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Climate risk and financial sector regulation in Australia

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In February 2017, the Australian Prudential Regulation Authority's (APRA) Geoff Summerhayes delivered a speech on the topic of climate risk and its relevance to prudential supervision in Australia. In it, Mr Summerhayes stated that climate change was no longer a "purely ethical, environmental or long-term" matter, and that some aspects of climate change entailed financial risks. He described these risks as "foreseeable, material and actionable now".[1]

APRA's mission is:

> … to establish and enforce prudential standards and practices designed to ensure that, under all reasonable circumstances, financial promises made by institutions we supervise are met within a stable, efficient and competitive financial system.[2]

Banks, insurers and superannuation funds regulated by APRA are subject to more stringent requirements than other companies, reflecting both the importance of the services they provide and their role in the financial system. Importantly, APRA's objective is not to prevent any failures of the financial sector companies it regulates, or to protect their customers from loss.

The function of speeches by regulators such as APRA is often described as "signalling" — they fall short of formal guidance or rules, but are used to highlight areas of emerging concern.

Although Mr Summerhayes has a background in insurance and delivered the speech at an insurance industry forum, he was clear that climate change-related risks were relevant to banks and superannuation funds, and that APRA is considering climate risk across all these types of entities.

APRA is not the first financial authority to indicate that climate change-related risks have implications for its work. Its peers and counterparts in many countries are beginning to explore how climate change-related risks may be relevant to their mission, and to devise ways of addressing these risks. These range from speeches from senior central bankers,[3] qualitative[4] and quantitative research, and legislative measures.

Actions and responses in other countries have varied in substance as well as form, which is inevitable as the approaches to corporate disclosure, prudential regulation, and financial system management vary widely between different jurisdictions. While a few countries have taken decisive or prescriptive action such as France's Energy Transition for Green Growth Law adopted in 2015, most responses to date are nascent or still evolving, reflecting both the complexity and scale of the subject matter and the speed at which it is evolving.

This article charts how empirical knowledge and analysis of financial climate risk has evolved over the past few years, and highlights key developments identified by APRA and other authorities in relation to these issues.

The origins of climate change and financial risk

Climate change has been discussed in public policy circles for decades, and research into the economic costs of climate change itself dates back to the 1980s.[5]

Research into the potential financial risks arising from action to mitigate climate change is more recent and can perhaps be first traced to a paper published during the mid-1990s.[6] Implications of climate-related risks under fiduciary laws have been explored for more than a decade, including by Freshfields Bruckhaus Deringer,[7] the United Nations Environment Programme,[8] Baker McKenzie[9] and MinterEllison.[10]

However it was arguably the analysis published in 2011 by Carbon Tracker Initiative[11] (CTI), a UK thinktank, that crystallised the financial risks from climate change mitigation.[12] By marrying scientific knowledge about the "carbon budget" to the known fossil fuel reserves and resources accounted for on the books of companies and states worldwide, CTI attempted to quantify the value of assets at risk.

Exposure to climate risk can be pervasive. While fossil fuel producers might be most obviously at risk, other businesses — such as those in the automotive sector — can be exposed.[13] If not identified as a material risk that requires disclosure or is easily analysed, it may also be opaque.

In 2014, Mark Carney, governor of the Bank of England, referred to the problem of financial climate-related risks as a "tragedy of [the] horizons".[14] This is a reference to the well-known "tragedy of the commons" economic theory; with climate-related financial risk, there is a mismatch between a risk that may emerge over a long period of time and financial actors who are often not inclined or incentivised to consider effects beyond the horizon of quarterly results.[15] Yet many financial decisions made today can have long-term implications for climate change itself,[16] and in turn can be exposed to many aspects of climate-related risks.

The combination of mispriced, opaque and pervasive risks raises the prospect of systemic financial risk related to climate change.

Defining financial system stability and risk

Financial system risk is often misunderstood. While an authoritative international definition of financial stability is elusive, common features can be identified. As the phrase suggests, it spans the financial system rather than a sector, asset class, or single institution. It also recognises the importance of that system for the "real economy".[17]

The Reserve Bank of Australia describes financial instability as "a material disruption" to the smooth flow of funds between savers and investors which is normally facilitated by financial institutions and markets. Such instability poses "potentially damaging implications for the real economy".[18]

Identifying drivers of climate risk and categorising types of risk

Climate change and responses to climate change can interact with many aspects of societies and economies. This pervasiveness means climate-related risks can manifest in a broad variety of ways. This may include, for example, risks to farmers whose income is directly affected by impacts of climate change, and to financiers whose credit risk is affected by exposure to high-carbon assets.

University of Cambridge researchers mapped climate risk to classic business risks such as business, credit, market and legal.[19] The Bank of England's categorisation of climate risk into two broad areas has perhaps proved most influential:

- "physical risks", causing direct losses via natural disasters or chronic weather impacts; and
- "transition risks", arising from efforts to mitigate climate change such as policy measures and technological developments.[20]

Key recent developments

Mr Summerhayes's speech referred to three "key recent developments" that have clarified the nature of financial climate risk and helped to drive it further up APRA's agenda.

The first was the Paris Agreement, which was adopted in December 2015 and came into effect in November 2016, and is unprecedented in international climate diplomacy. Every country in the world, apart from Syria and Nicaragua, agreed to the commitment to limit warming over the pre-industrial era to "well below 2°C", and to "[pursue] efforts" to limit warming to 1.5°C, as contained in Art 2.1(a).[21] Article 4 of the Agreement also states that emissions must reach a balance in the second half of the century.

To date, the announcement of US withdrawal seems to have only galvanised other country members to remain committed to the Agreement and have driven many corporate and municipal leaders in the US to reaffirm their commitment to the principles of the Agreement.[22]

The second development was the Financial Stability Board's (FSB) work on climate-related risk disclosure. The FSB was formed after 2008 to ensure that another financial crisis, which was so damaging for many countries, would not reoccur. It is made up of G20 financial authorities; Australia's FSB members are Treasury and the Reserve Bank of Australia.

The FSB announced[23] in December 2015 the formation of a taskforce comprising private sector individuals from various industries, charged with developing *standardised* disclosures for companies to describe any *financial* risks arising from climate change. The Task Force on Climate-related Financial Disclosure (TCFD) follows a similar format to an earlier FSB taskforce, the Enhanced Disclosure Task Force (EDTF), which developed a set of standardised bank risk disclosures. These were also voluntary, but have been broadly adopted by global systemically important banks around the world.[24]

The final development cited by Mr Summerhayes was more local to Australia, although the risks it identifies are broadly applicable.[25]

In October 2016, a memorandum of opinion by Noel Hutley SC and Sebastian Hartford-Davis was published by the Centre for Policy Development.[26]

The opinion asserted that company directors could be held personally liable for breaching their statutory duty of care and diligence under the Corporations Act 2001 (Cth) if they failed to properly consider and disclose foreseeable climate-related risks to their business.

The memorandum was widely circulated in Australia among corporate governance practitioners and experts, and Mr Summerhayes noted that it was followed, in

December, by the Australian Institute of Company Directors publishing a suite of materials on climate-related risks and corporate governance via its thinktank, the Governance Leadership Centre.[27]

The climate-financial risk problem in an Australian context

Australia has been identified as having a high level of vulnerability to the effects of climate change, with average daytime temperatures rising 0.9°C since 1910, and research published by the Commonwealth Scientific and Industrial Research Organisation and the Bureau of Meteorology shows that this figure could reach as much as 5.1°C by 2090.[28]

Several reports estimate the aggregate Australian exposure to carbon risk, both in terms of domestic GDP and in terms of our reliance on high-carbon exports such as thermal coal. Reports by the University of Oxford's Smith School of Enterprise and the Environment[29] and by CTI and The Climate Institute[30] indicate Australia has a relatively high exposure to this type of risk, compared to other developed country economies.

Australia's economy is also highly exposed to demand for its main export commodities. These demand patterns have had significant implications for Australian monetary policy in the past decade.[31]

Credit ratings firm Standard & Poor's[32] and consulting firm Mercer[33] have pointed out Australia has sovereign risk arising from both transition and impact risks from climate change.

APRA's next steps

In terms of how APRA intend to proceed monitoring the implications of climate change for Australian financial institutions, Mr Summerhayes said scenario analysis should become an increasingly important tool for understanding climate-related risks, and that the most important climate-related scenario to model was that of below -2°C pathways.

Going forward, APRA expects that entities that are regulated by it will consider climate change within their internal risk management processes, and has raised the prospect of including climate change risks in stress tests it conducts for both organisational and system-wide resilience.

However, he also noted that APRA would not prescribe or expect to see a uniform approach to dealing with these risks. This is in keeping with its principles-based approach to supervision.

The FSB TCFD

The final recommendations of the FSB TCFD were released on 29 June 2017.

The TCFD clarified that scenario analysis disclosures, which are perhaps the most prescriptive recommendation, should focus on the organisation's resilience to the scenarios explored.

It also clarified that recommended disclosures relating to strategy and metrics and targets are subject to materiality assessments, while those relating to governance and risk management should be disclosed regardless of materiality.

The FSB has approved a process to encourage and monitor the adoption of the recommendations, which initially will run until September 2018.[34]

Concluding comments

At the beginning of this decade, concern about the financial implications of climate change was limited to a handful of non-governmental organisations and ethical investors. Today, it is shared by many of the world's biggest investment managers,[35] asset owners[36] and financial regulators.

Climate change is a complex and technical topic, and decisions on how to respond to it require a multidisciplinary approach.[37] The interaction between climate change and our financial institutions and systems inevitably adds more complexity, particularly as much of that interaction is mediated by policy, political and social responses.

APRA has indicated that its supervisory work on climate change-related risks will evolve over time. The FSB TCFD, too, states in its final recommendations that further work will be required, including on:[38]

- scenario analysis;
- alignment with other reporting frameworks; and
- availability and quality of data on climate-related financial impacts.

There are few international initiatives specifically for financial authorities and regulators charged with undertaking supervisory work. The Sustainable Insurance Forum,[39] created in December 2016, seeks to address climate and related risks among insurance regulators, but no similar forum yet exists for banking supervisors.[40]

Regulators such as APRA will likely benefit from the TCFD recommendations being adopted and as an authoritative guide that will influence market expectations.

However, the recommendations themselves will not provide a complete template for regulatory responses to financial climate risks. Internal capacity on climate change will continue to develop within APRA, as it will within other regulators both in Australia and internationally.

Organisations that have already begun building this capacity will be better placed to address the rapidly evolving responses to financial climate risks by companies, markets, governments — and as the climate itself changes.

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Footnotes

1. Geoff Summerhayes “Australia’s new horizon: climate change challenges and prudential risk” speech delivered at the Insurance Council of Australia Annual Forum, Sydney (17 February 2017) www.apra.gov.au/Speeches/Pages/Australias-new-horizon.aspx.
2. APRA *Australian Prudential Regulation Authority: Protecting Australia’s Depositors, Insurance Policyholders and Superannuation Fund Members* Brochure (2010) p 2 www.apra.gov.au/AboutAPRA/Publications/Documents/APRA-Brochure-FINAL-08Jan2010.pdf.
3. Timothy Lane “Thermometer rising — climate change and Canada’s economic future” speech delivered at the Finance and Sustainability Initiative, Montréal, Quebec (2 March 2017) www.bankofcanada.ca/2017/03/thermometer-rising-climate-change-canada-economic-future/.
4. European Systemic Risk Board Advisory Scientific Committee *Too Late, Too Sudden: Transition to a Low-Carbon Economy and Systemic Risk* Report No 6 (February 2016) www.esrb.europa.eu/pub/pdf/asc/Reports_ASC_6_1602.pdf.
5. For example, Yale University economics professor William Nordhaus began publishing papers on the economics of CO_2 emissions in the 1980s. See his curriculum vitae at www.econ.yale.edu/~nordhaus/homepage/current.htm.
6. M Mansley *Long Term Financial Risks to the Carbon Fuel Industry from Climate Change* Delphi Group/ Delphi International Ltd, London 1995.
7. Freshfields Bruckhaus Deringer *A Legal Framework for the Integration of Environmental, Social and Governance Issues into Institutional Investment* (October 2005) www.unepfi.org/fileadmin/documents/freshfields_legal_resp_20051123.pdf.
8. United Nations Environment Programme *Fiduciary Responsibility: Legal and Practical Aspects of Integrating Environmental, Social and Governance Issues into Institutional Investment* (July 2009) www.unepfi.org/fileadmin/documents/fiduciaryII.pdf.
9. Baker McKenzie *Superannuation Trustees and Climate Change Report* (2012) www.climateinstitute.org.au/verve/_resources/BakerandMcKenzie_SuperannuationTrusteesandClimate ChangeReport _October2012.pdf.
10. M Girgis and S Barker “Institutional investment, corporate governance and climate change: what is a trustee to do?” (27 January 2015) www.minterellison.com/publications/articles/Institutional-investment-corporate-governance-and-climate-change-what-is-a-trustee-to-do/.
11. Carbon Tracker Initiative *Unburnable Carbon: Are the World’s Financial Markets carrying a Carbon Bubble?* (2014) www.carbontracker.org/wp-content/uploads/2014/09/Unburnable-Carbon-Full-rev2-1.pdf.
12. CTI’s 2011 report received awards and years later has been acknowledged in media coverage in *Reuters* and *The Financial Times*. Former senior Bank of England official, Dr Paul Fisher, described it as “seminal” in a presentation in Australia in 2016: Paul Fisher “International perspectives on climate-related risks and disclosure” discussed at the Business Roundtable on Directors’ Duties, Climate Risk and Sustainability, Melbourne (21 October 2016).
13. An example is given in *The Financial Times* of a UK company called Torotrak that developed a fuel-saving turbocharger to help manufacturers of petrol vehicles meet tightening pollution rules. After initial interest from a dozen of auto makers, all went cold in early 2017, citing a shift to focusing research and development spending on electric vehicles. See P Clark “The Big Green Bang: how renewable energy became unstoppable” (18 May 2017) www.ft.com.
14. J Hay “Carney raises the heat on climate: you can’t burn all the oil” (12 October 2014) www.globalcapital.com/article/yvxvk8c9ltx5/carney-raises-the-heat-on-climate-you-cant-burn-all-the-oil.
15. J Kay *The Kay Review of UK Equity Markets and Long-Term Decision Making* Final Report (July 2012) www.ecgi.org/conferences/eu_actionplan2013/documents/kay_review_final_report.pdf.
16. International Energy Agency *Redrawing the Energy-Climate Map* World Energy Outlook Special Report (2013) www.iea.org/publications/freepublications/publication/WEO_Special_Report_2013_Redrawing_the_Energy_Climate_Map.pdf.
17. C Borio and M Drehmann “Assessing the risk of banking crises — revisited” (2009) *BIS Quarterly Review* 29 www.bis.org/publ/qtrpdf/r_qt0903e.pdf.
18. Reserve Bank of Australia “About financial stability” (2010) www.rba.gov.au/fin-stability/about.html.
19. A Voysey and N Andreeva *Environmental Risk Analysis by Financial Institutions — A Review of Global Practice* (2016) http://unepinquiry.org/wp-content/uploads/2016/09/2_Environmental_Risk_Analysis_by_Financial_Institutions.pdf.
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21. *Paris Agreement* adopted in December 2015 (entered into force 4 November 2016).

22. See for example *Financial Times* editorial "A big business coalition against climate change" (8 June 2017) www.ft.com/content/9fc3c46a-4ac6-11e7-919a-1e14ce4af89b; and Foreign Policy "Why abandoning Paris is a disaster for America" (1 June 2017) http://foreignpolicy.com/2017/06/01/why-abandoning-paris-climate-agreement-is-bad-for-america-trump/.
23. Financial Stability Board "FSB to establish Task Force on Climate-related Financial Disclosures" media release (4 December 2015) www.fsb.org/2015/12/fsb-to-establish-task-force-on-climate-related-financial-disclosures/.
24. Financial Stability Board "Enhanced Disclosure Task Force completes its work" (13 May 2016) www.fsb.org/2016/05/enhanced-disclosure-task-force-completes-its-work/.
25. Bank of England Prudential Regulation Authority *The Impact of Climate Change on the UK Insurance Sector: A Climate Change Adaptation Report by the Prudential Regulation Authority* (September 2015) www.bankofengland.co.uk/pra/Documents/supervision/activities/pradefra0915.pdf.
26. N Hutley SC and S Hartford-Davis *Climate Change and Directors' Duties* Memorandum of Opinion (7 October 2016) https://cpd.org.au/wp-content/uploads/2016/10/Legal-Opinion-on-Climate-Change-and-Directors-Duties.pdf.
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29. B Caldecott, G Dericks and J Mitchell *Subcritical Coal in Australia: Risks to Investors and Implications for Policymakers* Working Paper (March 2015) www.smithschool.ox.ac.uk/research-programmes/stranded-assets/Subcritical%20Coal%20in%20Australia_Investors&Policymakers.pdf.
30. CTI and The Climate Institute *Unburnable Carbon: Australia's Carbon Bubble* (2013) www.climateinstitute.org.au/verve/_resources/Unburnable_Carbon_Australias_Carbon_Bubble_finalreport.pdf.
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32. Standard & Poor's Second round submission to the *Financial System Inquiry* (26 August 2014) http://fsi.gov.au/files/2014/09/Standard_Poors.pdf.
33. Mercer *Investing in a Time of Climate Change* (2015) www.mercer.com/content/dam/mercer/attachments/global/investments/mercer-climate-change-report-2015.pdf.
34. M Carney "To G20 Finance Ministers and Central Bank Governors" (10 March 2017) www.fsb.org/wp-content/uploads/FSB-Chairs-letter-to-G20-FMCBG-March-2017.pdf.
35. BlackRock, State Street Corp and Fidelity Investments are some of the world's biggest investment asset managers and have incorporated climate risk into their corporate engagement and proxy voting decisions.
36. See the Asset Owners Disclosure Project at http://aodproject.net/global-climate-500-index/.
37. Approaches to climate-related decisions are discussed in: R Jones, A Patwardhan, S Cohen, S Dessai, A Lammel, R Lempert, M Mirza and H vons Storch "Chapter 2: Foundations for Decision Making" www.ipcc.ch/pdf/assessment-report/ar5/wg2/WGIIAR5-Chap2_FINAL.pdf in Working Group II *Climate Change 2014: Impacts, Adaptation, and Vulnerability — Part A: Global and Sectoral Aspects* Intergovernmental Panel on Climate Change Assessment Report 5 (2014) www.ipcc.ch/report/ar5/wg2/.
38. FSB TCFD *Recommendations of the Task Force on Climate-related Financial Disclosures* Final Report (June 2017) Part E: Key Issues Considered and Areas for Further Work www.fsb-tcfd.org/wp-content/uploads/2017/06/FINAL-TCFD-Report-062817.pdf.
39. United Nations Environment Programme Finance Initiative "International insurance regulators establish Sustainable Insurance Forum" (2 December 2016) www.unepfi.org/events/international-insurance-regulators-establish-sustainable-insurance-forum/.
40. The Sustainable Banking Network, an initiative of the International Finance Corp, exists for emerging markets banking regulators.