Central Highlands and the coastal LGAs of the northern regions of the State.

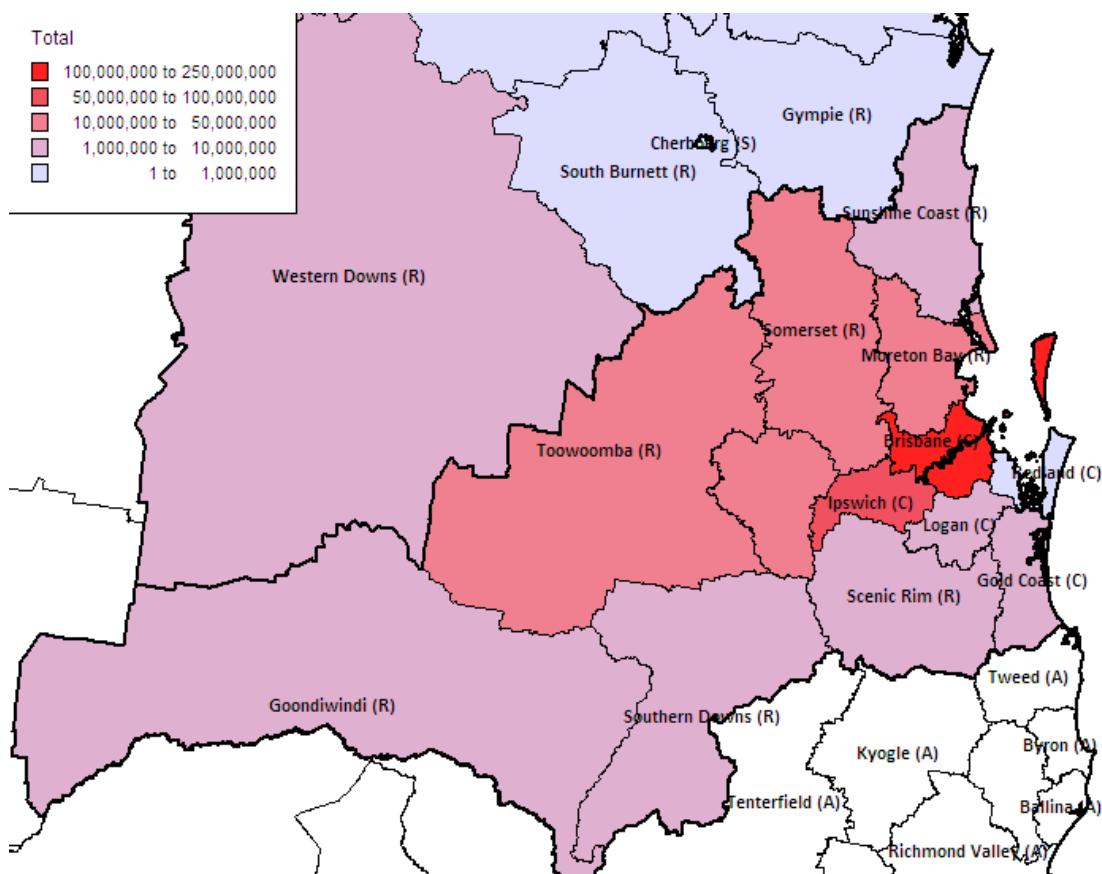
Figure 3.3: Insurance claims, geographical breakdown, LGA



Source: Suncorp, Deloitte Access Economics estimates

Figure 3.4 provides more detail on the major events related claims in the South East Queensland region. As outlined above, claims are concentrated in Brisbane, Ipswich, and the region from Moreton Bay to Toowoomba.

Figure 3.4: Insurance claims, South East Queensland, LGA



Source: Suncorp, Deloitte Access Economics estimates

Table 3.2 outlines the residential claims by region and by event. Most of the claims are in South East Queensland, as a result of the two major flood events.

Table 3.2: Residential insurance claims, Suncorp, 2010-11

Region/event	Gross reserve	Paid	Total
	<i>\$ million</i>	<i>\$ million</i>	<i>\$ million</i>
South East Queensland	113.6	311.6	425.2
Central	21.4	62.6	84.0
Northern	105.5	152.7	258.1
Rest of Queensland	0.2	0.1	0.4
Total	240.7	527.0	767.7
Central Queensland Floods	21.8	64.1	85.8
Toowoomba/Lockyer Valley Flash Floods	13.7	40.5	54.3
Ipswich/Brisbane Floods	99.5	269.6	369.1
Tropical Cyclone Yasi	105.7	152.8	258.5
Total	240.7	527.0	767.7

Source: Suncorp, Deloitte Access Economics estimates

Table 3.3 outlines the commercial claims by region and by event. In a similar pattern to residential claims, most claims are in South East Queensland as a result of the two flood events.

Table 3.3: Commercial insurance claims, Suncorp, 2010-11

Region	Gross reserve	Paid	Total
	<i>\$ million</i>	<i>\$ million</i>	<i>\$ million</i>
South East Queensland	122.3	81.4	203.1
Central	10.9	5.6	17.0
Northern	29.5	17.4	47.1
Rest of Queensland	0.0	0.0	0.0
Total	162.8	104.4	267.2
Cyclone Yasi	28.7	16.9	45.6
Queensland and Brisbane storms, high rainfall and flooding	119.1	80.7	199.8
Queensland heavy rain and flooding*	15.1	6.8	21.8
Total	162.8	104.4	267.2

Note: * Includes Tropical Cyclone Tasha

Source: Suncorp, Deloitte Access Economics estimates

4 The economic impacts of Suncorp’s claims payments

This chapter presents the economic analysis of Suncorp’s claims payments following the Queensland natural disasters. The focus was to examine the role of Suncorp and its subsidiary insurance brands in assisting the process of economic recovery following the disasters.

4.1 Profile of the modelling regions

The overall approach to the analysis, including the regional aspects of the modelling, was outlined in Chapter 1.

South East Queensland is the largest of the regions modelled in this analysis, with a population of about 3.2 million (see Table 4.1). South East Queensland, along with the Northern region, also has a relatively high share of working age population in comparison to the Central region.

Table 4.1: Total and working age population at June 2010

	South East Queensland	Central	Northern
Population	3,208,827	571,041	633,469
Working age population	2,138,207	363,623	425,032
Working age population share (%)	66.6	63.7	67.1

Source: Queensland Government, Office of Economic and Statistical Research, Queensland Regional Profiles

South East Queensland has the largest labour force, comprising about 1.75 million people (see Table 4.2). The region also has the lowest level of unemployment, at 5.3%, in the period preceding the natural disaster. The relatively higher levels of unemployment in the Central and Northern regions suggest greater resource availability for the reconstruction task.

Table 4.2: Workforce outcomes at June 2010

	South East Queensland	Central	Northern
Labour force	1,749,708	281,646	354,854
Employed	1,656,560	265,491	333,080
Unemployed	93,148	16,155	21,774
Unemployment rate (%)	5.3	5.7	6.1

Source: Queensland Government, Office of Economic and Statistical Research, Queensland Regional Profiles

Table 4.3 outlines the full-time equivalent employment shares by industry sectors and modelling region. The economic base of the South East Queensland region is broadly in the services sectors — in particular, retail trade, health, public administration and education.

The region also has a high level of employment in the tertiary sectors of manufacturing and construction.

Both the Central and Northern regions have relatively high levels of employment in the primary sectors of agriculture and mining. Conversely, manufacturing is a lower share of the industrial base in both these regions.

Of the sectors mostly directly involved in the reconstruction task, retail trade is about 12% of the industrial base in both the Central and Northern regions, slightly higher than South East Queensland. Construction on the other hand comprises a smaller share for these regions.

Table 4.3: Share of FTE employment at June 2010

	South East Queensland	Central	Northern
	%	%	%
Agriculture, Forestry and Fishing	2.0	9.0	5.5
Mining	0.7	4.1	3.4
Manufacturing	12.0	9.9	8.2
Electricity, Gas, Water and Waste Services	1.0	1.9	1.2
Construction	10.6	9.5	9.7
Wholesale Trade	4.9	3.1	3.4
Retail Trade	10.5	11.8	11.9
Accommodation and Food Services	5.7	7.2	8.8
Transport, Postal and Warehousing	5.7	5.1	5.9
Information Media and Telecommunications	1.7	0.9	1.1
Financial and Insurance Services	3.6	1.7	1.8
Rental, Hiring and Real Estate Services	2.5	1.7	1.9
Professional, Scientific and Technical Services	7.1	3.3	4.1
Administrative and Support Services	3.0	2.5	3.0
Public Administration and Safety	6.7	5.7	8.0
Education and Training	7.2	8.3	7.4
Health Care and Social Assistance	9.7	10.0	9.6
Arts and Recreation Services	1.4	0.6	1.2
Other Services	4.0	3.7	3.9
Total	100	100	100

Source: Queensland Government, Office of Economic and Statistical Research, Queensland Regional Profiles

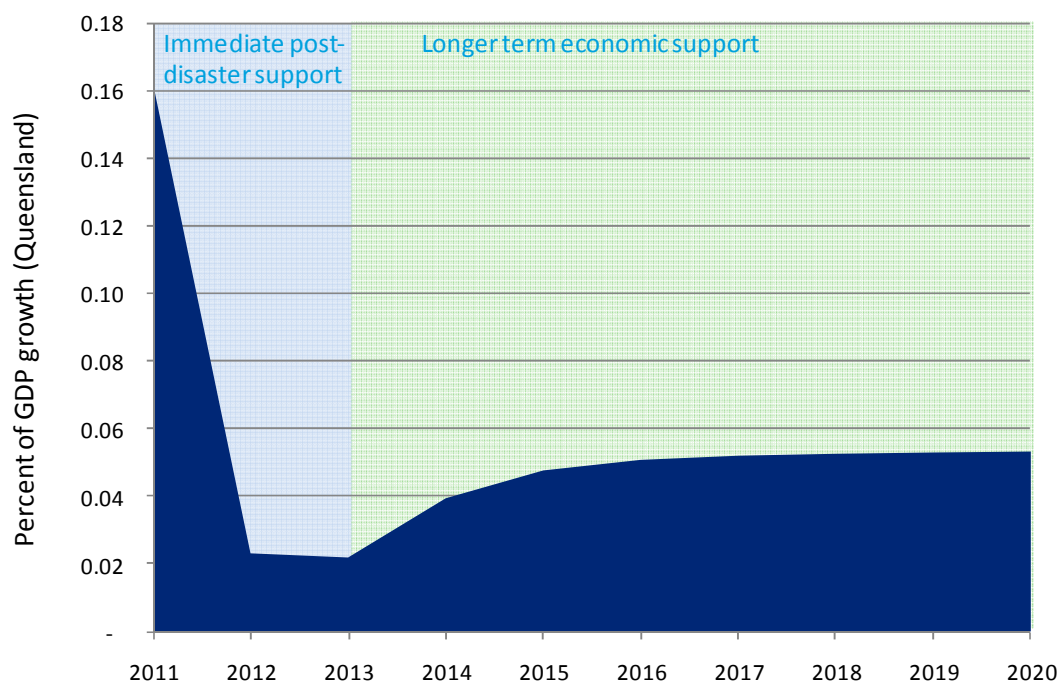
4.2 Economic analysis of Suncorp’s claims payments

Analysis of Suncorp’s claims profile following the natural disasters highlights the immediate and substantial contribution to Queensland’s economic performance.

Chart 4.1 outlines the contribution of claims-related expenditure to Queensland GDP growth over the next 10 years. As expected, it is concentrated in 2011, with 0.16% contribution to growth. In this year, Suncorp’s claims payments contributed an additional \$422.3 million to the Queensland economy. Crucially, this impact ‘hit the ground’ when activity was most disrupted, in the direct aftermath of the disaster events.

After this immediate injection of funds (light blue shaded area in Chart 4.1), ongoing claims payments continue to flow through the economy providing an important impetus to recovery in the longer term (see green shaded area). This pattern of support principally represents the impact of construction-intensive activities which, although it takes longer to materialise, yields a sustained and stable stimulus effect. In 2020, the economic contribution from claims payments is estimated at around \$210 million.

Chart 4.1: Contribution to GDP growth, 2011 - 2020



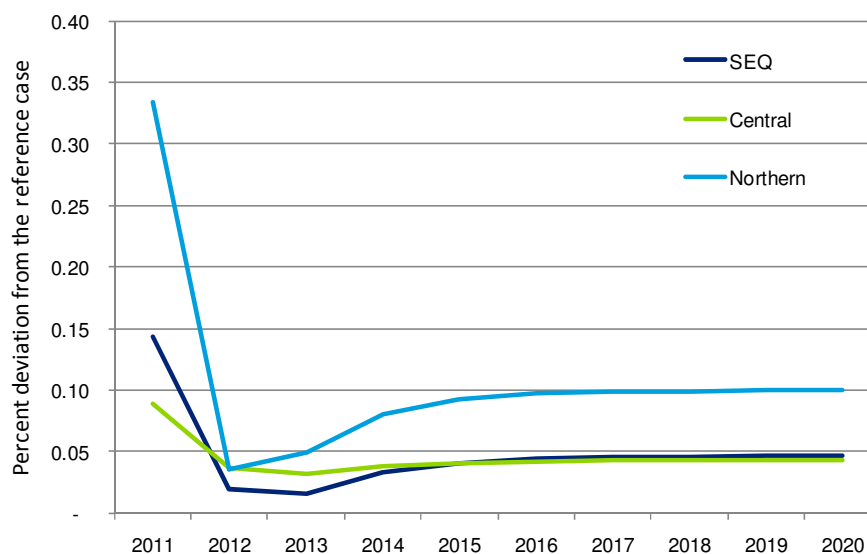
Source: Deloitte Access Economics estimates

Chart 4.2 outlines the regional impacts of the event-related expenditure. As noted above, regional communities across the State have a narrower economic base than in South East Queensland. As such, insurance often plays a more acute role in mitigating the damage to physical capital and restoring normal economic activities. Suncorp plays a key support role in regional Queensland given it is the dominant provider of catastrophe risk to businesses

and households, with about 50% of the overall insurance market in northern parts of the State.

The analysis highlights the comparatively higher economic impact from Suncorp’s claims expenditures in regional parts of the State. This reflects the smaller size of these regional economies and the *relatively* larger fiscal stimulus from claims payments.

Chart 4.2: Economic impact, GDP, 2001 - 2020



Source: Deloitte Access Economics estimates

Table 4.4 outlines the impacts on GDP across Queensland. In the first year of reconstruction, the insurance claims contribute just over \$422.3 million to GDP growth in the State, with most of this in South East Queensland. In total, claims-related expenditure contributes just over \$1.2 billion to Queensland’s GDP growth over the next 10 years in present value terms.

This represents the estimated contribution over and above that provided by governments in their post disaster responses.

Table 4.4: Economic impacts, contribution to GDP

	NPV	2011	2015	2020
	\$ million	\$ million	\$ million	\$ million
South East Queensland	768.6	265.0	92.0	131.3
Central	126.9	29.3	16.2	21.4
Northern	342.8	122.2	41.0	55.0
Rest of Queensland	8.1	5.8	0.8	1.8
Queensland	1,246.4	422.3	150.0	209.6
Rest of Australia	-108.6	-54.4	-6.7	-16.3
Australia	1,137.8	367.9	143.3	193.3

Note: Based on total insurance claims of \$1.035 billion, comprising \$631 million in paid claims (at September 2011) and \$404 million in reserve claims.

Source: Deloitte Access Economics estimates

Table 4.5 outlines the regional impacts on employment. In the first year of reconstruction, about 3,700 full time jobs are generated, with most of these located in South East Queensland. As the reconstruction efforts moderate, the positive employment impact also scales down. At 2020, around 10 years after the disasters, employment is boosted by around 500 full time jobs.

Table 4.5: Economic impacts, contribution to employment

	2011	2015	2020
	<i>FTE</i>	<i>FTE</i>	<i>FTE</i>
South East Queensland	2,302	171	299
Central	280	28	44
Northern	998	83	138
Rest of Queensland	75	5	11
Queensland	3,656	287	492
Rest of Australia	-834	-52	-144
Australia	2,822	235	348

Source: Deloitte Access Economics estimates

4.3 Sector impacts

As a result of the post major disaster event expenditure, output in the construction and trade sectors is estimated to increase significantly in 2011. In South East Queensland, construction activity increases by 1.2%; and in the Northern region, construction increases by about 3.2% (see Table 4.6).

Table 4.6: Reconstruction sector output, 2011, deviation from reference case (%)

2011	South East Queensland	Central	Northern
Construction	1.22	1.19	3.23
Trade	0.48	0.58	0.76

Source: Deloitte Access Economics estimates

Over the longer term, as the stimulus effect from the reconstruction effort subsides, industrial output is estimated to move back towards the baseline activity (see Table 4.7). This is particularly the case for both the reconstruction sectors of trade and construction. In the Northern region, construction activity above the baseline reduces from 3.23% in 2011 to 0.18% in 2020.

The contribution to performance in the construction and retail sectors, especially over the short term, is an important facet of Suncorp's claims stimulus. Both retail activity and residential construction (as opposed to more resource focused heavy construction) in Queensland have been areas of particular economic weakness over the last few years. These sectors are the largest direct recipients of insurance payouts from Suncorp policyholders affected by the disasters.

Chart 4.3 and Chart 4.4 shows the recent performance of these sectors, and include Deloitte Access Economics' projections of output over the immediate term. While the post-

disaster claims payments are considered to play a key role in restoring growth conditions, these forecasts are also much dependent on other external and cyclical economic factors.

Table 4.7: Industrial output, all sectors, 2020, deviation from reference case (%)

2020	South East Queensland	Central	Northern
Agriculture	0.03	0.03	0.06
Coal	0.05	0.05	0.11
Oil	0.07	0.06	0.14
Gas	0.05	0.05	0.14
Other Mineral Mining	0.06	0.05	0.12
Processed Foods	0.04	0.04	0.10
Manufacturing	0.07	0.07	0.15
Electricity	0.05	0.05	0.14
Water	0.06	0.08	0.16
Construction	0.10	0.09	0.18
Trade	0.04	0.04	0.08
Transport	0.04	0.04	0.10
Communications	0.05	0.05	0.11
Finance and Insurance	0.05	0.04	0.11
Business Services	0.05	0.05	0.11
Recreation	0.06	0.06	0.13
Other Services and Government	0.02	0.02	0.04

Source: Deloitte Access Economics estimates

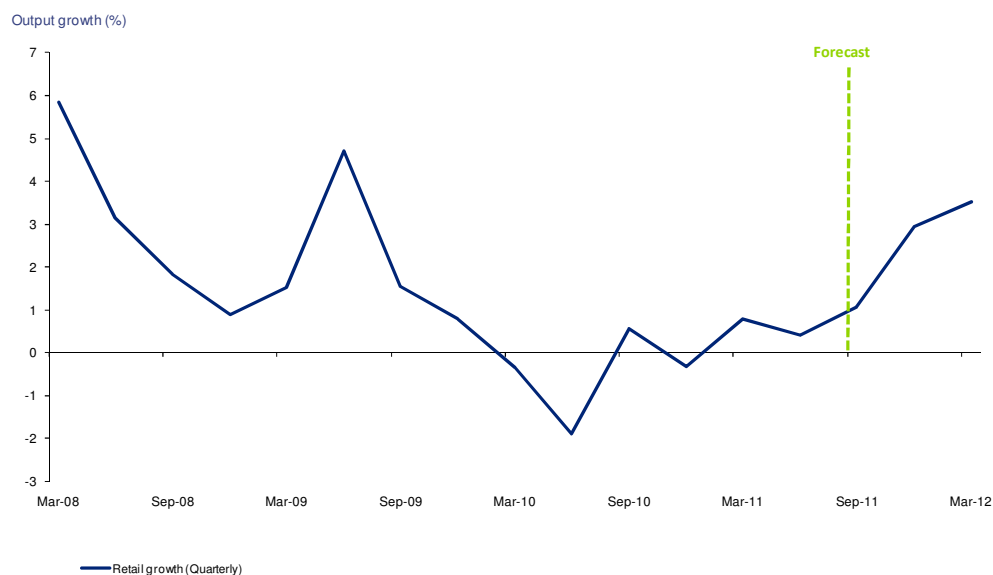
Chart 4.3: Residential construction output in Queensland (change on year earlier)



Note: Output in sector is relatively volatile and is shown as a four year moving average.

Source: Deloitte Access Economics

Chart 4.4: Retail trade output in Queensland (change on year earlier)



Source: Deloitte Access Economics

4.4 Sub-regional and localised impacts

At the Local Government (LGA) level, Brisbane is estimated to have the highest increase in Gross Regional Product (GRP) with a total increase in GRP of \$463 million as a result of the post-disaster insurance payments. Examining the other regions in South East Queensland, Ipswich experiences a \$138 million increase in GRP, due to the same stimulus effect (see Table 4.8).

The stimulus spending in the Central region increases GRP by about \$127 million over the modelling period from 2011 to 2020. GRP is highly concentrated in the Central highlands — with \$71 million in GRP — and the Western Downs region, with about \$14 million in increased GRP.

The Northern region has an increase of GRP of about \$342.8 million over the modelling period. This is concentrated in the Cassowary Coast LGA, with a GRP increase of almost \$153 million. Other LGAs with a significant increase in GRP include Townsville, Hinchinbrook and Cairns.

Table 4.8: Regional impacts of reconstruction, claims and Gross Regional Product

Region	Total claims	GRP (NPV)
	<i>\$ million</i>	<i>\$ million</i>
Brisbane	378.2	462.6
Logan	0.7	0.9
Gold Coast	1.1	1.4
Sunshine Coast	4.2	5.1
Ipswich	112.8	138.0
Southern Downs	3.4	4.1
Moreton Bay	13.2	16.1
Redland	0.2	0.3
Somerset	38.9	47.6
Scenic Rim	1.1	1.3
Toowoomba	40.9	50.0
Goondiwindi	12.2	14.9
Lockyer Valley	21.5	26.3
Total South East Queensland	628.2	768.6
Fraser Coast	1.3	1.7
Gympie	0.7	0.8
Rockhampton	7.4	9.3
Western Downs	11.1	14.0
Bundaberg	8.4	10.6
South Burnett	0.2	0.2
Barcaldine	1.1	1.4
Gladstone	5.4	6.7
Central Highlands	56.5	71.0
Isaac	0.0	0.0
Banana	8.1	10.2
North Burnett	0.8	1.0
Total Central	101.0	126.9
Cairns	23.1	26.0
Townsville	82.1	92.3
Mackay	0.7	0.8
Tablelands	3.6	4.0
Whitsunday	2.2	2.5
Charters Towers	9.4	10.6
Hinchinbrook	31.4	35.2
Cook	12.8	14.4
Cassowary Coast	136.3	153.1
Burdekin	3.6	4.0
Total Northern	305.2	342.8
Total	1,034.4	1,238.3

Note: Gross regional product (GRP) shown in net present value terms

Source: Deloitte Access Economics estimates

Table 4.9 outlines the employment impacts of the post-disaster stimulus spending. In general terms, they follow the same pattern as the GRP outlined above with large impacts on employment in Brisbane and Ipswich in the South East Queensland region.

In the Central region, the Central Highlands LGA is estimated to have about 156 more FTEs in 2011 as a result of the claims stimulus. In the Northern region, the Cassowary Coast and Townsville are estimated to have relatively high employment impacts in the period after the disasters, with around 446 and 269 more workers respectively.

Table 4.9: Regional impacts of reconstruction, FTE employment, 2011, 2020

Region	2011	2020
	<i>FTE</i>	<i>FTE</i>
Brisbane	1,385.9	180.2
Logan	2.6	0.3
Gold Coast	4.2	0.5
Sunshine Coast	15.2	2.0
Ipswich	413.3	53.7
Southern Downs	12.3	1.6
Moreton Bay	48.3	6.3
Redland	0.8	0.1
Somerset	142.6	18.5
Scenic Rim	4.0	0.5
Toowoomba	149.8	19.5
Goondiwindi	44.7	5.8
Lockyer Valley	78.7	10.2
Total South East Queensland	2,302.4	299.4
Fraser Coast	3.7	0.6
Gympie	1.8	0.3
Rockhampton	20.6	3.2
Western Downs	30.8	4.9
Bundaberg	23.3	3.7
South Burnett	0.5	0.1
Barcaldine	3.0	0.5
Gladstone	14.9	2.3
Central Highlands	156.4	24.7
Isaac	0.0	0.0
Banana	22.6	3.6
North Burnett	2.2	0.3
Total Central	279.7	44.1
Cairns	75.6	10.4
Townsville	268.7	37.1
Mackay	2.2	0.3
Tablelands	11.7	1.6
Whitsunday	7.3	1.0
Charters Towers	30.7	4.2
Hinchinbrook	102.6	14.2
Cook	42.0	5.8
Cassowary Coast	445.9	61.6
Burdekin	11.7	1.6
Total Northern	998.4	137.9
Total	3,580.6	481.3

Source: Deloitte Access Economics estimates

Appendix A: General equilibrium model

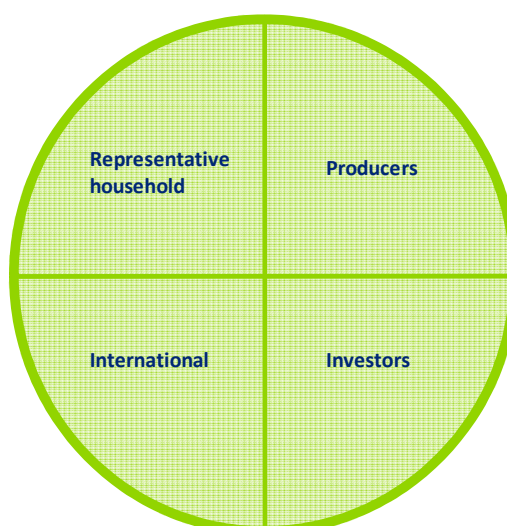
DAE-RGEM is a large scale, dynamic, multi-region, multi-commodity computable general equilibrium model of the world economy. The model allows policy analysis in a single, robust, integrated economic framework. It projects changes in macroeconomic aggregates such as for GDP, employment, export volumes, investment and private consumption. At a sectoral or industry level, detailed results such as output, trade flows and employment are also produced.

The model is based on a set of key underlying relationships between different groups of agents in the economy: households, producers, investors and international agents. Each of these groups is represented as a discrete *component* in the model. The relationships between components are solved simultaneously and, as such, there is no logical start or end point to conceptualise the model's operation.

Figure A.1 shows the key components of the model for an individual region. Regions can be specified for particular analyses and can be entire countries (or multi-country regions like the Euro Zone or East Asia) or specific areas of a country like Australian States and Territories.

The model's database and broad economic foundations are outlined below.

Figure A.1: Key components of DAE-RGEM



The database

DAE-RGEM is underpinned by a detailed global database. This is derived from the Global Trade Analysis Project (GTAP), which produces a global database for general equilibrium

modelling that covers 113 regions or countries and 57 industry sectors (the base year is 2004).

The Australian component of the database is provided by the Productivity Commission and is based on Australian input-output tables developed by the Australian Bureau of Statistics. As noted, the model also splits Australian economic activity into States and Territories, thus allowing regional analysis to be undertaken.

The base data quantifies the economic flows between sectors, including bilateral trade, and also accounts for greenhouse gas emissions from fossil fuel combustion. The database is 'benchmarked' or calibrated so that an initial equilibrium solution exists that replicates actual sectoral production, consumption, trade and factor usage in the base year (2004).

Economic foundations of the model

Income, consumption and savings

- Each region contains a 'representative household' that receives all income from factor payments (labour, capital, land and natural resources), taxes and net foreign income from borrowing (lending).
- Under standard economic setting (otherwise known as the model's closure), savings are a function of the rate of return on capital which reflects the return on savings. Government consumption moves in line with national income. Household consumption, therefore, is determined as the residual of national income, savings and government consumption.
- At the detailed level, household consumption for composite goods is determined by minimising expenditure via a CDE (Constant Differences of Elasticities) expenditure function. For most regions, households can source consumption goods only from domestic and imported sources. In the Australian regions, households can also source goods from interstate. In all cases, the choice of commodities by source is determined by a CRESH (Constant Ratios of Elasticities Substitution, Homothetic) utility function.
- Government consumption for composite goods, and goods from different sources (domestic, imported and interstate), is determined by maximising utility via a C-D utility function.
- Producers supply goods by combining aggregate intermediate inputs and primary factors in fixed proportions (the Leontief assumption). Composite intermediate inputs are also combined in fixed proportions, whereas individual primary factors are combined using a CES (constant elasticity of substitution) production function.
- Producers are cost minimisers, and in doing so choose between domestic, imported and interstate intermediate inputs via a CRESH production function.
 - The model contains a more detailed treatment of the electricity sector that is based on the 'technology bundle' approach for general equilibrium modelling developed by ABARE (1996).
- The supply of labour is influenced by movements in the real wage rate and is governed by an elasticity of supply parameter. This implies that changes in the demand for labour, positively or negatively, will impact both the level of employment and the wage rate.

Investment

- Investment takes place in a global market and allows for regions to have different rates of return that reflect their individual risk profiles and policy impediments to investment. A global investor ranks countries as investment destinations based on two factors: the current level of global economic growth and comparative regional rates of return.
- Once aggregate investment is determined in each region, the regional investor constructs capital goods by combining composite investment goods in fixed proportions, and minimises costs by choosing between domestic, imported and interstate sources for these goods via a CRESH production function.

Market clearing

- Prices are determined via competitive market-clearing conditions that require sectoral output (supply) to equal the amount sold (demand) to final users (households and government), intermediate users (firms and investors), foreigners (international exports), and other Australian regions (interstate exports).
- Internationally traded goods (imports and exports) are differentiated by the country of origin and treated as imperfect substitutes (according to the so-called Armington assumption). But in relative terms, imported goods from different regions are treated as closer substitutes than domestically-produced goods and imported composites. Goods traded interstate within the Australian regions are assumed to be closer substitutes again.

International

- Each of the components outlined above operate, simultaneously, in each region of the model. That is, for any simulation the model forecasts changes to trade and investment flows within, and between, regions subject to optimising behaviour by producers, consumers and investors. This implies some global conditions must be met such as balancing of global exports and imports and for global debt repayments and debt receipts to equalise each year.

Some stylised dynamics in the model

- **The representative household**

Moving clockwise around Figure A.1 from the top left quadrant, the representative household interacts with producers in two ways. First, in allocating expenditure across household and government consumption, demand for production is sustained. Second, the representative household owns and receives all income from factor payments (labour, capital, land and natural resources) as well as net taxes. Factors of production are used by producers as inputs into production along with intermediate inputs. The level of production, as well as supply of factors, determines the amount of income generated in each region.

The representative household interacts with investors through the supply of investable funds (that is, savings). Linkages with the international sector occur via trade in goods and capital. Importers compete with domestic producers in consumption markets, and regions lend or borrow money from each other.

- **Producers**

Apart from selling goods and services to households and government, producers sell products to each other (intermediate usage) and to investors.

Capital is an input into production. Investors respond to the conditions facing producers in a region to determine the amount of investment. Generally, increases in production are accompanied by increased investment. For example, making machinery, constructing buildings and other similar activities — which form the basis of a region's capital stock — are undertaken by producers. In this way, investment demand adds to household and government expenditure from the representative household, to determine the demand for goods and services in a region.

Producers also interact with international markets in two main ways. First, they compete with producers in overseas regions for export markets, as well as in their own region. Second, they use inputs from overseas in their production.

- **Investors**

Investment takes place in a global market, with regions having different rates of return based largely on their risk profile. Investors seek to optimise their investments by directing capital to countries according to prevailing levels of economic growth and the comparative attractiveness of countries as global investment destinations.

- **International**

Each of the components outlined above operate, simultaneously, in each region of the model. That is, for any simulation the model forecasts changes to trade and investment flows within, and between, regions subject to optimising behaviour by producers, consumers and investors. This implies some global conditions must be met such as balancing of global exports and imports and for global debt repayments and debt receipts to equalise each year.

References

- Access Economics 2007, *Allocation of climate change risk*, report prepared for the Victorian Department of Treasury and Finance.
- Australian Bureau of Statistics, National Accounts: National Income, Expenditure and Product, Mar 2011, Cat No. 5206.0, www.abs.gov.au, accessed 19 June 2011.
- Australian Treasury 2011, *Budget 2011-12 – Budget Paper No. 1: Budget Statement 2*, Australian Government, http://www.budget.gov.au/2011-12/content/bp1/html/bp1_bst2-04.htm, accessed 1 September 2011.
- Bureau of Meteorology 2011, www.bom.gov.au.
- Bureau of Transport Economics 2001, *Economic costs of natural disasters in Australia*, Australian Government, <http://www.bitre.gov.au/info.aspx?ResourceId=199&NodeId=22>, accessed 1 September 2011.

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