Economic impacts of stimulus for the Accommodation and Food Services Sector

Report to the Australian Hotels Association

20 July 2020

Building a better working world

NOTICE

Ernst & Young was engaged on the instructions of the Australian Hotels Association ("Client", "AHA") to provide an assessment of the potential economic impacts of selected stimulus measures on the Accommodation and Food Services sector in Australia during the incidence of the COVID-19 downturn ("Project"), in accordance with the engagement agreement dated 10 June 2020.

The results of Ernst & Young's work, including the assumptions and qualifications made in preparing the report, are set out in Ernst & Young's report dated 20 July 2020 ("Report"). The Report should be read in its entirety including the transmittal letter, the applicable scope of the work and any limitations. A reference to the Report includes any part of the Report. No further work has been undertaken by Ernst & Young since the date of the Report to update it.

Ernst & Young has prepared the Report for the benefit of the Client and has considered only the interests of the Client. Ernst & Young has not been engaged to act, and has not acted, as advisor to any other party. Accordingly, Ernst & Young makes no representations as to the appropriateness, accuracy or completeness of the Report for any other party's purposes.

Any references made to the impact of COVID-19 (SARS-CoV-2) ("Coronavirus" or "Virus") on AHA in the Report are based on preliminary enquiries and are not to be interpreted as a complete commentary or as an accurate assessment of the full impact of the Virus. Neither our scope included, nor we have undertaken an analysis of potential impact of the Virus on the accommodation and food services (AFS) sector. Further, as the full impact of the Virus cannot be predicted with any degree of certainty (either for the AFS sector as a whole or individual stakeholders), the potential for unknown ramifications on consumers, supply chains, commercial counterparties (both direct and indirect to the operations of the relevant stakeholders within the AFS sector), future decisions that the relevant stakeholders may make as a result of the evolving Virus situation and potentially adverse geopolitical outcomes, means that the actual results may be further significantly impacted by the Coronavirus. The limitations of the Report should be noted and AHA should make their own determination as to whether the uncertainty of the impact of the Coronavirus would impact your decisions.

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Mr Stephen Ferguson
National Chief Executive Officer
Australian Hotels Association
27 Murray Cres
Griffith ACT 2603

20 July 2020

Economic impacts of stimulus for the Accommodation and Food Services Sector

Dear Mr Ferguson

In accordance with our Engagement Agreement dated 10 June 2020 ("Agreement"), Ernst & Young ("we" or "EY") has been engaged by the Australian Hotels Association ("you", "AHA" or the "Client") to provide an assessment of the potential economic impacts of selected stimulus measures on the Accommodation and Food Services sector in Australia during the incidence of the COVID-19 downturn (the "Services" or the "Project").

The enclosed report (the "Report") sets out the outcomes of our work. You should read the Report in its entirety. A reference to the report includes any part of the Report.

Purpose of our Report and restrictions on its use

Please refer to a copy of the Agreement for the restrictions relating to the use of our Report. We understand that the deliverable by EY will be used to support public statements which AHA will make in policy forums relating to the potential economic impacts on the industry (the "Purpose"). Subject to the terms of the Agreement, AHA may reference our independent analysis in the context of the potential economic impact of certain stimulus measures on the Accommodation and Food Services sector in Australia.

This Report was prepared on the specific instructions of AHA solely for the Purpose and should not be used or relied upon for any other purpose.

This Report and its contents may not be quoted, referred to or shown to any other parties except as provided in the Agreement. We accept no responsibility or liability to any person other than to AHA or to such party to whom we have agreed in writing to accept a duty of care in respect of this Report, and accordingly if such other persons choose to rely upon any of the contents of this Report they do so at their own risk.

Nature and scope of our work

The scope of our work, including the basis and limitations, are detailed in our Agreement and in this Report.

Our work commenced on 10 June 2020 and was completed on 20 July 2020. Therefore, our Report does not take account of events or circumstances arising after 20 July 2020 and we have no responsibility to update the Report for such events or circumstances.

In preparing this Report we have considered and relied upon information from a range of sources believed after due enquiry to be reliable and accurate. We have not been informed that any information supplied to us, or obtained from public sources, was false or that any material information has been withheld from us.

We do not imply, and it should not be construed that we have verified any of the information provided to us, or that our enquiries could have identified any matter that a more extensive examination might disclose. However, we have evaluated the information provided to us by AHA as well as other parties through enquiry, analysis and review.

The work performed as part of our scope considers information provided to us and a combination of input assumptions relating to future conditions, which may not necessarily represent actual or most likely future conditions. Additionally, modelling work performed as part of our scope inherently requires assumptions about future behaviours and market interactions, which may result in forecasts that deviate from future conditions. There will usually be differences between estimated and actual results, because events and circumstances frequently do not occur as expected, and those differences may be material. We take no responsibility that the projected outcomes will be achieved, if any.

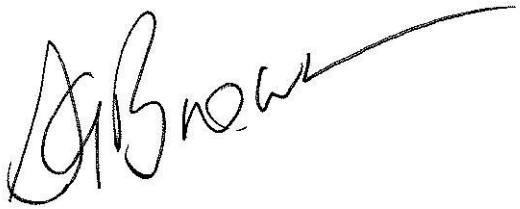
We highlight that our analysis and Report do not constitute investment advice or a recommendation to you on a future course of action. We provide no assurance that the scenarios we have modelled will be accepted by any relevant authority or third party.

Our conclusions are based, in part, on the assumptions stated and on information provided by AHA and other information sources used during the course of the engagement. The modelled outcomes are contingent on the collection of assumptions as agreed with AHA and no consideration of other market events, announcements or other changing circumstances are reflected in this Report. Neither Ernst & Young nor any member or employee thereof undertakes responsibility in any way whatsoever to any person in respect of errors in this Report arising from incorrect information provided by AHA or other information sources used.

This letter should be read in conjunction with our Report, which is attached.

Thank you for the opportunity to work on this project for you. Should you wish to discuss any aspect of this Report, please do not hesitate to contact Bob Scealy on 0410 323 301.

Yours sincerely,



Steve Brown
Partner

1. Introduction

The economic shockwave from the Covid-19 shutdown is historically unprecedented. To manage the public health crisis, many parts of the Australian economy were locked down and are only now starting to re-open, albeit with considerable restrictions which differ state to state.

Australia's accommodation and food services sector has been impacted by Covid-19, with many businesses unable to trade for months and a widespread layoff of workers. The longer the crisis endures, the longer businesses in the sector will take to return to normal operations, and some are likely to be severely financially distressed.

The Australian Hotels Association (AHA) engaged EY to assess the potential economic impacts of selected stimulus measures aimed at supporting the accommodation and food services (AFS) sector during the current Covid-19 economic downturn.

Two potential options to support the sector through the crisis have been proposed by AHA:

- Suspending fringe benefits tax (FBT) on meal and beverage entertainment and accommodation expenses for three years
- Extending the current JobKeeper support program for a period of six-months, from October 2020 to March 2021.

This report provides an economic assessment of these options, including their potential to stimulate activity in the AFS sector and the wider economy, and their likely costs to government. Details of the analysis and underpinning assumptions are provided in the appendices to this report.

2. A brief profile of Australia's accommodation and food services sector

Australia's AFS sector comprises a wide range of businesses, including accommodation services such as hotels, motels and serviced apartments, as well as restaurants, cafés, takeaways, pubs and bars. The sector is large and has a strong impact on the Australian economy – in the year ending June 2019, the AFS industry contributed around $43 billion of gross value added.[1]

With almost 100,000 establishments and 79,000 enterprises (Table 1), the industry acts as a key source of employment for thousands of people in Australia. In fact, over 900,000 people are directly employed by the sector. This includes about 800,000 people working in food and beverage services and a further 100,000 people within the accommodation industry.[2]

Notable occupations include restaurant and hotel managers, bar attendants, baristas, casual waiters, sales assistants and receptionists. As seen in Table 1, many of Australia's AFS businesses are takeaway services, cafes and coffee shops. This is also reflected in the high proportion of workers in fast food establishments and restaurants. Many people working in takeaway stores and restaurants are younger workers, who are often casual employees. This story also rings true for the rest of the industry, with a high proportion of the AFS workforce consisting of casual staff[3].

Table 1: AFS Businesses in Australia

	Hotels and resorts	Pubs, bars and nightclubs	Social clubs	Restaurants	Cafes and coffee Shops	Fast food and takeaway food	Total
Establishments	1,673	8,578	5,753	22,198	23,689	36,666	98,557
Enterprises	618	6,182	4,846	20,906	21,262	25,527	79,341

Source: IBISWorld, 2020

The AHA is made up of over 5,000 members[4] and the majority of these members are located in New South Wales and Victoria. Major players in the AFS sector include AAPC Limited, which incorporates major brand names such as Marriott, Hyatt, Radisson, IHG, Accor and Rydges, as well as Woolworths Group and McDonald's Australia Holdings Pty Limited. Much of the clubs, food and beverages industries are highly fragmented and consist of smaller owner-operated businesses.

The industry has been particularly affected by the restrictions in place due to Covid-19. The shutdowns in the economy, border closures and social distancing restrictions have prompted a number of AFS businesses to temporarily close, both in response to trading conditions and as a mandated requirement. On top of this, many affected workers would not have access to JobKeeper due to the casual nature of their employment (including short term casual and migrant workers).

[1] Source: Australian Bureau of Statistics, 5204.0 - Australian System of National Accounts 2018-19, 'Table 5: Gross Value Added (GVA) by Industry', https://www.abs.gov.au/AUSSTATS/abs@.nsf/Lookup/5249.0Main+Features12018-19?OpenDocument. Accessed 30/06/20

[2] Source: Australian Industry and Skills Committee, 2020, 'Hospitality', https://nationalindustryinsights.aisc.net.au/industries/tourism-travel-and-hospitality/hospitality. Accessed 30/06/20

[3] TableBuilder query. 2016 Census - Employment, Income and Education dataset. Source: https://www.abs.gov.au/websitedbs/D3310114.nsf/Home/Census?OpenDocument&ref=topBar

[4] Source: https://aha.org.au/

Recent ABS data[5] highlights the stark impact of the crisis on the AFS sector:

- 84% of businesses reported decreased revenue, with 53% reporting revenue decreases of 50% or greater. This is the highest proportion of any industry to report revenue decreases in this range.
- 73% of businesses changed their operating hours. This is the highest of any industry and over double the economy wide average of 31%.
- 54% of businesses changed the types and range of products and services offered, again the highest of any industry and over double the economy wide average of 22%.
- 15% of businesses reported that their operations could be supported by less than a month through currently available cash at hand, once again the highest of any industry.

2.1 Fringe Benefits, JobKeeper and the AFS sector

Two government measures to support the sector manage the Covid-19 downturn and reignite economic activity have been identified by AHA. These involve a temporary suspension of Fringe Benefit Tax (FBT) on accommodation and meal entertainment; and an extension of the JobKeeper subsidy payments.

A fringe benefit is defined by the Australian Taxation Office as the provision of a benefit to an employee in a form other than salary or wages,[6] such as businesses paying for meals and accommodation etc which are classed as entertainment.

This form of meal entertainment comprises approximately 4.4% of the total taxable value of fringe benefits each year based on data from 2009-2018 and replicated in Table 2. Table 2 shows the taxable value of meal entertainment and total fringe benefits over this period, representing $397 million in 2017/18 out of a total fringe benefits taxable amount of $8,356 million.

Although meal entertainment forms a small portion of the total fringe benefits taxable value, expenditure on business meal entertainment for their employees contributes a significant amount to the sector's revenue as shown in Table 2. The taxation treatment of meal entertainment is therefore an important consideration for the industry.

Appendix B provides an additional overview of 2016-17 gross taxable meal entertainment value for each industry.

Table 2: Fringe benefits and meal entertainment taxable values, 2009/10-2017/18[7]

	Total fringe benefits taxable amount	Meal entertainment - Gross taxable value
2009/10	$7,625	$339
2010/11	$7,951	$386
2011/12	$8,050	$398
2012/13	$8,677	$371
2013/14	$9,117	$359
2014/15	$9,155	$368
2015/16	$9,146	$375
2016/17	$8,767	$394
2017/18	$8,356	$397

[5] Source: Australian Bureau of Statistics, 5676.0.55.003 - Business Indicators, Business Impacts of COVID-19, June 2020 - https://www.abs.gov.au/AUSSTATS/abs@.nsf/DetailsPage/5676.0.55.003June%202020?OpenDocument. Accessed 25/6/2020

[6] Australian Taxation Office, https://www.ato.gov.au/General/fringe-benefits-tax-(fbt)/. Accessed 19/06/2020.

[7] Taxation statistics, 2009-2018, https://data.gov.au/data/dataset/taxation-statistics-2016-17/resource/ddf6b851-1a59-4b4f-a2f1-802d26b26db2. Accessed 19/06/2020.

The JobKeeper Payment scheme is a temporary business subsidy from the government where eligible businesses can apply to receive $1,500 per employee per fortnight.[8] The scheme supports businesses affected by Covid-19 by helping with the cost of wages, enabling more Australians to retain their jobs and continue earning an income.

Enrolments for JobKeeper opened on 20 April 2020, with fortnightly payments expected to be made from 25 May 2020 to 27 September 2020. As at 20 May 2020:[9]

- 910,055 Australian business had enrolled in the scheme
- $8.7 billion in payments had been approved
- JobKeeper payments covered approximately 2.9 million employees

Approximately 67% of businesses in accommodation and food services sector indicate that JobKeeper has influenced their employment decisions.[10] As such, AHA believes that the potential extension of the program might be a critical factor in helping support many at-risk workers and businesses until trading conditions begin to normalise.

[8] Australian Taxation Office, JobKeeper Payment - https://www.ato.gov.au/general/jobkeeper-payment/. Accessed 26/06/2020

[9] Australian Government Treasury, JobKeeper Update - https://treasury.gov.au/media-release/jobkeeper-update. Accessed 26/06/2020.

[10] 5676.0.55.003 - Business Indicators, Business Impacts of COVID-19, April 2020, available at https://www.abs.gov.au/AUSSTATS/abs@.nsf/allprimarymainfeatures/618D7C8455B65D65CA258575007E6473?opendocument, last accessed 26/6/2020. Note that exact data is not provided, and so estimates have been drawn from the graph presented in "Business response to Job Keeper Payment scheme".

3. Analysis of the support options

AHA has proposed two primary options which could be implemented by the Commonwealth Government to provide support for the sector — a temporary suspension of FBT for meal, beverage and accommodation expenses; and a six-month extension to JobKeeper.

These options aim to provide both short-term relief to the sector during the immediate combination of imposed restrictions and a sharp pullback in spending by consumers and businesses, as well as medium-term stimulus as both the domestic economy and international tourism rebounds.

Specific scenarios for these support options are detailed below.

Support Option 1: Suspension of FBT

This option measures the impact of a three-year suspension of fringe benefits tax on meal and beverage entertainment and accommodation expenses, intended to provide stimulus to the sector over the medium term.

Two key coverage options are examined:

- Option 1A examines a three-year suspension of FBT expenses prescribed for all businesses in the sector.
- Option 1B examines an FBT exemption which applies to small and medium enterprises only.

Both options are proposed to operate for a three-year period from 2020/21 to 2022/23.

Support Option 2: JobKeeper Extension

This option involves extending the current JobKeeper support program for another six-month period to provide additional short-term relief to the sector. Under the scheme, JobKeeper would extend from October 2020 to March 2021.

Consultation with AHA and AusVenueCo indicates that termination of the JobKeeper program, as currently proposed, is likely to have different impacts for different sized businesses. Larger businesses are more likely to manage the removal of JobKeeper by reducing staff headcount, while smaller businesses are less able to reduce staff levels and are more likely to close altogether. At the start of 2018/19 there were approximately 86,600 businesses in the AFS sector with under 20 employees[11].

On this basis of these industry risks, the impacts of this option are driven by a reduced rate of businesses closure, expressed as a percentage of the rate of closure observed in the most recent ABS data. The rates of business exit within the sector under normal economic conditions is presented in Appendix A.

[11] Source: ABS, 8165.0 - Counts of Australian Businesses, including Entries and Exits, June 2015 to June 2019

Within this option, four alternative scenarios are examined, based on the transition of unemployed workers to other forms of welfare support (fortnightly JobSeeker payments of either $1,100 or $550) and the potential closure of businesses in the sector if support is withdrawn and challenging business conditions continue. The scenarios are summarised in Table 3.

Table 3: Summary of modelled JobKeeper extension options			
Scenario	Fortnightly JobSeeker payment	Fortnightly JobKeeper payment	Potential Businesses saved as a share of normal business closure rate
Option 2A	$1,100	$1,500	25%
Option 2B	$1,100	$1,500	50%
Option 2C	$550	$1,500	25%
Option 2D	$550	$1,500	50%

What impacts are examined?

The support options identified involve direct costs to government. These occur through the reduced FBT revenues (Option 1A and 1B) and increased effective welfare costs (Options 2A and 2B being the difference between a $1,100 JobSeeker payment and a $1,500 JobKeeper payment, and 2C and 2D being the difference between a $550 JobSeeker payment and a $1,500 JobKeeper payment), as described in Table 4.

We assume that the direct costs of the sector support options would be met through the raising of debt, consistent with announcements by the Government on how existing stimulus measures are being financed. Under these financing arrangements, there is no equivalent reduction in government expenditure elsewhere in the economy or increase in aggregate tax takings factored in the analysis.

For each support option we estimate the direct cost to government of the program, the direct impact on sector, and the economy wide impacts.

An industry specific model has been developed for this exercise, and calibrated to industry information provided by AHA, data from the Australian Taxation Office and the Australian Bureau of Statistics. A detailed description of the methodology to assess the impacts is provided in Appendix A.

Table 4: Summary of potential direct costs to Government by scenario, $m						
Year	Option 1A	Option 1B	Option 2A	Option 2B	Option 2C	Option 2D
2020/21	$286	$193	$1,561	$1,561	$3,706	$3,706
2021/22	$260	$169	-	-	-	-
2022/23	$263	$171	-	-	-	-

Source: EY estimates

3.1 Estimated impacts of support options

Each of the support options shows economic returns which are greater than the overall cost to Government, with the exception of Option 2C.

- For the FBT exemption support option, limiting the exemption to small and medium enterprises (Option 1B) has a higher economic return for the costs incurred by government reflecting the lower rate of company tax paid by Small and Medium Enterprises (SMEs)[12].

- Both FBT exemption options (Options 1A and 1B) have key timing impacts. The economic returns are lower in the first year of commencement (FY21), before increasing in the remaining two years (FY22 and FY23). This reflects a likely moderated response by businesses due to social distancing concerns and a general cautiousness on cost control.

- The potential extension of JobKeeper involves varied economic returns, driven by marked differences in the weekly costs of welfare alternatives for workers (fortnightly JobSeeker payments of either $1,100 or $550) and the assumed rate of business closure avoided.

    - Where the alternate fortnightly income support for unemployed workers is higher (that is, JobSeeker at a rate of $1,100 a fortnight), the effective cost of JobKeeper as an alternative is lower, and therefore the economic returns per dollar of cost are higher. This is seen in Scenarios 2A and 2B, which share a common direct cost to Government as shown in Table 4.

    - Where the assumed rate of business closure avoided is higher, the effective economic returns from the support option are also higher, as seen in Options 2B and 2D.

    - The sensitivity of the GDP to dollar of cost to Government shown in Table 5 reinforces the importance of program design, directing support to the most vulnerable businesses in the economy.

Table 5 summarises the results of each of the four scenarios in terms of the potential increase in AFS activity, the increase in GDP, the increase in employment and the increase in GDP per dollar of cost to government.

Table 5: Scenario summary potential results by financial year

		Support option					
		Temporary FBT exemption		Extending JobKeeper			
		1A	1B	2A	2B	2C	2D
Impact on sector output, $m	2020/21	$214	$162	$1,286	$2,517	$1,286	$2,517
	2021/22	$525	$397	-	-	-	-
	2022/23	$530	$401	-	-	-	-
Impact on GDP, $m	2020/21	$539	$408	$3,238	$6,475	$3,238	$6,475
	2021/22	$850	$644	-	-	-	-
	2022/23	$855	$647	-	-	-	-
Impact on employment, FTE	2020/21	3,844	2,911	23,109	46,217	23,109	46,217
	2021/22	4,209	3,188	-	-	-	-
	2022/23	4,230	3,204	-	-	-	-
GDP per dollar of cost to government	2020/21	$1.89	$2.11	$1.69	$3.38	$0.71	$1.42
	2021/22	$3.26	$3.81	-	-	-	-
	2022/23	$3.25	$3.79	-	-	-	-

Source: EY estimates

[12] Small and Medium Enterprise (SME) is defined as businesses with under $50 million annual turnover as per the Prosperity Advisers report "FBT on Meal Entertainment Hospitality Reignition Study for the AHA".

Appendix A Approach to option design

The first step in estimating the economy wide impacts is determining the direct impact of each of the measures. A range of data sources and models are drawn upon to develop first round estimates of the potential increase in output for the AFS sector as a result of FBT exemptions or industry based JobKeeper extensions. While each scenario draws on similar input data, the specifics of each scenario calls for tailored estimation approaches. Each of the estimation methodologies are outlined in the subsections below.

Once the direct impacts of each scenario are estimated, the second step is to develop economy wide estimates of the impacts using EY's in-house computable general equilibrium (CGE) model, the EYGEM model. EYGEM is a large scale, dynamic, multi-region, multi-commodity CGE model of the Australian and world economy. CGE models are used extensively by (for example) the Australian Government to assess the economy-wide impacts of major policy changes and economic developments. A detailed description of the EYGEM model is presented in Appendix D.

The direct outputs of each of the estimation exercises described below are used to calibrate a series of economic 'shocks' that are applied to the EYGEM model. The results of these shocks are described in Section 1.4.

Options 1A and 1B

Each of these stimulus scenarios call for a three-year suspension of fringe benefits tax on meal and beverage entertainment and accommodation expenses from financial year 2020/21 to financial year 2022/23. Differentiating the scenarios is the scope of the suspension, with Scenario 1A calling for the suspension to be applied to all businesses regardless of size, while Scenario 1B calls for the suspension to be restricted to SME only.

Estimation of the direct industry response, the cost to Government, and the economy wide impact follows a three step process where we first estimate the existing and forward level of FBT collection, second we estimate the direct behavioural response to the effective tax reduction, and third we apply the increased industry output to the EYGEM model. The detailed approach is as follows:

1. The most recent taxation statistics available from the Australian Taxation Office[13] provides the fringe benefits tax paid on meal entertainment, at $387,185,184 for the financial year 2017/18.

2. The most recent national accounts from the Australian Bureau of Statistics[14] provide data on total fringe benefits tax collections on a quarterly basis to March 2020. EY calculations based on this data indicate an increase in total FBT collections of 2.54% from 2017/18 to 2019/20. This increase in FBT takings is used to estimate meal entertainment and accommodation FBT in 2019/20 of $397,058,203.

3. Weekly revenue data provided by AHA for AusVenueCo[15] shows the level of revenue decline experienced to date. This data is used to calibrate a projection of meal entertainment and accommodation FBT takings to 2022/23, suggesting reductions in these FBT takings from 2018/19 of 23% in 2019/20, 26% in 2020/21, 11% in 2021/22, and 0% in 2022/23. This FBT profile is used as the base for calculations in Scenario 1A.

[13] Source - Taxation statistics 2016-17 Fringe benefits tax: Selected items by industry and taxable status, 2017-18 FBT return year. Available at https://www.ato.gov.au/About-ATO/Research-and-statistics/In-detail/Taxation-statistics/Taxation-statistics-2016-17/?page=18#Fringe_benefits_tax, last accessed 26/6/2020. Note that while this publication is primarily for financial year 2016/17, selected data including on Fringe Benefits Tax is provided for financial year 2017/18.

[14] Source - 5206.0 Australian National Accounts: National Income, Expenditure and Product, Table 22. Available at https://www.abs.gov.au/AUSSTATS/abs@.nsf/DetailsPage/5206.0Mar%202020?OpenDocument, last accessed 26/6/2020.

[15] AusVenueCo operate 170 pubs, bars and taverns across Australia in all states and territories with the exception of Tasmania.

4. The report 'FBT on Meal Entertainment Hospitality Reignition Study for the AHA' dated 29 May 2020 by Prosperity Advisers QLD indicates that 75.74% of meal entertainment and accommodation FBT is collected from SMEs. This proportion is used to reduce the base of FBT takings calculated previously and provides the FBT base for Scenario 1B.

5. Own price elasticities for the categories "Food Away from Home and Alcohol" and "Full Service Restaurant" are drawn from Okrent and Alston[16], at 0.71 and 1.96 respectively. Noting the wide range in these two elasticities and that the nature of the FBT expenses under investigation is likely to include a combination of these categories we choose a midpoint of 1.335.

6. The own price elasticity is applied to reduction in the effective tax collection calculated above for Scenarios 1A and 1B. We make the assumption that over the short-term business is likely to be less responsive to pure price signals than usual, and to have a stronger focus on the real and perceived safety risks of staff gatherings, and so for financial year 2020/21 we halve the own price elasticities estimated above.

7. The resulting profile of industry output increase is then used as an output shock for the accommodation and food services sector in the EYGEM model.

8. The Prosperity Advisers QLD report (refer 4. above) provides estimates of the total direct (that is, before behavioural changes) loss of revenue to government as a result of suspension of FBT, with a total loss of $1.12 for every $1 of FBT suspension in Scenario 1A, and a total loss of $1.02 for every $1 of FBT suspension in Scenario 1B, reflecting differences in the rate of corporate tax applied for each entity. Additionally, the report indicates that each additional dollar of expenditure spent on meal entertainment results in an increase in tax revenue of $0.34. These ratios are applied to the reduced FBT base and the estimated increase in AFS output respectively to calculate the total cost to government.

On the basis of the process above, we estimate a direct potential increase in output in the AFS sector as described in Table 6 below.

Table 6: Potential Increase in AFS activity, $m, Scenarios 1A and 1B

	Scenario 1A	Scenario 1B
2020/21	$214	$162
2021/22	$525	$397
2022/23	$530	$401

Options 2A, 2B, 2C and 2D

Scenarios 2A to 2D estimate the economic impacts of an extension to the current JobKeeper payment over the period from October 2020 to March 2021. Scenarios 2A and 2B measures the impact against a counterfactual of those employees receiving JobSeeker at the rate of $1,100 per

[16] Okrent, Abigail M., and Julian M. Alston. The Demand for Disaggregated Food-Away-From-Home and Food-at-Home Products in the United States, ERR-139, U.S. Department of Agriculture, Economic Research Service, August 2012. Available at https://www.ers.usda.gov/webdocs/publications/45003/30438_err139.pdf?v=5049.9, last accessed 26/6/2020

fortnight, while Scenarios 2C and 2D measures the impact against those employees receiving JobSeeker at the rate of $550 per fortnight.

Consultation with the AHA and AusVenueCo suggests that larger enterprises in the sector will have enhanced capability to manage the downturn in the absence of JobKeeper by reducing staff numbers or temporary cessation of activity, while smaller enterprises will have a greater likelihood of permanent closure. Table 7 shows the rate of business exit for 2018/19.

Table 7: Business counts and exits, 2018/19

Year	Non-employing	1-19 Employees	20-199 Employees	200+ Employees
Business operating at start of 2018/19				
Accommodation	6101	5866	864	63
Cafes and Restaurants	8685	31001	3138	81
Takeaway Food Services	7738	16566	1350	128
Catering Services	1509	1897	282	27
Pubs, Taverns and Bars	1796	3208	1324	21
Clubs (Hospitality)	526	1685	687	37
Business exits, 2018/19				
Accommodation	936	498	31	3
Cafes and Restaurants	2640	5288	190	0
Takeaway Food Services	1958	2521	91	3
Catering Services	366	264	11	0
Pubs, Taverns and Bars	428	387	49	0
Clubs (Hospitality)	72	66	3	0
Business exits as a share of total, 2018/19				
Accommodation	15%	8%	4%	5%
Cafes and Restaurants	30%	17%	6%	0%
Takeaway Food Services	25%	15%	7%	2%
Catering Services	24%	14%	4%	0%
Pubs, Taverns and Bars	24%	12%	4%	0%
Clubs (Hospitality)	14%	4%	0%	0%

Source: ABS, 8165.0 - Counts of Australian Businesses, including Entries and Exits, June 2015 to June 2019

Based on the advice received from AHA and AusVenueCo, we estimate the economic impacts of this scenario as measured through a reduction in the rate of business departure as follows.

1. The ABS product Counts of Australian Businesses, including Entries and Exits, June 2015 to June 2019, Data Cube 2[17] provides data on the rate of business entry and exit by industry class and by employment size. This provides data on the number of businesses and the usual rate of exit for Accommodation, Cafes and Restaurants, Takeaway Food Services, Catering Services, Pubs, Taverns and Bars, and Clubs (Hospitality), over the four employment ranges of Non-Employing, 1-19 Employees, 20-199 Employees and 200+ employees. Explanatory notes for the publication note that "Employment excludes non-salaried directors, volunteers, persons paid by commission only, and self-employed persons such as consultants and contractors."

[17] Source: ABS 8165.0 - Counts of Australian Businesses, including Entries and Exits, June 2015 to June 2019. Available at https://www.abs.gov.au/AUSSTATS/abs@.nsf/DetailsPage/8165.0June%202015%20to%20June%202019?OpenDocument, last accessed 26/6/2020.

2. Our analysis makes a conservative assumption that the retention of JobKeeper reduces the closure rate for businesses in the Non-Employing and 1-19 Employees only. Given uncertainty on the potential for the proportion of businesses that would either close altogether or be able to adjust their trading conditions, we assume that the number of business closures avoided is either 25% of the normal rate in Scenarios 2A and 2C, or 50% of the normal rate in 2B and 2D. In Scenarios 2A and 2C this is equivalent to 16,955 AFS employees directly impacted through reduced business closure, and 33,910 employees directly impacted in Scenarios 2B and 2D.

3. The ABS product Australian Industry, 2018-19[18] provides data on the level of industry output and employment at the 1-Digit ANZSIC level. For the financial year 2018/19, the AFS sector has industry output per employee of $101,101.

4. JobKeeper provides payments of $1,500 per fortnight, compared to $1,100 per fortnight for JobSeeker at the current higher rate and $550 per fortnight at the old lower rate. Public statements by ATO spokespersons[19] indicate that for persons claiming the tax-free threshold a total of $192 would be withheld from a fortnightly $1,100 JobKeeper payment, representing an effective tax rate of 12.8%. Applying this same tax rate to JobSeeker payments of $550 per fortnight, we derive a net cost of JobKeeper per person of $174 per week in Scenarios 2A and 2B, and of $414 per week in Scenarios 2C and 2D.

Applying this ratio of industry output per employee to the number of employees impacted above, we can derive an estimate of the industry output supported through the retention of the JobKeeper program, as shown in Table 8.

Table 8: Potential Increase in AFS activity, $m, Scenarios 2A and 2B

	Scenario 2A	Scenario 2B	Scenario 2C	Scenario 2D
2020/21	$1,286	$2,517	$1,286	$2,517

[18] Source: 8155.0 - Australian Industry, 2018-19, Australian industry by subdivision. Downloaded from https://www.abs.gov.au/AUSSTATS/abs@.nsf/DetailsPage/8155.02018-19?OpenDocument. Last accessed 26/6/2020.
[19] See https://www.smh.com.au/politics/federal/expecting-a-1500-jobkeeper-payment-not-after-tax-20200501-p54p1p.html, last accessed 26/6/2020

Appendix B Meal entertainment gross taxable value by industry

Table 9 below shows the gross taxable value of fringe benefits tax – meal entertainment by 1-digit ANZSIC industry[20]. This is a representation of the value of fringe benefits provided to employees in each industry, in the form of meal entertainment.

Table 9: Meal entertainment gross taxable value by industry, $

Industry	Meal entertainment - Gross taxable value ($)
Australian Government Departments	5,314,375
All Industries	10,312,648
A. Agriculture, Forestry and Fishing	2,421,318
B. Mining	6,581,805
C. Manufacturing	31,755,096
D. Electricity, Gas, Water and Waste Services	5,881,107
E. Construction	25,476,347
F. Wholesale Trade	44,430,878
G. Retail Trade	11,450,099
H. Accommodation and Food Services	3,302,380
I. Transport, Postal and Warehousing	9,546,945
J. Information Media and Telecommunications	16,729,807
K. Financial and Insurance Services	44,156,187
L. Rental, Hiring and Real Estate Services	15,780,632
M. Professional, Scientific and Technical Services	101,467,326
N. Administrative and Support Services	17,594,412
O. Public Administration and Safety	5,504,813
P. Education and Training	12,013,397
Q. Health Care and Social Assistance	14,229,104
R. Arts and Recreation Services	3,759,024
S. Other Services	9,099,341
U. Other	690,791

[20] Source: Taxation statistics, Fringe Benefits Tax, 2016-2017, Snapshot Table 2 - https://data.gov.au/data/dataset/taxation-statistics-2016-17/resource/3c11cbfa-5a11-4d1e-8979-8fce1ff2c4d3. Accessed 19/06/2020.

Appendix C Estimates of employment by electorate

Table 10 provides estimates of the persons employed in the Accommodation and the Food and Beverage Services sectors for each electoral division in Australia as at December 2019. The definitions of both the Accommodation sector and the Food and Beverage sectors are consistent with the 2-Digit ANZSIC definitions of the sectors. The estimates in this table have been synthesised through a combination of the 2016 Census of Housing and Population[21] and the December 2019 Small Area Labour Market dataset[22].

The estimation process for the table below is as follows:

- From the Census we first extract the number of persons employed in each of the 2-digit ANZSIC sectors 'Accommodation and Food Services, nfd', 'Accommodation', and 'Food and Beverage Services'. Persons employed in the 'Accommodation and Food Services, nfd' sector are redistributed to the 'Accommodation' and 'Food and Beverage Services' sectors on a pro-rata basis.
- The Small Area Labour Market dataset provides quarterly estimates in labour force at a quarterly frequency. The percentage growth in labour force by LGA between June 2016 and December 2019 is applied to the employment derived in the previous step to provide an estimate of employment in these sectors in December 2019.
- Finally, the data is transformed from LGA to Commonwealth Electorate, using shares derived from the Census count of persons by LGA by Commonwealth Electorate.

Table 10: Accommodation and Food and Beverage Services employment by electorate, persons

Electorate	Accommodation	Food and Beverage Services	Total
New South Wales			
Banks	744	6,176	6,920
Barton	1,226	7,823	9,049
Bennelong	848	6,080	6,928
Berowra	381	3,882	4,264
Blaxland	722	5,888	6,609
Bradfield	475	4,058	4,533
Calare	1,268	4,867	6,135
Chifley	602	5,039	5,641
Cook	566	4,741	5,307
Cowper	1,485	4,657	6,143
Cunningham	671	5,354	6,025
Dobell	624	5,094	5,718
Eden-Monaro	1,937	4,816	6,752
Farrer	1,343	5,152	6,495
Fowler	356	4,631	4,987

[21] TableBuilder query. 2016 Census - Employment, Income and Education dataset. Source: https://www.abs.gov.au/websitedbs/D3310114.nsf/Home/Census?OpenDocument&ref=topBar

[22] Small Area Labour Markets publication, December quarter 2019, Table 2. Source: https://www.employment.gov.au/small-area-labour-markets-publication-0. Accessed 19 June 2020

Table 10: Accommodation and Food and Beverage Services employment by electorate, persons			
Electorate	Accommodation	Food and Beverage Services	Total
Gilmore	1,375	4,509	5,884
Grayndler	947	6,039	6,986
Greenway	609	5,070	5,678
Hughes	402	4,216	4,618
Hume	583	4,709	5,292
Hunter	1,080	5,257	6,337
Kingsford Smith	1,199	6,973	8,172
Lindsay	391	5,207	5,598
Lyne	1,146	4,102	5,248
Macarthur	530	5,107	5,637
Mackellar	506	4,688	5,194
Macquarie	1,031	3,882	4,913
McMahon	536	5,286	5,822
Mitchell	461	4,266	4,726
New England	1,082	4,325	5,407
Newcastle	773	7,097	7,870
North Sydney	844	4,953	5,796
Page	1,114	4,602	5,716
Parkes	1,196	3,736	4,932
Parramatta	824	6,251	7,075
Paterson	1,234	5,603	6,837
Reid	957	7,482	8,439
Richmond	2,058	6,039	8,097
Riverina	976	4,370	5,346
Robertson	580	4,731	5,311
Shortland	496	4,777	5,273
Sydney	2,893	15,979	18,873
Warringah	567	4,518	5,086
Watson	756	6,140	6,896
Wentworth	1,036	6,110	7,145
Werriwa	425	4,945	5,370
Whitlam	717	5,131	5,848
Victoria			
Aston	279	3,997	4,276
Ballarat	883	5,000	5,884
Batman	787	7,064	7,851
Bendigo	721	4,459	5,181
Bruce	492	5,557	6,049
Calwell	576	5,275	5,851
Casey	566	3,760	4,326
Chisholm	535	6,017	6,552

Table 10: Accommodation and Food and Beverage Services employment by electorate, persons			
Electorate	Accommodation	Food and Beverage Services	Total
Corangamite	1,215	4,982	6,197
Corio	648	5,186	5,834
Deakin	379	4,670	5,050
Dunkley	409	4,273	4,682
Flinders	821	4,603	5,424
Gellibrand	988	6,497	7,485
Gippsland	1,012	3,874	4,886
Goldstein	472	4,228	4,699
Gorton	690	6,439	7,129
Higgins	751	6,284	7,035
Holt	404	6,127	6,531
Hotham	462	4,886	5,348
Indi	1,713	3,991	5,705
Isaacs	399	4,947	5,347
Jagajaga	351	3,800	4,151
Kooyong	484	5,101	5,585
La Trobe	371	4,660	5,031
Lalor	1,224	7,557	8,781
Mallee	853	3,016	3,870
Maribyrnong	812	6,109	6,920
McEwen	682	6,315	6,997
McMillan	781	4,695	5,476
Melbourne	2,391	14,994	17,385
Melbourne Ports	1,396	8,101	9,497
Menzies	346	4,657	5,003
Murray	909	3,849	4,758
Scullin	460	5,146	5,606
Wannon	1,002	3,759	4,761
Wills	1,015	7,591	8,606
Queensland			
Blair	402	4,081	4,484
Bonner	737	5,923	6,660
Bowman	366	4,385	4,751
Brisbane	807	6,488	7,295
Capricornia	1,318	4,187	5,505
Dawson	2,365	4,278	6,643
Dickson	348	4,124	4,471
Fadden	2,627	7,309	9,936
Fairfax	1,454	5,734	7,188
Fisher	1,327	5,237	6,564
Flynn	1,346	3,702	5,048

Table 10: Accommodation and Food and Beverage Services employment by electorate, persons			
Electorate	Accommodation	Food and Beverage Services	Total
Forde	948	4,898	5,846
Griffith	776	6,239	7,015
Groom	463	3,478	3,940
Herbert	885	5,046	5,931
Hinkler	940	3,316	4,255
Kennedy	1,623	3,489	5,112
Leichhardt	3,910	6,275	10,185
Lilley	765	6,151	6,916
Longman	382	4,529	4,911
Maranoa	1,363	3,188	4,551
McPherson	2,347	6,533	8,880
Moncrieff	2,489	6,927	9,417
Moreton	779	6,257	7,036
Oxley	645	5,744	6,389
Petrie	502	5,114	5,616
Rankin	520	5,104	5,625
Ryan	765	6,149	6,915
Wide Bay	1,640	4,331	5,971
Wright	1,100	4,324	5,425
South Australia			
Adelaide	1,010	6,272	7,282
Barker	1,232	3,505	4,736
Boothby	627	4,558	5,186
Grey	1,326	3,141	4,467
Hindmarsh	834	5,486	6,320
Kingston	560	4,123	4,683
Makin	419	3,978	4,397
Mayo	971	3,836	4,807
Port Adelaide	671	4,963	5,634
Sturt	559	4,809	5,368
Wakefield	574	4,032	4,606
Western Australia			
Brand	325	4,597	4,922
Burt	516	4,937	5,454
Canning	476	3,943	4,418
Cowan	483	4,580	5,063
Curtin	500	4,474	4,974
Durack	2,150	3,505	5,655
Forrest	1,745	4,361	6,106
Fremantle	514	4,578	5,092
Hasluck	428	3,859	4,287

Table 10: Accommodation and Food and Beverage Services employment by electorate, persons			
Electorate	Accommodation	Food and Beverage Services	Total
Moore	417	3,972	4,388
O'Connor	1,557	3,179	4,736
Pearce	725	5,276	6,001
Perth	865	6,607	7,472
Stirling	584	5,323	5,907
Swan	1,011	6,597	7,609
Tangney	467	4,611	5,078
Tasmania			
Bass	848	3,052	3,900
Braddon	712	2,419	3,131
Denison	1,022	4,202	5,224
Franklin	782	2,637	3,419
Lyons	1,164	2,496	3,659
Northern Territory			
Lingiari	1,894	1,821	3,716
Solomon	1,219	3,823	5,043
Australian Capital Territory			
Canberra	1,101	6,340	7,442
Fenner	1,148	6,610	7,759

Appendix D EYGEM Model

Economic impact analysis measures the net impact of changes on an economy. It is used to measure the net change in response to a given event (e.g. such as the loss of an activity, or increased expenditure in a particular sector). The key economic metrics are expressed in terms of changes to gross domestic product, employment and other macro-economic indicators.

The EYGEM model is a large scale, dynamic, multi-region, multi-commodity CGE model of the world economy. The EYGEM model enjoys significant flexibility both at the regional and sectoral level, including the capability to individually identify subregions of Australia, including (but not limited to) at the SA4 or the LGA level as separate economic regions. This capability to identify subnational regions is also readily extended to other international regions.

EYGEM draws on the global CGE modelling framework developed by the Global Trade Analysis Project (GTAP) based at Purdue University in the United States. Their model is described in Hertel (1997), with its antecedent being the Industry Commission's Salter model (Jomini et al 1991). The GTAP model was greatly enhanced by the Australian Bureau of Agriculture and Resource Economics (ABARE) to incorporate dynamic capabilities. The MEGABARE model (ABARE 1996) and its successor, the Global Trade and Environment Model (Pant 2002), were the fruits of ABARE's efforts.

Our model is implemented in modern data science frameworks, including Python and Pandas, and has a user-friendly Excel interface. Our frameworks are specifically designed to improve auditing a paper trail in modelling exercises, reduce the risk of modelling error, and allow for (for example) systematic sensitivity analysis.

Overview of the modelling framework

EYGEM is based on a substantial body of accepted microeconomic theory. Key assumptions underpinning the model are:

- The model contains a 'regional consumer' that receives all income from factor payments (labour, capital, land and natural resources), taxes and net foreign income from borrowing (lending).
- Income is allocated across household consumption, government consumption and savings so as to maximise a Cobb-Douglas utility function.
- 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 Cobb-Douglas utility function.
- All savings generated in each region are used to purchase bonds whose price movements reflect movements in the price of creating capital.
- 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 production function.

- Producers are cost minimisers, and in doing so choose between domestic, imported and interstate intermediate inputs via a CRESH production function.

- The supply of labour is positively influenced by movements in the real wage rate governed by an elasticity of supply. This is most often assumed to be 0.15 for central case scenarios, and 0.3 for high side scenarios, depending on the employment market conditions for the region under consideration.

- Investment takes place in a global market and allows for different regions to have different rates of return that reflect different risk profiles and policy impediments to investment. A global investor ranks countries as investment destinations based on two factors: global investment and rates of return in a given region compared with global 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.

- Prices are determined via 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).

- For internationally-traded goods (imports and exports), the Armington assumption is applied whereby the same goods produced in different countries are treated as imperfect substitutes. 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.

- The model accounts for greenhouse gas emissions from fossil fuel combustion. Taxes can be applied to emissions, which are converted to good-specific sales taxes that impact on demand. Emission quotas can be set by region and these can be traded, at a value equal to the carbon tax avoided, where a region's emissions fall below or exceed their quota.

Dynamics of EYGEM

EYGEM is a recursive dynamic model that solves year-on-year over a specified timeframe. This has two main advantages. First, dynamics allows a richer specification of the model in that issues such as debt accumulation (which facilitates the ability to model international capital flows) and labour market dynamics are able to be modelled in a more sophisticated manner. Second, scenario analysis using a model such as EYGEM can be greatly enhanced by the ability to alter the baseline, or reference case, to account for key developments or uncertainties.

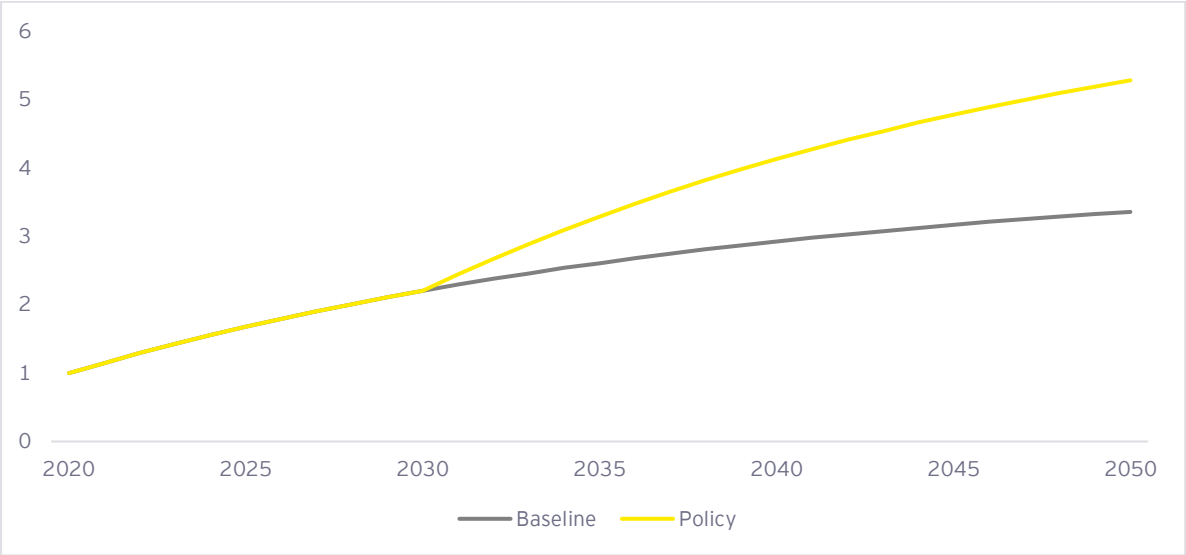
The model is then used to project the relationship between variables under different scenarios, or states, over a pre-defined period. This is illustrated in Figure 1, where a reference case or 'baseline' forms the basis of the analysis undertaken using EYGEM. The model is solved year-by-year from time 0 which reflects the base year of the model (2020) to a predetermined end year (in this case 2050).

The 'Variable' represented in the figure could be one of the hundreds or thousands represented in the model ranging from macroeconomic indicators such as real GDP to sectoral variables such as the exports of iron and steel from Australia. In the figure, the percentage changed in the variables have been converted to an index (= 1.0 in 2020) and is projected to increase by 2050.

Set against this baseline is, in Figure 1, a 'Policy' scenario. This scenario represents the impacts of a policy change or different assumptions about economic development that results in a new projection of the path of the variable over the simulation time period. The impacts of the policy/assumption change are reflected in the differences in the variable at time T. It is important to

note that the differences between the baseline and policy scenario are tracked over the entire timeframe of the simulation.

Figure 1: Dynamic simulation using EYGEM



Detailed interdependencies

The model is underpinned by a detailed, global database. The model's database is 'benchmarked' or 'calibrated' so that initial equilibrium solution exists that replicates actual sectoral production, consumption, trade and factor usage. It contains 141 regions and 64 sectors for a base year of 2007, and is the benchmark dataset for applied, global general equilibrium modelling. This database produced by the Global Trade Analysis Project (GTAP) at Purdue University is the most detailed and comprehensive database of its type in the world. Used by some 700 researchers globally, the database is a truly international, collaborative research effort that is fully documented and transparent.

The EYGEM model is primarily based on input-output or social accounting matrices, as a means of describing how economies are linked through production, consumption, trade and investment flows. For example, the model considers:

- direct linkages between industries and countries through purchases and sales of each other's goods and services; and
- indirect linkages through mechanisms such as the collective competition for available resources, such as labour, that operates in an economy-wide or global context.

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