

Expert Report of
Professors Kilian Huber and Mark E. Zmijewski
Submitted to the NSW Independent Pricing and Regulatory
Tribunal's (IPART) Review of Electronic Lodgment Network
Operator (ELNO) Service Fees

August 13, 2026

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I. INTRODUCTION

A. Credentials of the Witnesses

1. Professor Kilian Huber

1. Kilian Huber is a Professor of Economics and Finance at The University of Chicago Booth School of Business and the Dawson Family Professor in the Wallman Society of Fellows. He is also a Research Associate at the National Bureau of Economic Research and a Fellow at the Centre for Economic Policy Research. Prior to joining the Booth faculty, he was the Inaugural Saieh Family Fellow at the Becker Friedman Institute at The University of Chicago. He has also served as an Academic Visitor in Monetary Analysis at the Bank of England.

2. In his academic work, Prof. Huber has focused on the financing of firms and the relation between the financial sector and the real economy. His recent papers study the cost of capital and discount rates used by firms (“Corporate Discount Rates”), the relation between financial markets and firms’ cost of capital (“Firms’ Perceived Cost of Capital”), and the effective cost of capital used by financial markets (“A Market-Based Cost of Capital”). His research has been published in the *American Economic Review*, the *Quarterly Journal of Economics*, the *Journal of Political Economy*, the *Journal of Finance*, and the *Review of Financial Studies*.

3. He has received several honours for his research, including an Alfred P. Sloan Research Fellowship, the Lamfalussy Fellowship of the European Central Bank, the Ieke van den Burg Prize of the European Systemic Risk Board, the Leo Melamed Prize for Outstanding Research in Finance, the Sir John Hicks Prize for an Outstanding Dissertation, the AQR Top Finance

Graduate Award, and the First Prize Social Sciences of the Koerber Foundation. Together with his co-authors, he has received the FESE de la Vega Prize and the Kellogg Moskowitz Prize.

4. Professor Huber earned his BSc in Economics in 2011, his MSc in Economics in 2012, his Master of Research in Economics in 2013, and his PhD in Economics in 2018, all from the London School of Economics. Professor Huber teaches courses in money and banking for the Master of Business Administration and Master in Finance programs at Chicago Booth.

5. Professor Huber is a Senior Consultant at Econic Partners LLC, a consulting firm that provides economic, financial, and management consulting services. His CV is attached to this report.

2. Professor Mark E. Zmijewski

6. Professor Mark E. Zmijewski specialises in the areas of accounting, economics, and finance as they relate to valuation, financial analysis, and security analysis, or more generally, financial economics. Professor Zmijewski is Professor Emeritus at The University of Chicago Booth School of Business (“Chicago Booth”) and previously held the Charles T. Horngren Professorship and the Leon Carroll Marshall Professorship in his 30-year career at Chicago Booth. In addition to his faculty duties, Professor Zmijewski also held the positions of Deputy Dean, PhD Program faculty director, and the Center for Research in Security Prices faculty director, all at Chicago Booth.

7. Professor Zmijewski earned his BS in 1976, MBA in 1981, and PhD (with major in accounting and minors in economics and finance) in 1983, all from the State University of New York at Buffalo. In addition to The University of Chicago, Professor Zmijewski has taught at the

State University of New York at Buffalo and at York University in Toronto, Canada. Professor Zmijewski teaches various courses in accounting (financial accounting, managerial accounting, and advanced accounting/mergers and acquisitions), finance (corporate finance, financial strategy and corporate transactions, financial analysis, and valuation of companies and corporate transactions), and entrepreneurship.

8. His research focuses on firm valuation, the pricing of publicly-traded securities, and the ways in which various capital market participants use information to value securities. He has published articles in academic journals in the areas of accounting and financial economics and also co-authored a textbook (with Professor Robert Holthausen of The Wharton School of the University of Pennsylvania) on how to value companies, parts of companies, and the securities issued by companies, titled *Corporate Valuation: Theory, Evidence and Practice*. Professor Zmijewski has been an Associate Editor of *The Accounting Review* and has served on the Editorial Boards of both the *Journal of Accounting Research* and *The Accounting Review*.

9. Professor Zmijewski also is a Senior Consultant to Econic Partners LLC, a consulting firm that provides economic, financial, and management consulting services. He also is a Senior Advisor to, and a member of, the Investment Committee at Patron Capital Partners (Funds IV and V), a private equity investment company with a focus on real estate-related investments. Professor Zmijewski was a founding partner of Chicago Partners, LLC, which was acquired by Navigant Consulting; a former managing director of Navigant Economics (a subsidiary of Navigant Consulting); and a former member of the corporate executive committee of Navigant Consulting.

10. Professor Zmijewski has worked as a consultant or expert in litigation matters in U.S. state and federal courts, in the Supreme Court of Victoria in Australia, and in U.S. and international arbitrations. He has consulted on business valuation and securities valuation (valuation of corporate transactions, companies, and parts of companies, intangible assets and intellectual property, and securities); securities litigation (Rule 10b-5, Section 11, Section 12, ERISA, Martin Act, effect of disclosures, analysis of how markets work, and insider trading); mergers and acquisitions (appraisals and price disputes, analysing merger synergies, material adverse changes, corporate transactions, and the process of purchasing and selling companies); and a variety of other valuation, financial analysis, and accounting related issues. Professor Zmijewski's CV is attached to this report.

B. Background and Questions

11. Electronic Lodgment Network Operators ("ELNOs") provide electronic lodgment and settlement of property transactions or eConveyancing. Because eConveyancing is mandatory for most transactions in most jurisdictions, subscribers ordinarily have no practical alternative to PEXA.¹ PEXA Group Limited ("PEXA") operates the principal Electronic Lodgment Network ("ELN") in Australia, the PEXA Exchange, and undertakes approximately 99% of eConveyancing transactions, a position that the Independent Pricing and Regulatory Tribunal ("IPART") treats as an effective monopoly following a March 2026 decision not to mandate interoperability between networks.

¹ IPART, Electronic Lodgment Network Operator service fees — Draft Report (July 2026), p. 13 and p. 14 (footnote c), recording that eConveyancing has been mandated for at least some transaction types in all Australian jurisdictions other than Tasmania, the Australian Capital Territory and the Northern Territory, and that for most transactions competition from paper conveyancing no longer imposes an effective constraint.

12. IPART is reviewing the service fees that PEXA charges its subscribers. In its Draft Report of 3 July 2026, IPART recommended that PEXA’s ELNO service fees continue to be regulated on a permanent basis, and that PEXA’s regulated revenue be reduced by approximately 20% through a one-off reduction to transfer fees, with fees determined using a building block methodology over a four-year regulatory period from 2027-28 to 2030-31.²

13. In setting the prices PEXA can charge, IPART uses a building block model to measure its asset base, which is the value of the past investment in PEXA Exchange on which PEXA is allowed to earn a return and which it is allowed to recover over time.³ IPART builds the initial asset base from PEXA's actual historical spending on PEXA Exchange and then uses the recovered-capital method as a cross-check on that figure:⁴ “We apply a return to that opening balance at the current year's rate of return (WACC). This reflects that the opening balance is investment that has not yet been returned, and so has a time value.”⁵ The recovered-capital method keeps a running tally, year by year, of how much of the money invested in PEXA Exchange is still owed back. Each year the outstanding balance grows by a return (because money owed has a time value) and by any new spending; it shrinks by the revenue collected from subscribers that year. Whatever is left at the end of the year is carried into the next year as

² IPART, Electronic Lodgment Network Operator Service Fees — Draft Report (July 2026), Chapters 1 to 4.

³IPART, Draft Report — Electronic Lodgment Network Operator service fees, 3 July 2026, Chapter 8 (“Return on and of capital”), section 8.1, p 78, and Chapter 7, section 7.3, p 72.

⁴IPART, Draft Report — Electronic Lodgment Network Operator service fees, 3 July 2026, section 7.5 and Box 7.1, pp 73-74. IPART draws on the recovered-capital formula in AER, Pipeline information disclosure guidelines and Price reporting guidelines for Part 18A facilities, 2023, p 14.

⁵IPART, Draft Report — Electronic Lodgment Network Operator service fees, 3 July 2026, Box 7.1 (“How the recovered capital method works”), p 73.

the new starting balance.⁶ IPART states that the rate of return “is the most influential assumption in the recovered-capital method,”⁷ because early-year net shortfalls are carried forward through compounding, so that “relatively small differences in the assumed early-year rate of return can have a large effect on the residual balance as at 1 July 2027.”⁸

14. PEXA has asked us to form opinions related to the rate of return that PEXA investors expected to earn on their investments and to respond to the following questions.

- Should an individual venture capital investment have a lower ex ante expected return than an average of the portfolio or the overall portfolio?
- What are typical venture capital returns according to recent studies?
- Does ownership type (e.g., government and banks) change the expected return of a business venture?
- What is the time path of PEXA’s return and from when should an established WACC be applied?

C. Expert Witness Code of Conduct and Other Information

15. While we understand we are not bound by the Federal Court’s Expert Evidence Practice Note (GPN-EXPT) (**Practice Note**), we have read, understand and will adhere to the

⁶IPART, Draft Report — Electronic Lodgment Network Operator service fees, 3 July 2026, Box 7.1, pp 73-74.

⁷IPART, Draft Report — Electronic Lodgment Network Operator service fees, 3 July 2026, section 7.5.1, p 74.

⁸IPART, Draft Report — Electronic Lodgment Network Operator service fees, 3 July 2026, section 7.5.1, p 74.

Harmonised Expert Witness Code of Conduct (Annexure A to the Practice Note) (**Code of Conduct**), and have prepared our report on that basis.

16. We are independent experts and are free from any possible conflict of interest in the provision of our opinions and report, and we have no connection with any other party which would prevent us from providing our opinions in an objective and independent manner.

17. We have prepared this report to state our expert opinions, to describe the bases for those opinions and the reasons underlying them, to disclose the facts and data on which we relied in reaching the opinions, and to make all other appropriate disclosures. We express no legal opinions in this report. We have made all the inquiries that we believe are reasonable and appropriate for our work. The work that we conducted in this matter has been informed by our education, knowledge, and experience in accounting, economics, and finance. The information in this report is based upon information that is currently available.

18. We have been assisted in the preparation of this report by Zawadi Lemayian, Partner, and staff at Econic Partners LLC, who work under our direction and supervision. The opinions stated in this report are wholly our own. A listing of the materials used in our work for this matter as of the date of this report is disclosed in the footnotes in the body of the report and exhibits.

D. Report Structure and Key Points

19. The remainder of the report is organised as follows.

- Section II provides background about PEXA's development and risks over time. A key insight is that PEXA faced substantial risks related to the adoption of the platform and regulation throughout its early years. An investment in PEXA was a risky endeavour.

- Section III summarises a widely accepted theory on the expected return of a business facing high exit risk. The key insight is that PEXA's investors need to be compensated because they faced a high probability of capital loss in the scenarios where PEXA may have exited. As a result, in a scenario where PEXA did not exit, the return that PEXA's investors earn (henceforth "PEXA's return") is higher than the WACC of publicly listed companies. PEXA's return is also higher than the overall expected return on a portfolio of risky investments.
- Sections IV through VII answer the questions posed to us.
- In Section VII, we summarise our calculations of PEXA's return. We use three methods (based on exit rates, a DCF, and the venture capital literature) and find consistent results. We estimate that PEXA's nominal return in a non-exit scenario, as required by its investors, was roughly 45% in 2011 and then declined in the subsequent years, ultimately reaching 16% in 2019 and 12% in 2020.
- Sections VIII through X detail the three methods used to calculate PEXA's return.

II. PEXA'S BACKGROUND

20. The PEXA Exchange was developed from 2010, when the New South Wales, Victorian and Queensland governments, together with the major financial institutions, established National E-Conveyancing Development Limited (later renamed PEXA) to build a national eConveyancing platform.⁹ The period from FY2011 to FY2019 is the period to which the questions addressed in this report relate.¹⁰ The development of the PEXA Exchange over the period is summarised below.¹¹

- 2008 — electronic conveyancing is added to the Council of Australian Governments reform agenda.
- 2010 — the New South Wales, Victorian and Queensland governments establish National E-Conveyancing Development Limited (NECDL), later renamed PEXA.
- 2011 — the four major banks and the WA Land Information Authority become shareholders, the governments contribute intellectual property to PEXA, and Accenture is engaged to develop the platform.
- 2012 — Macquarie becomes a shareholder and the first contracts are signed with banks.
- 2013 — Link Group and Little Group become shareholders; the first release of the platform is made and the four major banks begin transacting.
- 2014 — NECDL is renamed PEXA, the first practitioners begin transacting, transfers are enabled in New South Wales, and the platform is integrated with the Reserve Bank of Australia.

⁹ IPART, Draft Report — Electronic Lodgment Network Operator service fees, 3 July 2026, Chapter 2, section 2.2, pp. 14-15; “[National e-Conveyancing Development Ltd \(NECDL\)](#), set up in 2010 to kick-start the National Electronic Conveyancing System...has now become Property Exchange Australia Ltd (PEXA).” Ginnane, [Virginia “Ready to Take the Electronic Plunge into e-Conveyancing?”](#), 20 July 2014, available at: <https://insight.thomsonreuters.com.au/legal/posts/ready-take-electronic-plunge-e-conveyancing> (last accessed 11 August 2026).

¹⁰ PEXA, submission to IPART’s Methodology Paper — Initial Asset Base for an ELNO (8 May 2026), Table 3, pp. 21-22.

¹¹ PEXA (Project Ivory) roadshow presentation (October 2018), slides 4 and 41.

- 2015 — transfers are enabled in Queensland and Western Australia and SettleMe is launched; approximately 1,000 transfer lodgments are completed.
- 2016 — automated bank integration and simultaneous settlements are launched, coverage extends to South Australia, Australia's first fully digital settlement occurs, and \$20 billion of settlement value is transacted.
- 2017 — the Document Hub and PEXA Plus are launched.
- 2018 — the platform moves toward fully digital operation; by August 2018 \$198 billion had been transacted and 1.5 million digital property transactions completed, and the States had announced timetables for the transition to eConveyancing.
- January 2019 — PEXA is privatised as the governments sell their shares to a private consortium; the non-listed share price had risen to approximately \$12.00, from approximately \$1.00 in FY2011.
- FY2020 — the first financial year in which PEXA's revenue exceeded its operating expenditure plus new capital expenditure, by which time market penetration had reached approximately 80%.¹²

21. In this section, we provide background information on PEXA over the 2010 through 2019 period. We begin with a chronology of PEXA's stock issuances, implied market capitalisation, and the realised annualised rates of return earned by the investors who subscribed in each round through to the sale of the company on 16 January 2019. We then set out the development of the regulation of PEXA, and of ELNOs more generally, which shows that the framework under which ELNO service fees are now reviewed post-dates most of the period over which PEXA's investors committed capital. Then, based on PEXA's contemporaneous business plans, board papers, board of directors meeting minutes, and other documents, we identify the risks about which management and the board of directors were concerned, organised into 14 categories of

¹² PEXA (Project Ivory) roadshow presentation (October 2018), slides 4 and 41; PEXA, submission to IPART's Methodology Paper — Initial Asset Base for an ELNO (8 May 2026), Table 3, pp. 21-22; IPART, Draft Report — Electronic Lodgment Network Operator service fees, 3 July 2026, Chapter 2, section 2.2, p. 14 and Chapter 7, section 7.4.3, p. 72.

risk. We then show that the timing and funding risks so identified were realised rather than avoided. Lastly, we measure an Established WACC, which is the expected rate of return for an established publicly listed company with a low risk of exit. We follow the method proposed by IPART to calculate this Established WACC. The Established WACC can be used as an input into understanding PEXA's expected return, but does not equal, and is less than, PEXA's expected return because the exit risk of an established listed company is lower than PEXA's exit risk in its early years.

A. PEXA's Stock Issuances, Sale, and Market Capitalisation, 2010 - 2019

22. In Exhibit II.1 we provide a summary of the stock issuances of PEXA's stock during the 2010 – 2019 period, which includes the number of shares issued. The exhibit shows seventeen equity subscriptions at a stated price per share and a revaluation at the price paid on the sale of the company, dated 16 January 2019. Across the seventeen subscription rounds the company issued approximately 133.7 million shares and raised total equity of \$378.3 million.

Exhibit II.1
PEXA's Stock Issuances, 2010 – 2019

Issuance Round	Date	Issuance Price	Shares Issued (mm)	Value of Shares Issued (\$mm)
Stage 1A - 1	01-May-11	\$0.962	6.67	\$6.41
Stage 1A - 2	01-Aug-11	\$1.500	8.29	\$12.43
Stage 1A - 3	02-Aug-11	\$1.500	2.67	\$4.00
Stage 1A - 4	01-Nov-11	\$1.500	2.67	\$4.00
NSW IP	01-Mar-12	\$1.500	0.17	\$0.25
Stage AA	01-Jun-12	\$1.220	4.92	\$6.00
Stage B - 1	01-Sep-12	\$1.500	12.56	\$18.84
Stage B - 2	01-Dec-12	\$1.500	12.78	\$19.16
Secondary Stage - Priority	06-Feb-13	\$2.620	4.92	\$12.88
Secondary - Third party	07-Feb-13	\$2.800	7.09	\$19.84
Supp. Secondary	27-Jun-13	\$2.800	9.24	\$25.87
Tertiary	01-Jul-14	\$2.800	12.04	\$33.70
Supp. Tertiary	21-Aug-14	\$2.800	2.28	\$6.37
Further Tertiary	23-Jul-15	\$3.150	14.29	\$45.00
Further Equity	23-Jun-16	\$4.790	10.00	\$47.90
Further Equity	01-Jun-17	\$5.000	19.58	\$97.90
Further Equity	21-Sep-17	\$5.000	3.54	\$17.70
Exit to BidCo	16-Jan-19	\$11.729	0.00	\$0.00

23. As shown in the exhibit, the issuance price rose from \$0.962 on the first line to \$11.73 at the January 2019 sale. The first subscription dated 1 May 2011 records the conversion of the founding state governments' establishment loans into 6.67 million shares at an effective price of \$0.962; the first cash subscription at a round figure followed on 1 August 2011 at \$1.50. Prices then held at \$1.50 through the Stage 1A and Stage B rounds of 2011 and 2012, with a single exception — the Stage AA round of June 2012 was priced at \$1.22, the only reduction in price across the whole series. Prices stepped up thereafter: to between \$2.62 and \$2.80 in the Secondary and Tertiary rounds of 2013 and 2014, to \$3.15 in July 2015, to \$4.79 in June 2016,

and to \$5.00 in 2017.¹³ The final line applies the BidCo sale price of \$11.7286 to the shares then on issue.¹⁴ The rising price trajectory coincides with the company's operational progress over the same period, from a pre-revenue development entity to an operating national e-conveyancing platform.

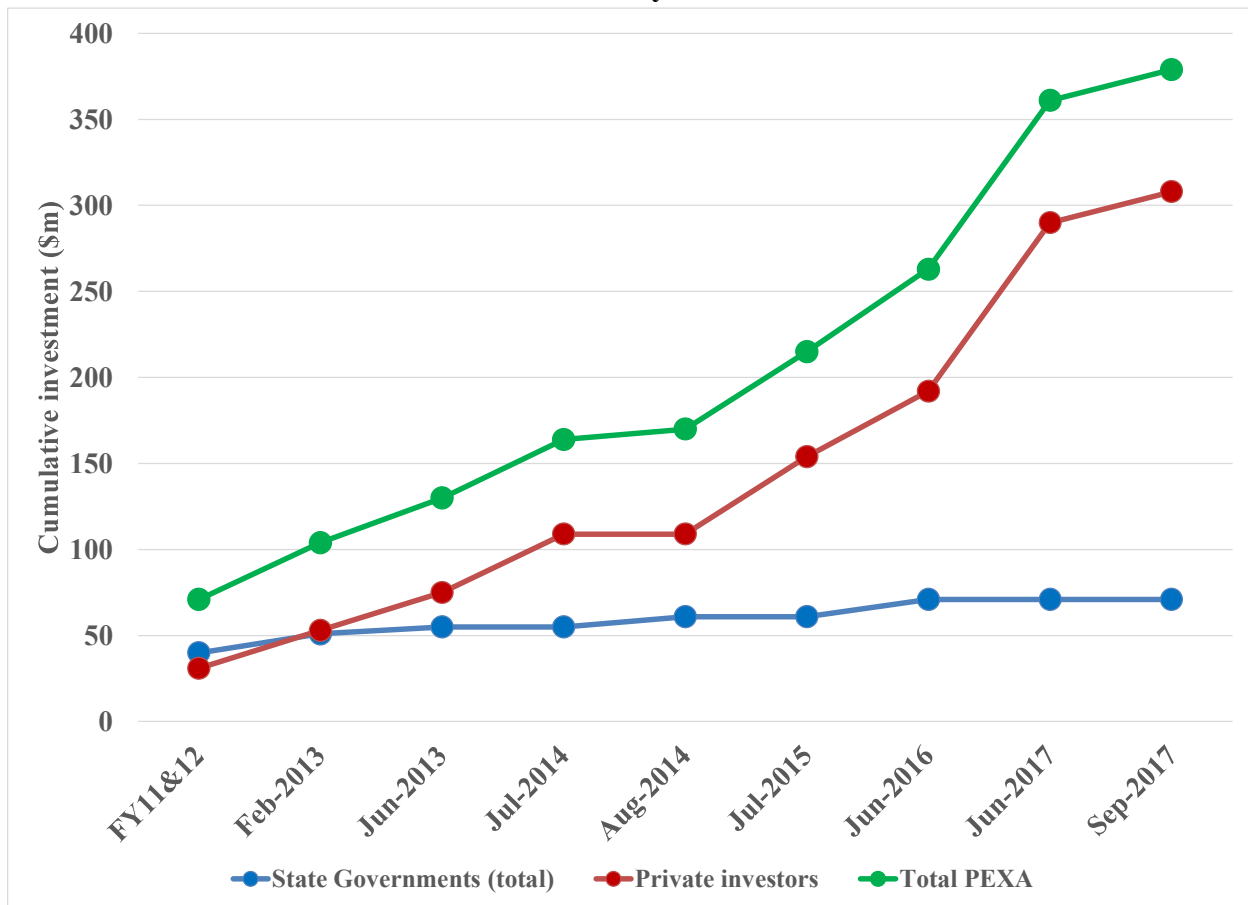
24. Exhibit II.2 presents a chart of PEXA's cumulative investment from 2011 through 2017.¹⁵ Total investment over that period was approximately \$379 million, comprising \$13 million contributed in kind and \$58 million in cash by State governments and \$308 million by private investors. Private investors thus provided roughly four-fifths of the capital, the majority of it committed between FY2013 and FY2017 while the platform was still under development and before critical mass had been achieved — underscoring that private capital bore a substantial part of the development risk.

¹³ See Shareholder Summary 2011-2019.xlsx provided by PEXA.

¹⁴ See Shareholder Summary 2011-2019.xlsx provided by PEXA.

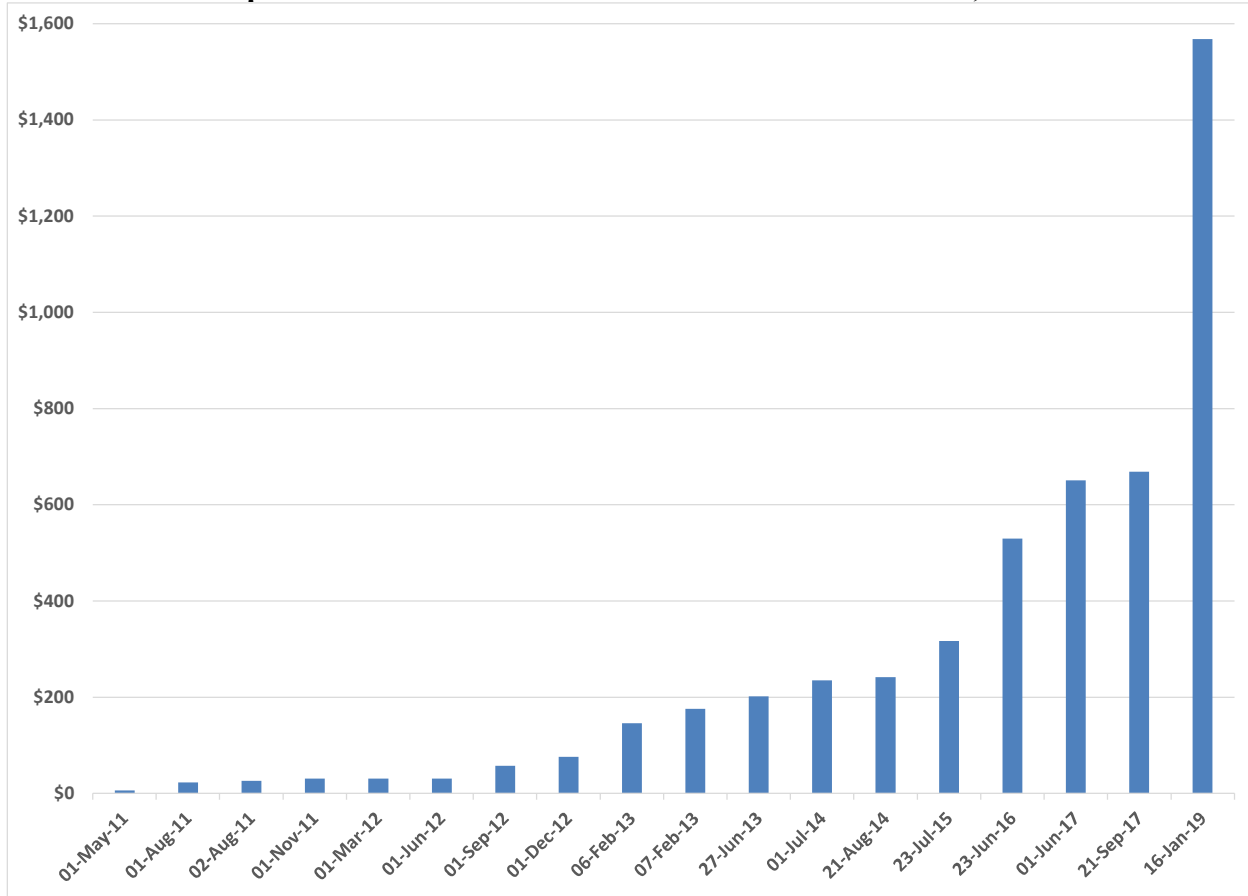
¹⁵ PEXA, submission to IPART's Methodology Paper — Initial Asset Base for an ELNO (May 2026), Table 5 (Investments in NECDL/PEXA from FY11 to FY19), p 23.

Exhibit II.2
PEXA Cumulative Investment by Government versus Private



25. In Exhibit II.3 below we show PEXA's implied market value as of each share issuance date and sale date shown in the above exhibit. We measure PEXA's implied market value by cumulating the shares issued and multiplying the cumulative shares outstanding on a date by the issuance or sale price on that date.

Exhibit II.3
PEXA Implied Market Value on Stock Issuance and Sale Dates, 2010 – 2019

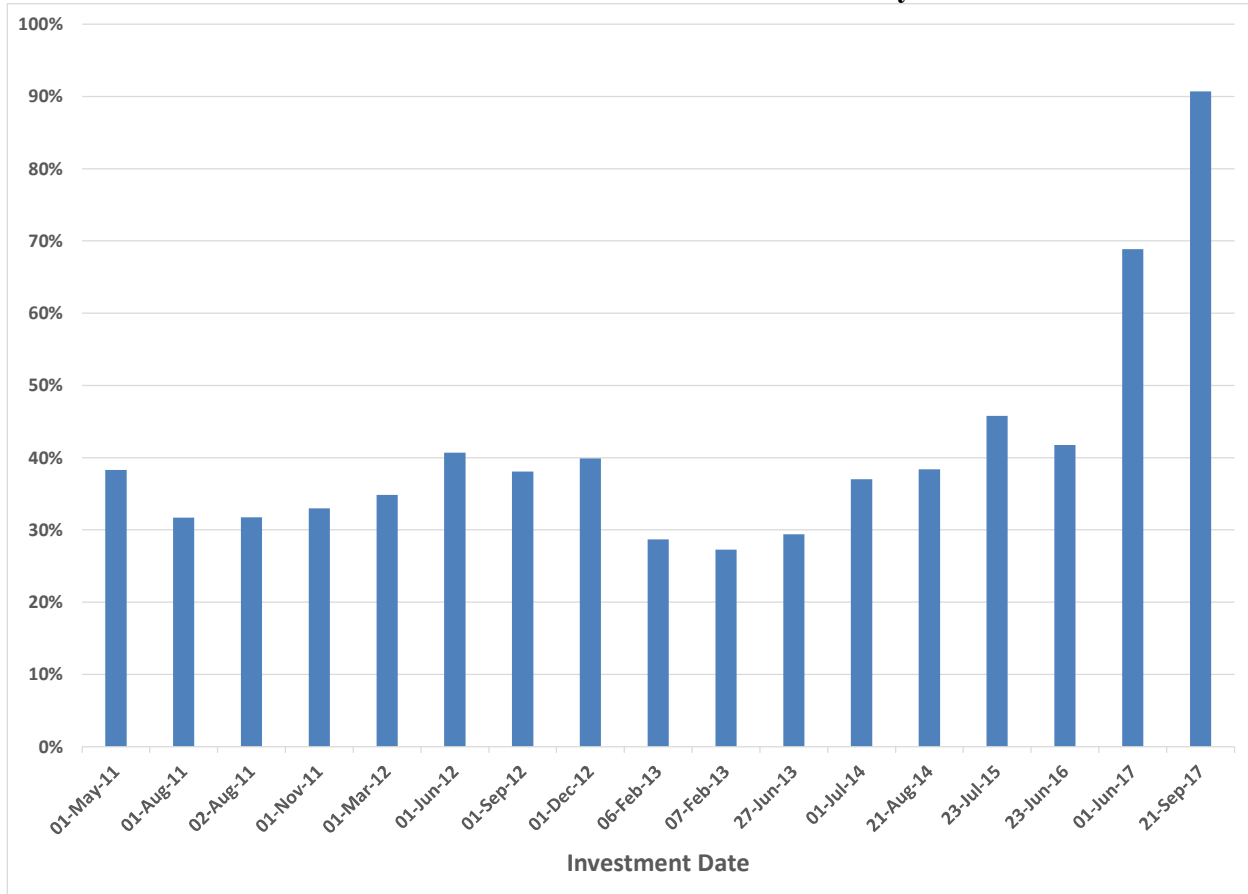


26. The exhibit shows PEXA’s implied market value rising from \$6.4 million at the 1 May 2011 conversion of the founding state governments’ establishment loans into equity, to \$668.3 million at the last subscription preceding the sale, on 21 September 2017, and to \$1,567.7 million at the 16 January 2019 sale of the company. Implied market value does not decline on any issuance date in the series. The June 2012 Stage AA round is the only round priced below the preceding round, but the reduction in issuance price from \$1.50 to \$1.22 was more than offset by the additional shares issued, leaving implied market value effectively unchanged at approximately \$31 million. The largest increases between successive issuance dates occur at the

23 June 2016 round priced at \$4.79 per share, where implied market value rose from \$316.7 million to \$529.5 million, and at the sale itself, where the increase from \$668.3 million to \$1,567.7 million reflects the application of the \$11.72861 sale price to the 133.7 million shares then on issue. The increase in implied market value across the period reflects both the additional equity capital subscribed, totalling \$378.3 million, and the appreciation in the price per share. Implied market value is therefore not itself a measure of the returns earned by PEXA's investors, which we address below.

27. Lastly, in Exhibit II.4 we show PEXA investors' realised annualised rates of return for each of the seventeen subscription rounds, from the date of investment (stock issuance) to the sale of the company on 16 January 2019. We measure PEXA's investors' realised annualised rates of return as the compound annual rate of return implied by the price per share paid on each issuance date and the \$11.72861 per share paid on the sale of the company, calculated as the ratio of the sale price to the issuance price raised to the power of 365 divided by the number of calendar days between the issuance date and 16 January 2019, less one. This measure reflects the change in price per share only and does not include dividends or other distributions.

Exhibit II.4
PEXA Investors' Realised Annualised Rates of Return
from Date of Investment to Sale on 16 January 2019



28. As shown in the exhibit, the realised annualised rate of return is positive for every subscription round, because each of the seventeen rounds was priced at or below \$5.00 per share against the \$11.72861 per share paid on the sale. Across the seventeen rounds, the returns range from 27.3% for the 7 February 2013 third-party secondary subscription at \$2.80 per share to 90.7% for the 21 September 2017 subscription at \$5.00 per share, with a median of 38.0% and a simple average of 40.9%. The returns are not monotonic in either issuance date or issuance price, because each return depends jointly on the price paid and the length of the period from that date to the sale. Four rounds were priced at \$2.80 per share and returned 27.3%, 29.4%, 37.0% and

38.4%, respectively; the differences among them reflect only the length of the remaining period to the sale. The two rounds priced at \$5.00 per share, the highest pre-sale price, earned the highest annualised returns because the appreciation to \$11.72861 is annualised over holding periods of less than two years. The 1 May 2011 conversion of the establishment loans, which carries both the lowest price in the series and the longest holding period, earned 38.3%, close to the median of the series.

B. Government Regulation of PEXA

29. The regulation of PEXA and of ELNOs more generally has developed in a continuous sequence from 2005 to the present. However, specific regulation of PEXA prices did not begin until February 2019, when the Model Operating Requirements (“MORs”) first restricted an ELNO to a single increase in its individual transaction prices each year, capped at the change in the CPI, and the Model Operating Requirements period giving effect to that constraint did not commence until 1 July 2019. In New South Wales the Conditions of Approval cap the annual increase at CPI less a ‘Factor’ set each year by the Registrar General, which has been set at zero since 2018-19.¹⁶ The principal events are set out chronologically below.

- **2005** – The Law Council of Australia establishes a National Electronic Conveyancing System Committee to progress a single national electronic conveyancing system.¹⁷
- **July 2008** – The Council of Australian Governments agrees that there should be a single national electronic system for the settlement of real property transactions across all Australian States and Territories.¹⁸

¹⁶ IPART, Electronic Lodgment Network Operator service fees — Draft Report (July 2026), pp. 19-21 and p. 13 (footnote b).

¹⁷ Law Council of Australia, National Electronic Conveyancing System (policy background).

¹⁸ Law Council of Australia, National Electronic Conveyancing System (policy background).

- **2010** – PEXA is established as a government-owned company, originally National E-Conveyancing Development Limited, by the New South Wales, Victorian and Queensland governments.¹⁹
- **2011** – PEXA is converted to a company limited by shares, with subsequent investment by the Western Australian government, financial institutions and other private investors. The Intergovernmental Agreement for an Electronic Conveyancing National Law establishes the Australian Registrars’ National Electronic Conveyancing Council (“ARNECC”) to develop and maintain the Model Operating Requirements and Model Participation Rules on behalf of the Registrars.²⁰
- **2012** – The Electronic Conveyancing National Law (“ECNL”) is adopted in New South Wales (“NSW”) by the Electronic Conveyancing (Adoption of National Law) Act 2012. The ECNL is implemented by separate legislation in each jurisdiction.²¹
- **2013** – eConveyancing is introduced in New South Wales. PEXA is the first eConveyancing business to operate in Australia.²²
- **2017-18** – The eConveyancing market comprises approximately 800,000 transactions, of which PEXA holds effectively 100%.²³
- **2018** – Sympli Australia Pty Ltd is approved to operate as the second ELNO. Lextech applies for approval as a third ELNO.²⁴
- **January 2019** – PEXA is privatised through an acquisition by Link Group, Morgan Stanley Infrastructure Inc. and the Commonwealth Bank of Australia. PEXA Group subsequently becomes listed on the Australian stock exchange.²⁵
- **February 2019** – The MORs begin to permit an ELNO to raise individual transaction prices only once a year and by no more than the change in the CPI. In New South

¹⁹ IPART, Electronic Lodgment Network Operator service fees — Draft Report (July 2026), p. 14.

²⁰ ARNECC, Intergovernmental Agreement for an Electronic Conveyancing National Law (2011); IPART, Electronic Lodgment Network Operator service fees — Draft Report (July 2026), p. 14 and p. 20 (Box 2.2).

²¹ Electronic Conveyancing (Adoption of National Law) Act 2012 (NSW); IPART, Electronic Lodgment Network Operator service fees — Draft Report (July 2026), p. 20 (Box 2.2, Regulation of eConveyancing).

²² IPART, Electronic Lodgment Network Operator service fees — Draft Report (July 2026), p. 13.

²³ IPART, Electronic Lodgment Network Operator service fees — Draft Report (July 2026), p. 13.

²⁴ IPART, Electronic Lodgment Network Operator service fees — Draft Report (July 2026), p. 13 and p. 14.

²⁵ IPART, Electronic Lodgment Network Operator service fees — Draft Report (July 2026), p. 14.

Wales the Conditions of Approval cap the annual increase at CPI less a ‘Factor’ set each year by the Registrar General, which has been set at zero since 2018-19.²⁶

- **2019** – Sympli completes its first transaction.²⁷
- **1 July 2019** – Commencement of the MOR period, running to 30 June 2027, in which an ELNO may increase its published service fees once per year by no more than the annual change in CPI.²⁸
- **November 2019** – IPART completes its first review of eConveyancing pricing, finding that the appropriate form of regulation is maximum prices for all ELNOs set at PEXA’s then-current prices and indexed by CPI, and recommending that regulators implement a direct connection model of interoperability between the two ELNOs as soon as possible.²⁹
- **2020** – ARNECC undertakes the first cost benefit analysis of interoperability. IPART’s maximum prices take effect for a two-year regulatory period commencing 1 July 2020.³⁰
- **2021** – State and Territory Ministers support a timeline for the first interoperable transaction to occur at the end of 2021, with broader implementation to follow in 2022.³¹
- **2022** – With the approval of all States and Territories, the NSW Parliament enacts changes to the national law, to be applied by each jurisdiction, which include mandating interoperability.³²
- **June 2023** – IPART publishes its final report on interoperability pricing for ELNOs.³³

²⁶ IPART, Electronic Lodgment Network Operator service fees — Draft Report (July 2026), p. 21 and p. 13 (footnote b).

²⁷ IPART, Electronic Lodgment Network Operator service fees — Draft Report (July 2026), p. 13.

²⁸ IPART, Electronic Lodgment Network Operator service fees — Draft Report (July 2026), pp. 19-20.

²⁹ IPART, Review of the pricing framework for electronic conveyancing services in NSW — Final Report (November 2019); IPART, Electronic Lodgment Network Operator service fees — Draft Report (July 2026), p. 13 and p. 17 (Box 2.1).

³⁰ IPART, Electronic Lodgment Network Operator service fees — Draft Report (July 2026), p. 13 and p. 17 (Box 2.1).

³¹ IPART, Electronic Lodgment Network Operator service fees — Draft Report (July 2026), p. 17 (Box 2.1).

³² IPART, Electronic Lodgment Network Operator service fees — Draft Report (July 2026), p. 17 (Box 2.1).

³³ IPART, Interoperability pricing for Electronic Lodgment Network Operators — Final Report (June 2023); IPART, Electronic Lodgment Network Operator service fees — Draft Report (July 2026), p. 17.

- **2024** – ARNECC pauses the interoperability reforms in light of significant issues raised by the banking industry.³⁴
- **June 2024** – The NSW Productivity and Equality Commission publishes its eConveyancing Market Study.³⁵
- **2025** – ARNECC commissions three further reviews: the functional requirements for interoperability, an updated cost benefit analysis of the direct connect model, and a review of the eConveyancing regulatory framework. Parliamentary inquiries proceed in the Commonwealth Senate and the NSW Parliament. Lextech withdraws its ELNO application.³⁶
- **May 2025** – PEXA seeks approval under section 5.4.4 of the MORs to pass through a \$1 per transaction National Electronic Conveyancing Data Standards (“NECDS”) fee due to commence on 1 July 2025. The pass-through is approved in all jurisdictions except New South Wales, where the Registrar General considers the request should remain under review until IPART’s review of ELNO service fees is completed.³⁷
- **1 July 2025** – IPART’s current review of ELNO service fees commences.³⁸
- **August 2025** – IPART releases its Call for Submissions paper.³⁹
- **17 March 2026** – IPART holds a stakeholder workshop.⁴⁰
- **26 March 2026** – Following a Ministerial Forum on the future of competition reforms in eConveyancing, ARNECC announces that, without Commonwealth Government support, it will not proceed with the Interoperability Program at that time and will instead continue to strengthen the existing eConveyancing regulatory regime.⁴¹
- **31 March 2026** – IPART publishes its Methodology Paper.⁴²

³⁴ IPART, Electronic Lodgment Network Operator service fees — Draft Report (July 2026), p. 18 (Box 2.1).

³⁵ NSW Productivity and Equality Commission, eConveyancing Market Study (June 2024).

³⁶ IPART, Electronic Lodgment Network Operator service fees — Draft Report (July 2026), p. 14 and p. 18 (Box 2.1).

³⁷ IPART, Electronic Lodgment Network Operator service fees — Draft Report (July 2026), p. 22.

³⁸ IPART, Electronic Lodgment Network Operator service fees — Draft Report (July 2026), p. 8 (Figure 1.2).

³⁹ IPART, Electronic Lodgment Network Operator service fees — Draft Report (July 2026), p. 8 (Figure 1.2).

⁴⁰ IPART, Electronic Lodgment Network Operator service fees — Draft Report (July 2026), p. 8 (Figure 1.2).

⁴¹ IPART, Electronic Lodgment Network Operator service fees — Draft Report (July 2026), p. 19 (Box 2.1).

⁴² IPART, Electronic Lodgment Network Operator service fees — Draft Report (July 2026), p. 8 (Figure 1.2).

- **18 May 2026** – Jurisdictional pricing commences. PEXA adds \$1 (plus GST) to each of the most common transaction fees in all jurisdictions except New South Wales, establishing 8 separate pricing schedules. This marks the end of nationally consistent ELNO service fees.⁴³
- **2026** – The ASX sells its 49% interest in Sympli, PEXA’s only competitor, to its joint venture partner InfoTrack (owned by the ATI group) for a nominal amount.⁴⁴
- **3 July 2026** – IPART releases its Draft Report, proposing that price regulation of ELNO service fees continue but apply only to PEXA as the ELNO with substantial market power; that service fees be nationally consistent; that prices be determined using a building block methodology having regard to PEXA’s own costs rather than those of a hypothetical efficient ELNO over a 4-year regulatory period; and that revenue be reduced by around 20% through targeted reductions in the highest transaction fees, those involving transfers.⁴⁵
- **21 July 2026** – Public hearing on the Draft Report.⁴⁶
- **14 August 2026** – Submissions on the Draft Report close.⁴⁷
- **30 September 2026** – IPART’s Final Report is due to be submitted to the NSW Government on behalf of ARNECC.⁴⁸

30. This summary chronology documents that the framework under which ELNO service fees are now reviewed post-dates most of the period over which PEXA’s investors committed capital: the Electronic Conveyancing National Law was adopted in New South Wales in 2012, eConveyancing was introduced there in 2013, and the Model Operating Requirements period under which ELNO pricing is reviewed did not commence until 1 July 2019, with IPART completing its first review of eConveyancing pricing in November 2019. In addition, the

⁴³ IPART, Electronic Lodgment Network Operator service fees — Draft Report (July 2026), p. 22.

⁴⁴ IPART, Electronic Lodgment Network Operator service fees — Draft Report (July 2026), p. 14 and p. 17.

⁴⁵ IPART, Electronic Lodgment Network Operator service fees — Draft Report (July 2026), p. 2, p. 5 and p. 9 (draft recommendations 1 to 5).

⁴⁶ IPART, Electronic Lodgment Network Operator service fees — Draft Report (July 2026), p. 8.

⁴⁷ IPART, Electronic Lodgment Network Operator service fees — Draft Report (July 2026), p. 8.

⁴⁸ IPART, Electronic Lodgment Network Operator service fees — Draft Report (July 2026), p. 8.

framework has continued to develop after the January 2019 sale of the company, through the interoperability reforms progressed from 2020 and paused in 2024, the commencement of jurisdictional pricing in May 2026, and IPART’s current review. The regulatory regime in place today was therefore not in place during the development period, and PEXA’s investors could not have assumed it would be.

C. Risks Faced by PEXA’s Investors, 2010 - 2018

31. This section summarises the perceived risks PEXA investors faced during the 2010 – 2018 period, which are detailed in Appendix C. It draws on six successive board-adopted business plans spanning 2010 to 2017, the independent market analysis prepared for prospective investors by PricewaterhouseCoopers in August 2010, and the contemporaneous board papers, minutes, and funding and governance documents of the founding and development period. Our analysis is organised by 14 types of risk.⁴⁹

32. This analysis is directed to a question now at issue in IPART’s regulatory review of PEXA. In its draft report of July 2026, IPART stated that “PEXA Exchange’s establishment did not carry the risk profile of an arm’s-length seed-stage venture,” on the basis that “[t]he platform was established with government sponsorship and funding from major banks that were expected

⁴⁹ PricewaterhouseCoopers, Market Analysis Brief (August 2010); National E-Conveyancing Development Limited, Electronic Conveyancing Enterprise Business Plan, v10.1 (October 2010); PEXA, Business Plan, v1.4 (May 2013); PEXA, Business Plan, v1.8 (May 2014); PEXA, Business Plan (June 2015); PEXA, Business Plan (2016); and PEXA, Business Plan, final version (2017).

to be subscribers, which would be expected to reduce the probability of total exit, and to reduce adoption and stranding risk, relative to a typical seed-stage venture.”⁵⁰

33. The contemporaneous record set out below does not support that characterisation of PEXA’s development in its early years. Through the founding and development period, and for several years after commercial launch, the enterprise’s own board papers, funding documents, and independent valuations record a going concern dependent on successive capital raisings, an adoption outcome that turned on the voluntary conduct of banks and practitioners rather than being secured by their shareholding, and a company valued and priced as a development-stage business. We identified 14 distinct categories of risk across the seven documents reviewed, summarised in Exhibit II.5. The risk topics, abbreviated in the column headings and defined below, form the columns and the documents reviewed the rows. Each cell records whether the document addresses that risk and, where the document’s risk assessment assigns a rating, what that rating was: E = Extreme; H = High; L = Low for a rated risk, a filled circle where the risk is addressed without a rating, and a blank cell where it is not addressed in that document. The 14 risk categories and their abbreviations are:

- MKT — Market and Demand Risk (Appendix C, Section C)
- ADOPT — Adoption, Take-up and Utilisation Risk (Appendix C, Section D)
- STAKE — Stakeholder Alignment and Dependency Risk (Appendix C, Section E)
- DELIV — Delivery, Technology and Platform Execution Risk (Appendix C, Section F)
- COMP — Competition and Disintermediation Risk (Appendix C, Section G)
- REG — Regulatory and Legislative Risk (Appendix C, Section H)
- COMPL — Compliance Risk (Appendix C, Section I)
- CYBER — Cyber-Security, Fraud and Information-Security Risk (Appendix C, Section J)

⁵⁰ Independent Pricing and Regulatory Tribunal (IPART), Review of Electronic Lodgment Network Operator Service Fees — Draft Report (July 2026), p. 76.

- OPS — Operational, Business-Continuity and Third-Party Dependency Risk (Appendix C, Section K)
- TITLE — Title Integrity, Settlement and Transaction-Failure Risk (Appendix C, Section L)
- FIN — Financial, Funding, Solvency and Capital Risk (Appendix C, Section M)
- PEP — People and Organisational Risk (Appendix C, Section N)
- GOV — Governance, Shareholder and Liquidity-Event Risk (Appendix C, Section O)
- FOR — Forecast-Reliability and Valuation Risk (Appendix C, Section P)

Exhibit II.5
Risk Topics Addressed in PEXA Business Plans and Market Analysis
(noting the risk level stated in each document, if any)*

Document reviewed	MKT	ADOPT	STAKE	DELIV	COMP	REG	COMPL	CYBER	OPS	TITLE	FIN	PEP	GOV	FOR
PwC Market Analysis Brief (Aug 2010)	•	•	•	•	•	•				•	•			•
2010 ECE Business Plan (v10.1, Oct 2010)	L	•	•	•	•	E				•	•	•		•
2013 Business Plan / PEXA (v1.4, May 2013)	•	•	•	•	•	•	•	•	•		•	•		
2014 Business Plan (v1.8, May 2014)		E	•	H	•	•	•	•	•	•	•	•		
2015 Business Plan (Jun 2015)		H	•	•	•	•	•	•	•	•	•	•		
2016 Business Plan		H	•	•		•	•	H	•		•	•		
2017 Business Plan (Final)	•	•	•	•		•	•		•	•	•	•	•	

* E = Extreme; H = High; L = Low, being the rating stated in that document's risk assessment; • = risk addressed in the document without a stated rating; blank = not addressed. Ratings are reported only where the document states a rating band, a likelihood-and-consequence pair or a rated consequence; the later plans carry qualitative, unrated risk statements.

34. Reading down the columns, five categories are addressed in all seven documents — adoption and utilisation (ADOPT), stakeholder alignment (STAKE), delivery, technology, and platform execution risk (DELIV), regulation (REG) and funding (FIN) — and these are the exposures intrinsic to the venture rather than to any one phase of it. Reading across the rows, the emphasis shifts with the life of the enterprise. In the pre-development and development phase (2010–2014) the key risks were legislative enablement, which the 2010 plan treated as capable of halting the venture outright (E), stakeholder alignment, platform delivery, which the 2014 risk assessment rated High, and the funding of sustained losses, with take-up identified throughout as the principal risk and rated Extreme in 2014 — the sole such rating in that risk assessment.

Market risk was treated differently: it is the one category the 2010 plan discounted, on the basis that deterioration in transaction volumes was unlikely to render the business uneconomic (L). In the deployment phase (2015–2017) technology and delivery risk receded by management’s own account, and utilisation of the platform — moving subscribers from pilot to business-as-usual — became the single highest-rated risk, carrying High in both 2015 and 2016.

35. Funding and solvency risk (FIN) was a recurring identified risk, and one of the five categories addressed in every document: successive plans disclosed going-concern pressure, the absence of a solvency buffer, unavailability of debt, and repeated capital calls, so that dilution and reliance on shareholder support were persistent. Every rating in the exhibit falls in the 2010 to 2016 documents; the 2017 plan — like the founding PwC brief and the 2013 plan — addresses its risks without assigning any rating at all, so that the quantified likelihood-and-consequence ratings of the earlier risk assessments gave way to unrated, qualitative statements. People and organisational risk (PEP) is identified in every business plan from 2010 to 2017, and forecast-reliability risk (FOR) is addressed in the two founding documents. Governance, shareholder and liquidity-event risk (GOV) appears only in the 2017 plan. Read together with the funding and valuation record, the pattern is that of a development-stage venture whose continued existence depended on ongoing shareholder support, not that of an established business whose government and bank backing had removed the risk of exit.

36. Beyond the six board-adopted business plans and the market analysis catalogued in Exhibit II.5, in Exhibit II.6 we provide a summary of PEXA’s risks based on contemporaneous board papers, board minutes, and funding and governance documents from the founding and

development period, which record how the same risks were assessed as they arose.⁵¹ The exhibit summarises the risks addressed in those documents, using the same 14 categories and the same convention as Exhibit II.5, with the addition of an M (Moderate) rating for the one paper that rates its risks on that scale.

Exhibit II.6
Risk Topics in PEXA/NECDL Board Papers, Minutes and Other Documents (2010–2016)
(noting the risk level stated in each document, if any)*

Document Reviewed	MKT	ADOPT	STAKE	DELIV	COMP	REG	COMPL	CYBER	OPS	TITLE	FIN	PEP	GOV	FOR
NECDL Board Papers #11 (13 Sep 2010)		•		•		•					•			
NECDL Minutes #35 (26 Jul 2011)											•			
Shareholders' Deed (5 Aug 2011)													•	•
NECDL Board #46 (1 Mar 2012)		•	•	•							•			
NECDL Board #48 (3 May 2012)											•			
NECDL Board #54 (4 Oct 2012)											•			
NECDL Board #55 (2012)		•	•											
NECDL Board #58 (12 Dec 2012)		M	M								M			
Board Meeting #74 (17 Dec 2013)		•		•							•			
PEXA Minutes #82 (19 Jun 2014)											•			
PEXA Minutes #97 (20 May 2015)				•							•			•
PEXA Minutes #110 (14 Apr 2016)	•													•

* E = Extreme; H = High; L = Low; M = Moderate, being the rating stated in that document's risk assessment; • = risk addressed in the document without a stated rating; blank = not addressed.

37. Exhibit II.6 reviews twelve PEXA board of directors' papers, minutes and governance documents dated between September 2010 and April 2016. Compared with Exhibit II.5, the two records differ in breadth but agree in substance. Funding and solvency risk (FIN) is the dominant concern, addressed in nine of the twelve documents and recurring throughout the period, from

⁵¹ National E-Conveyancing Development Limited (NECDL), Board Papers No. 11 (13 September 2010); NECDL, Minutes No. 35 (26 July 2011); NECDL, Shareholders' Deed (5 August 2011); NECDL, Board No. 46 (1 March 2012); NECDL, Board No. 48 (3 May 2012); NECDL, Board No. 54 (4 October 2012); NECDL, Board No. 55 (2012); NECDL, Board No. 58 (12 December 2012); NECDL, Board Meeting No. 74 (17 December 2013); PEXA, Minutes No. 82 (19 June 2014); PEXA, Minutes No. 97 (20 May 2015); and PEXA, Minutes No. 110 (14 April 2016).

the first board paper of September 2010 to the minutes of May 2015. Adoption and utilisation risk (ADOPT) is addressed in five documents and platform delivery (DELIV) in four, with stakeholder alignment (STAKE) in three and forecast reliability (FOR) in three; regulation (REG) and market risk (MKT) each appear once, and the Shareholders' Deed of 5 August 2011 is the only document to address governance, shareholder and liquidity-event risk (GOV). The funding and solvency risk that Exhibit II.5 shows in every business plan therefore appears in Exhibit II.6 as a recurring item of board business across six years, so the contemporaneous record of what the board actually dealt with corroborates, rather than merely restates, the risk profile disclosed in the plans.

D. PEXA's Realised Timing and Required Investment Risks

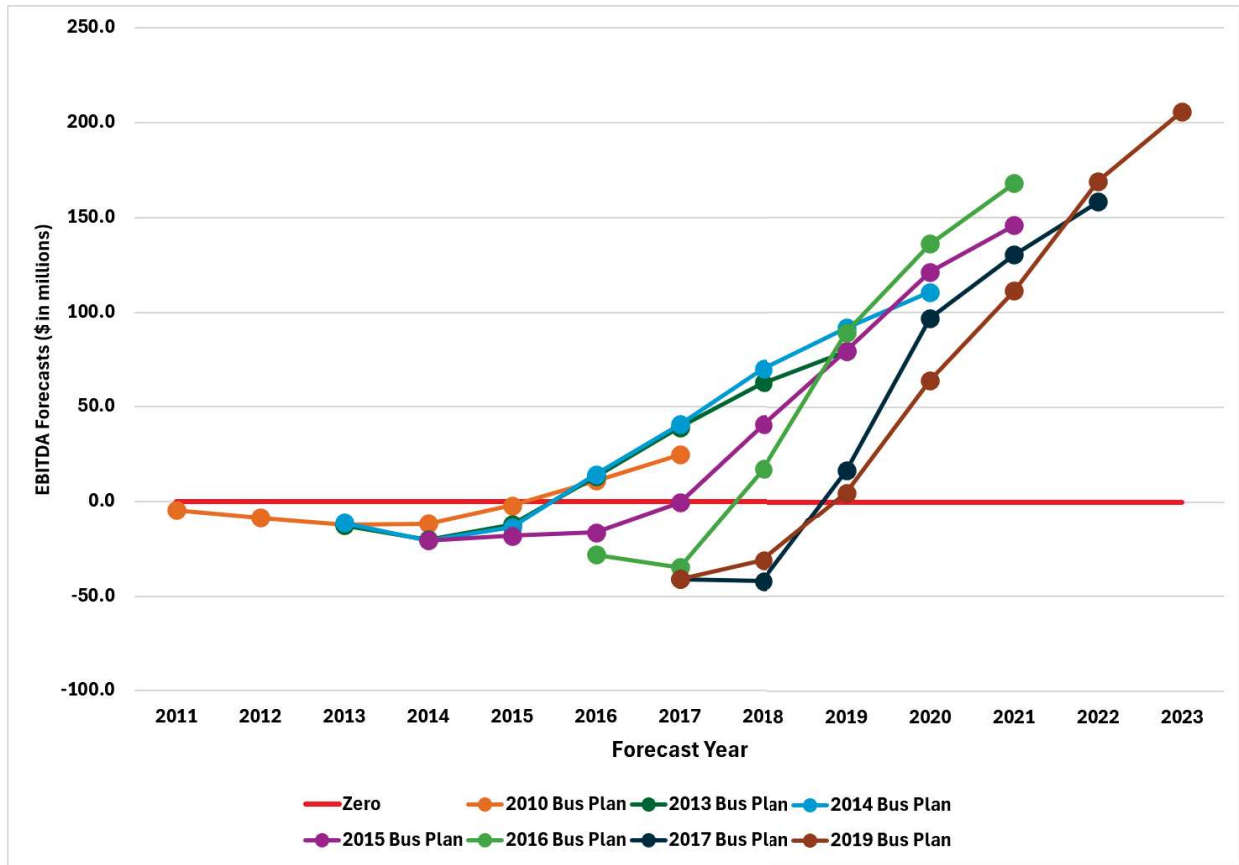
38. PEXA tended to underperform the forecasts made in its early years. PEXA experienced delays in timing, lower operating profits, and more required investments, which are consistent with the risks identified in the PEXA business plans, board papers, board minutes and other documents discussed in the previous section.

39. For example, Exhibit II.7 presents the EBITDA forecasts contained in each of PEXA's business plans from 2010 through 2019, in millions of dollars. Two features are apparent. First, the fiscal year in which EBITDA was forecast to turn positive moved progressively later with each successive plan: the 2010, 2013 and 2014 plans each forecast positive EBITDA by FY2016; the 2015 and 2016 plans deferred that outcome to FY2018; and the 2017 and 2019 plans deferred it again to FY2019. Second, the forecast losses to be absorbed before that point deepened as the plans were revised. The most negative EBITDA forecast in the 2010 plan was \$12.4 million

(FY2013), whereas the 2013, 2014 and 2015 plans each troughed at approximately \$20 million (FY2014), the 2016 plan at \$34.8 million (FY2017), and the 2017 and 2019 plans at effectively the same depth, \$41.9 million (FY2018) and \$40.8 million (FY2017), respectively. In every plan EBITDA crosses from negative to positive once and remains positive thereafter, so what the successive revisions record is not an expectation of permanent losses but of profitability reached later, and after larger accumulated losses, than previously forecast.⁵²

⁵² PEXA business plan forecasts for the 2010, 2013, 2014, 2015, 2016, 2017 and 2019 plans. Figures are stated in millions of dollars.

Exhibit II.7
PEXA 2010 – 2019 Business Plan EBITDA Forecasts



40. Exhibit II.8 presents the corresponding pre-tax free cash flow forecasts. The same two patterns appear, and both are more pronounced. The fiscal year in which pre-tax free cash flow was forecast to turn positive slipped from FY2016 in the 2010, 2013 and 2014 plans, to FY2018 in the 2015 plan, to FY2019 in the 2016 plan, and to FY2020 in the 2017 and 2019 plans — one year later than the corresponding EBITDA crossover in each plan from 2016 onwards. The forecast cash outflows also deepened: the trough moves from \$23.1 million in the 2010 plan (FY2011) to \$44.9 million and \$46.9 million in the 2013 and 2014 plans (FY2014), \$45.4 million in the 2015 plan (FY2015), \$52.3 million in the 2016 plan (FY2017), \$83.9 million in the

2017 plan (FY2018), and \$66.3 million in the 2019 plan (FY2018). Even after the reduction of the trough in the 2019 plan relative to the 2017 plan, the trough in the 2019 plan was approximately 2.9 times the trough forecast in the 2010 plan. As with EBITDA, each plan forecast a single crossing into positive cash flow, so the effect of the successive revisions was to extend the period over which the business would consume cash, and to increase the amount of cash it would consume, before generating any.⁵³

Exhibit II.8
PEXA 2010 – 2019 Business Plan Pre-Tax Free Cash Flow Forecasts



⁵³ PEXA business plan forecasts for the 2010, 2013, 2014, 2015, 2016, 2017 and 2019 plans. Figures are pre-tax and stated in millions of dollars.

41. Taken together, Exhibits II.7 and II.8 show that the timing and funding risks identified in PEXA’s own planning documents were realised rather than avoided. Each successive plan deferred the year in which EBITDA and pre-tax free cash flow were expected to turn positive, and tended to increase the losses and cash outflows to be funded before that point, with the consequence that further equity had to be subscribed to reach a result earlier plans had expected sooner and at lower cost. Repeated deferral of profitability accompanied by repeated increases in the capital required is the pattern of a development-stage venture whose outcome remained uncertain throughout the period, and not that of an established business.

E. PEXA’s Established WACC, 2010 - 2019

42. Our estimates of the return expected by PEXA’s investors during the 2010 – 2019 period require an estimate of an “Established WACC,” which is the expected return on an established publicly listed company that operates roughly in PEXA’s industry. We estimate the Established WACC by using IPART’s standard calculation of the cost of equity for a benchmark ELNO using the Capital Asset Pricing Model: $\text{cost of equity} = \text{risk-free rate} + \text{risk premium}$, with the risk premium measured as $\text{equity beta} \times \text{market risk premium}$ (“PEXA’s Risk Premium”).⁵⁴

43. IPART’s estimate of PEXA’s equity beta is estimated from a sample of 97 proxy firms across technology, professional-services and real-estate activities (excluding pure technology

⁵⁴The Capital Asset Pricing Model and the building-block framework applied here are IPART’s standard approach: Independent Pricing and Regulatory Tribunal (IPART), Electronic Lodgment Network Operator service fees — Draft Report, 3 July 2026, Chapter 8 (“Return on and of capital”), section 8.3 and Table 8.2 (WACC calculation, pp 80–81); and IPART, Review of our WACC method, February 2018. See also the supporting chapter summaries “Chapter 8 — Return on and of Capital” and “Chapter 7 — The Initial Asset Base”, derived from the Draft Report and provided with this brief.

firms), taking the mid-point of the medians of the real-estate and non-real-estate cohorts.⁵⁵

IPART's risk-free rate and market risk premium are market-based parameters estimated on both a current basis (a four-year trailing average of data to the end of March 2026: risk-free rate 4.4%, market risk premium 5.9%) and a long-term basis (risk-free rate 3.0%, market risk premium 6.0%).⁵⁶ IPART's nominal post-tax cost of equity is 10.4% on current data ($4.4\% + 1.02 \times 5.9\%$) and 9.1% on long-term data ($3.0\% + 1.02 \times 6.0\%$).⁵⁷ The current data and long-term data on PEXA's Risk Premiums are 6.018% ($1.02 \times 5.9\%$) and 6.120% ($1.02 \times 6.0\%$), respectively. IPART adopts the mid-point of the current and long-term estimates.⁵⁸ IPART's mid-point for PEXA's Risk Premiums is 6.069%.

44. To estimate PEXA's Established WACC during the 2010 – 2019 period, we add the risk-free rate as of the end of each month to IPART's mid-point risk premium of 6.069%. In Exhibit II.9 we provide PEXA's Established WACC for each 31 December from 2010 – 2019.

⁵⁵The equity beta of 1.02 is estimated using IPART's proxy-firm approach: Draft Report, section 8.3.1 and Table 8.3 (beta and gearing estimation, pp 81–82).

⁵⁶The risk-free rate and market risk premium are market-based parameters estimated on both a current and a long-term basis: Draft Report, sections 8.3.2–8.3.6 (methodology and uncertainty index, pp 82–83). The current parameters are a four-year trailing average of data to the end of March 2026 (risk-free rate 4.4%, market risk premium 5.9%); the long-term parameters are 3.0% and 6.0% respectively.

⁵⁷Draft Report, section 8.3 and Table 8.2 (pp 80–81). Nominal post-tax estimates are 10.4% on current data ($4.4\% + 1.02 \times 5.9\%$) and 9.1% on long-term data ($3.0\% + 1.02 \times 6.0\%$); the corresponding real post-tax figures of 7.6% and 6.4% are derived by removing assumed inflation of 2.6%.

⁵⁸IPART adopts the mid-point of the current and long-term estimates because its uncertainty index sits within one standard deviation of its long-term mean: Draft Report, sections 8.3.2–8.3.6 (uncertainty index, pp 82–83).

Exhibit II.9
PEXA's Established WACC, 31 December 2010 – 2019

Date	PEXA		
	Established WACC	Australian Gov 10 Yr YTM	PEXA Risk Premium
31-Dec-10	11.624%	5.555%	6.069%
31-Dec-11	9.894%	3.825%	6.069%
31-Dec-12	9.297%	3.228%	6.069%
31-Dec-13	10.331%	4.262%	6.069%
31-Dec-14	9.033%	2.964%	6.069%
31-Dec-15	8.921%	2.852%	6.069%
31-Dec-16	8.868%	2.799%	6.069%
31-Dec-17	8.652%	2.583%	6.069%
31-Dec-18	8.500%	2.431%	6.069%
31-Dec-19	7.271%	1.202%	6.069%

III. WIDELY ACCEPTED THEORY ON EXPECTED RATES OF RETURN

45. In this section, we summarise the widely accepted theory for measuring expected rates of return when a firm faces a substantial risk of exit.

A. Object of Interest: PEXA's Return

46. The key object of interest is the rate of return applied in the calculation of PEXA's capital base in IPART's recovered capital method.⁵⁹ This return can be interpreted as the hurdle rate for an investment in PEXA as implied by the agreements underwriting PEXA's development in its early years from 2010 to 2018.⁶⁰

⁵⁹ See IPART, Draft Report — Electronic Lodgment Network Operator service fees, 3 July 2026, Box 7.1 ("How the recovered capital method works"), p 73.

⁶⁰ The interpretation as hurdle rate is consistent with Australian Energy Regulator, *Pipeline information disclosure guidelines and price reporting guidelines for Part 18A facilities: Explanatory note*, October 2023, page 18.

47. When PEXA was founded and during its development years, PEXA had to attract capital. PEXA’s potential investors would assign probabilities to their expected return if PEXA were to be successful (no exit) and their expected return if PEXA were to exit. Across their entire portfolio of startup investments, investors would expect to earn the probability-weighted return of the non-exit and exit returns. However, investors would expect to earn the non-exit return if PEXA were to be successful and did not exit. IPART appears to have concluded that the appropriate return to use for PEXA’s startup and development period is the probability-weighted return of the non-exit and exit scenarios, which would have been insufficient for PEXA to attract capital when PEXA was founded and during its development years. Instead, the correct return for IPART to use during PEXA’s development years is the non-exit return that investors expected PEXA to generate in case it did not exit or, equivalently, the “minimum return estimated to attract capital to that investment.”⁶¹ We henceforth refer to this non-exit return simply as “PEXA’s return.”

48. We next describe three methods that can be used to measure PEXA’s return. We later employ all three methods in our analyses, finding consistent results across the three methods.

B. Measuring PEXA’s Return Using the Established WACC and Exit Rates

49. Standard theory posits that the hurdle rate on an investment like PEXA is at least as large as the return on an alternative investment with comparable characteristics in financial markets. Therefore, one way to calculate PEXA’s return is to determine the alternative return generated

⁶¹ Quote from Australian Energy Regulator, *Pipeline information disclosure guidelines and price reporting guidelines for Part 18A facilities: Explanatory note*, October 2023, page 16.

by a broadly similar investment and then, if needed, make adjustments to make that alternative return directly comparable to PEXA's return.

50. A natural starting point is the Established WACC that determines the return of an established business operating in a similar sector to PEXA (e.g., the real estate services sector). An advantage of this approach is that the Established WACC can be estimated following an established methodology proposed by IPART, as summarised in Section II. However, the Established WACC does not equal PEXA's return because the Established WACC incorporates all potential scenarios for an established publicly traded company, which is not the risk profile of PEXA or any startup during its development years. In contrast, the object of interest, PEXA's return, incorporates only the non-exit scenarios implied by the forecasts in the initial underwriting agreements and business plans. In other words, the forecasts prepared for PEXA in the initial agreements and plans assumed non-exit scenarios, so the hurdle rate that investors applied to evaluate these forecasts was based on non-exit scenarios.

51. To derive the relation between the Established WACC and PEXA's return, we lay out a calculation. The Established WACC for a business in PEXA's industry in year t is r_t , PEXA's exit probability calculated in year t is d_t , and PEXA's return (i.e., in the non-exit case) is r_t^* . Investors invest capital X_t . According to standard logic, investors expect to earn the Established WACC r_t over all potential future scenarios, including exit and non-exit, when they invest in a company like PEXA. However, in the case PEXA were to exit, investors expect to earn zero, whereas in the case PEXA were to survive, they expect to earn r_t^* . By definition, the overall expected return on the invested capital over all potential scenarios equals the probability-weighted expected return over the exit and non-exit scenarios:

$$(1 + r_t)X_t = (1 - d_t)(1 + r_t^*)X_t + d_t 0. \quad (T1)$$

Solving for PEXA's return yields:

$$r_t^* = \frac{(1 + r_t)}{(1 - d_t)} - 1. \quad (T2)$$

The equation shows that PEXA's return can be calculated using the Established WACC and the exit probability.⁶²

52. PEXA's return exceeds the Established WACC because investors factor in the exit probability when making their investment decisions. PEXA needed to offer investors a higher expected return in the case it survived in order to attract any capital in the first place. IPART's calculations of PEXA's capital base are carried out in 2026, in the knowledge that PEXA has survived. In this scenario, the return that investors expect to earn equals PEXA's return conditional on survival (i.e., r_t^*). Hence, ex post and given survival, the return that investors earn from PEXA is higher than the Established WACC. In the words of the Australian Energy Regulator, the "minimum return estimated to attract capital to that investment" is not equal to the Established WACC, but equal to PEXA's return.⁶³

53. A simple hypothetical example illustrates the intuition. Imagine that it is 2011. Investors choose between investing in PEXA and in a stock whose expected return is similar to the Established WACC. The Established WACC is 12%, so investors expect to earn 12% on the

⁶² Similar calculations are in: Richard S. Ruback, 2011, Downsides and DCF: Valuing biased cash flow forecasts. *Journal of Applied Corporate Finance*, 23(2), pp. 8-17.

⁶³ Quote from Australian Energy Regulator, *Pipeline information disclosure guidelines and price reporting guidelines for Part 18A facilities: Explanatory note*, October 2023, page 16.

stock. PEXA exits with 20% probability. If PEXA only generated a 12% return in the non-exit scenario, investors would not invest in PEXA. Instead, PEXA has to offer a higher return in the non-exit scenario to attract investors. Specifically, following equation (T2) above, PEXA's return would need to be 40% in order to make investors willing to invest, so PEXA's return in this example is 40%. This implies that, conditional on not exiting, investors require PEXA to earn a 40% return.

C. Measuring PEXA's Return Using the DCF Framework

54. An alternative approach to determining PEXA's return relies on the discounted cash flow (DCF) framework. A DCF is the standard tool used to value businesses like PEXA. It can be represented by the following equation:

$$V_t = \sum_{s=0}^{\infty} \frac{CF_s}{(1 + r_t^*)^s}, \quad (T3)$$

where V_t is the market value of the business in year t and CF_s is the expected cash flow projected in period s , assuming that PEXA does not exit. The discount rate r_t^* equals the return on capital that investors expected PEXA to generate, which is the object of interest (i.e., PEXA's return). The equation says that the value of a business is the sum (over all future years) of the discounted cash flows.⁶⁴

55. In this definition, an expected cash flow is the probability-weighted sum of the cash flows across all of the possible non-exit scenarios — the product of each outcome's probability

⁶⁴ Robert W. Holthausen and Mark E. Zmijewski, *Corporate Valuation: Theory, Evidence and Practice* (Cambridge Business Publishers, 3rd ed), Chapter 5, pp 257 to 262.

and its cash flow, summed over every outcome. This is the same calculation as the expected payoff in a game of chance: it is the average that would be realised over a sufficiently large number of repetitions, and it may differ from every individual outcome that can actually occur. In practice, the expected cash flows may be approximated using forecasts made in year t .

56. For a private business like PEXA, the market value can be observed at times of equity issuance, based on the prices and quantity of equity. By combining expected cash flows with the market value and solving equation (T3), one can derive PEXA's return, as implied by the forecasts and market values used by investors.

D. Measuring PEXA's Return Using Investors' Hurdle Rates

57. Another approach to determining PEXA's return is to measure the actual hurdle returns used by investors to evaluate young firms and startups. In practice, private equity and venture capital investors conduct similar calculations to the ones made in equation (T2). If one can observe investors' hurdle rates applying to businesses broadly comparable to PEXA, one can infer the rough magnitude of the hurdle rate used by PEXA's early investors.

IV. QUESTION 1: SHOULD AN INDIVIDUAL VENTURE CAPITAL INVESTMENT HAVE A LOWER EX ANTE EXPECTED RETURN THAN AN AVERAGE OF THE PORTFOLIO OR THE OVERALL PORTFOLIO?

58. Venture capital provides financing to early-stage companies that are often unable to obtain funding through traditional sources such as commercial banks or public capital markets.⁶⁵ These companies are typically characterised by significant uncertainty, limited operating histories, unproven technologies or business models, and a meaningful risk of exit.⁶⁶ As a result, investors require the prospect of comparatively high non-exit returns to compensate them for the substantial risks associated with providing capital to such businesses.⁶⁷

59. Because the future performance of any individual startup is highly uncertain, venture capital investors generally invest in a portfolio of multiple companies rather than concentrating their capital in a single firm.⁶⁸ This portfolio approach reflects the substantial uncertainty associated with early-stage investments.⁶⁹ At the time an investment is made, investors generally face considerable uncertainty regarding whether a company will successfully develop its

⁶⁵ Fenn, George W., Nellie Liang, and Stephen Prowse. "The Economics of the Private Equity Market." *Federal Reserve Bank*, 168 (1995):1-67, pp. 2-3, 17-18.

⁶⁶ Bernstein, Shai, Arthur Korteweg, and Kevin Laws. "Attracting early-stage investors: Evidence from a randomized field experiment." *Journal of Finance* 72, no. 2 (2017): 509-538, p. 510; Fenn, George W., Nellie Liang, and Stephen Prowse. "The Economics of the Private Equity Market." *Federal Reserve Bank*, 168 (1995):1-67, p. 18.

⁶⁷ Fenn, George W., Nellie Liang, and Stephen Prowse. "The Economics of the Private Equity Market." *Federal Reserve Bank*, 168 (1995):1-67, p. 18.

⁶⁸ Fenn, George W., Nellie Liang, and Stephen Prowse. "The Economics of the Private Equity Market." *Federal Reserve Bank*, 168 (1995):1-67, footnote 67.

⁶⁹ Bernstein, Shai, Arthur Korteweg, and Kevin Laws. "Attracting early-stage investors: Evidence from a randomized field experiment." *Journal of Finance* 72, no. 2 (2017): 509-538, p. 510; Fenn, George W., Nellie Liang, and Stephen Prowse. "The Economics of the Private Equity Market." *Federal Reserve Bank*, 168 (1995):1-67, p. 18.

products, attract customers, achieve scale, or generate sustainable profitability.⁷⁰ As a result, venture capital investors expect that some portfolio companies will exit entirely, some will generate modest returns, and a relatively small number will become highly successful.⁷¹

60. The purpose of a portfolio is therefore not to eliminate the risk associated with individual investments, but rather to allow investors to undertake multiple risky investments whose outcomes are uncertain.⁷² By investing across numerous companies, venture capital firms can diversify risks that are specific to individual businesses, technologies, management teams, or markets.⁷³ The overall performance of the fund is determined by the combined outcomes of its investments rather than the success or exit of any single company.⁷⁴

61. Venture capital portfolio returns are commonly characterised by a highly skewed distribution of outcomes.⁷⁵ Many investments return less than the amount invested, and some

⁷⁰ Bernstein, Shai, Arthur Korteweg, and Kevin Laws. "Attracting early-stage investors: Evidence from a randomized field experiment." *Journal of Finance* 72, no. 2 (2017): 509-538, p. 510; Fenn, George W., Nellie Liang, and Stephen Prowse. "The Economics of the Private Equity Market." *Federal Reserve Bank*, 168 (1995):1-67, pp. 18-19.

⁷¹ Lerner, Josh, and Ramana Nanda. "Venture capital's role in financing innovation: What we know and how much we still need to learn." *Journal of Economic Perspectives* 34, no. 3 (2020): 237-261, p. 255.

⁷² Lerner, Josh, and Ramana Nanda. "Venture capital's role in financing innovation: What we know and how much we still need to learn." *Journal of Economic Perspectives* 34, no. 3 (2020): 237-261, p. 239.

⁷³ Lerner, Josh, and Ramana Nanda. "Venture capital's role in financing innovation: What we know and how much we still need to learn." *Journal of Economic Perspectives* 34, no. 3 (2020): 237-261, p. 239; Fenn, George W., Nellie Liang, and Stephen Prowse. "The Economics of the Private Equity Market." *Federal Reserve Bank*, 168 (1995):1-67, pp. 1-3.

⁷⁴ Kanniainen, Vesa, and Christian Keuschnigg. "The optimal portfolio of start-up firms in venture capital finance." *Journal of Corporate Finance* 9, no. 5 (2003): 521-534, p. 528, showing that the venture capitalist's profit function is explicitly written as the sum of contributions from portfolio firms.

⁷⁵ Lerner, Josh, and Ramana Nanda. "Venture capital's role in financing innovation: What we know and how much we still need to learn." *Journal of Economic Perspectives* 34, no. 3 (2020): 237-261, p. 255.

result in a complete loss of invested capital in the case of exit.⁷⁶ At the same time, a relatively small number of surviving investments generate large returns.⁷⁷ Academic and practitioner literature has frequently observed that a significant portion of a venture capital fund's overall return is often attributable to a limited number of highly successful investments.⁷⁸ These successful investments must therefore generate high returns sufficient not only to recover the capital invested in those businesses but also to offset losses incurred elsewhere in the portfolio.^{79,80}

62. Consider a simplified example. Suppose a venture capital fund invests equal amounts in ten startup companies. Assume that five investments exit completely and return no capital, three return approximately the amount invested, one generates a moderate return, and one generates a large return. In such a portfolio, the fund's overall performance may depend heavily on the outcome of the single highly successful investment. The large return earned on that investment is not evidence that investors expected a lower return when the investment was made. Rather, the

⁷⁶ Lerner, Josh, and Ramana Nanda. "Venture capital's role in financing innovation: What we know and how much we still need to learn." *Journal of Economic Perspectives* 34, no. 3 (2020): 237-261, p. 255; Fenn, George W., Nellie Liang, and Stephen Prowse. "The Economics of the Private Equity Market." *Federal Reserve Bank*, 168 (1995):1-67, p. 18.

⁷⁷ Lerner, Josh, and Ramana Nanda. "Venture capital's role in financing innovation: What we know and how much we still need to learn." *Journal of Economic Perspectives* 34, no. 3 (2020): 237-261, p. 255.

⁷⁸ Lerner, Josh, and Ramana Nanda. "Venture capital's role in financing innovation: What we know and how much we still need to learn." *Journal of Economic Perspectives* 34, no. 3 (2020): 237-261, p. 255.

⁷⁹ Bernstein, Shai, Arthur Korteweg, and Kevin Laws. "Attracting early-stage investors: Evidence from a randomized field experiment." *Journal of Finance* 72, no. 2 (2017): 509-538, p. 510.

⁸⁰ See also Sahlman, William A., and Daniel R. Scherlis. "A Method For Valuing High-Risk, Long-Term Investments: The 'Venture Capital' Method." *Harvard Business School*. Background Note 288-006. 52, 2009: 1-52, p. 11 explaining that systematic risk premium, value added, and liquidity premium help explain why a venture capital portfolio should return rates higher than market rate as a whole.

large realised return reflects the fact that investors committed capital despite facing a meaningful possibility that the investment would instead have exited.

63. Importantly, venture capital investors make investment decisions *ex ante*, before the outcomes of any individual investments are known.⁸¹ Investors do not know which investments within a portfolio will ultimately succeed and which will exit.⁸² Instead, they evaluate each opportunity based on the risks and expected rewards that exist at the time capital is committed.⁸³ The return required on an individual investment therefore reflects the investment's expected risk profile at the time of investment, including the possibility of partial or complete loss.⁸⁴

64. The fact that venture capital returns are often observed and reported at the portfolio level does not imply that the required return on a successful investment should be reduced after the fact because the investment ultimately survived. Portfolio returns reflect the aggregate outcome of many investments whose future success or exit was uncertain when the investments were made. From the perspective of investors at the time of investment, each investment was exposed to the risks that justified the return they required in exchange for providing capital.

⁸¹ Lerner, Josh, and Ramana Nanda. "Venture capital's role in financing innovation: What we know and how much we still need to learn." *Journal of Economic Perspectives* 34, no. 3 (2020): 237-261, p. 255; Fenn, George W., Nellie Liang, and Stephen Prowse. "The Economics of the Private Equity Market." *Federal Reserve Bank*, 168 (1995):1-67, pp. 18-19.

⁸² Lerner, Josh, and Ramana Nanda. "Venture capital's role in financing innovation: What we know and how much we still need to learn." *Journal of Economic Perspectives* 34, no. 3 (2020): 237-261, p. 255.

⁸³ Fenn, George W., Nellie Liang, and Stephen Prowse. "The Economics of the Private Equity Market." *Federal Reserve Bank*, 168 (1995):1-67, pp. 18-19; Bernstein, Shai, Arthur Korteweg, and Kevin Laws. "Attracting early-stage investors: Evidence from a randomized field experiment." *Journal of Finance* 72, no. 2 (2017): 509-538, p. 510.

⁸⁴ Fenn, George W., Nellie Liang, and Stephen Prowse. "The Economics of the Private Equity Market." *Federal Reserve Bank*, 168 (1995):1-67, p. 18.

65. In summary, if ex post successful, the return that an individual venture capital investment generates typically exceeds the average return of all the investments in a portfolio. It also typically exceeds the return of the overall portfolio. Ex ante, assuming that a venture capital investment survives, investors expect it to generate a higher return than the return they expect from the average investment (across exiting and surviving investments) or the overall portfolio. When analysing ex post outcomes, the relevant inquiry is whether the investment's ex post return reflects the risks that investors would have perceived at the time of investment. Those risks included the possibility of partial or complete loss, as well as the possibility that the investment would need to generate substantial returns if successful. Accordingly, we do not agree that the ex ante return required on an individual venture capital investment should be reduced simply because that investment later became one of the successful investments in the portfolio. The subsequent success of a portfolio company does not, by itself, demonstrate that investors would have accepted a lower return when deciding whether to provide capital.

V. QUESTION 2: WHAT ARE TYPICAL VENTURE CAPITAL RETURNS ACCORDING TO RECENT STUDIES?

66. In Section X, we provide a detailed review of venture capital hurdle rates (required returns) observed in the recent literature that relate to non-exit scenarios. In general, the hurdle rates far exceed the WACC of publicly listed companies, such as the Established WACC calculated in Section II.

67. To summarise Section X, the returns generally vary with the age of the venture capital investment. For example, new startups' required returns are often between 35% and 70%, according to Sahlman and Scherlis (2009) and Fenn, Liang, and Prowse (1995). After a few years, typically during the first and second private financing rounds, the required returns are often between 25% and 50%. In the years approaching an initial public offering, the required returns are often between 20% and 40%.⁸⁵ Over all the years of venture capital investments (both early and late stage), the average required return is around 32%, according to the survey in Gompers, Gornall, Kaplan, and Strebulaev (2021).⁸⁶

VI. QUESTION 3: DOES OWNERSHIP TYPE (E.G., GOVERNMENT AND BANKS) CHANGE THE EXPECTED RETURN OF A BUSINESS VENTURE?

68. IPART's second reason for declining to apply venture-capital returns is that PEXA Exchange's establishment did not carry the risk profile of an arm's-length seed-stage venture. IPART concluded that, because the platform was established with government sponsorship and funding from major banks that were expected to be subscribers, the probability of total exit, and the adoption and stranding risk, were reduced relative to a typical seed-stage venture.⁸⁷ However, IPART treats the 2018-19 financial year as the point at which PEXA transitioned from establishment to an established, self-sustaining business. It reasons that 2019-20 was the first year in which revenue exceeded operating expenditure plus new capital expenditure, and that the

⁸⁵ Fenn, George W., Nellie Liang, and Stephen Prowse. "The Economics of the Private Equity Market." *Federal Reserve Bank*, 168 (1995):1-67, pp. 2-3, 17-18. Sahlman, William A., and Daniel R. Scherlis. "A Method For Valuing High-Risk, Long-Term Investments: The 'Venture Capital' Method." *Harvard Business School*. Background Note 288-006. 52, 2009: 1-52, pp. 6-7.

⁸⁶ Gompers, Paul, Will Gornall, Steven N. Kaplan, and Ilya A. Strebulaev. "Venture capitalists and COVID-19." *Journal of Financial and Quantitative Analysis* 56, no. 7 (2021): 2474-2499, pp. 8-10; Table 1, p. 24.

⁸⁷ IPART, Electronic Lodgment Network Operator Service Fees — Draft Report (July 2026), section 7.5.2, p 76.

privatisation of PEXA in January 2019 corroborates that establishment was substantially complete by the end of 2018-19.⁸⁸

69. The contemporaneous record summarised in Section II does not support the proposition that government sponsorship and bank shareholding removed the risks a seed-stage investor would price. Adoption risk is identified in every business plan as the principal risk. It turned on the voluntary conduct of the banks and practitioners rather than on the banks' shareholding: the enterprise's own disclosures to prospective investors warned that if one or more of the major banks were not on board, take-up would not occur at the forecast rates. IPART estimates the allowed rate of return for a benchmark efficient ELNO from a sample of comparable firms, adopting an equity beta of 1.02 and gearing of 12% — that is, from an ownership-neutral market benchmark. Its treatment of ownership arises only through the seed-stage reason, in which government and bank sponsorship is said to reduce risk, rather than through any proposition that ownership as such alters the required rate of return.⁸⁹

70. A further type of risk is funding and solvency risk. It was likewise unaffected. The FY12 statutory accounts carried an auditor's emphasis of matter recording that a significant uncertainty existed as to continued funding, and in June 2014 the board provisioned approximately \$12 million as a contingency for solvency and potential wind-up costs — a provision made after a State shareholder's own due diligence enlarged, rather than reduced, the required raise. On the

⁸⁸ IPART, Electronic Lodgment Network Operator Service Fees — Draft Report (July 2026), section 7.4.3, p 72.

⁸⁹ IPART, Electronic Lodgment Network Operator Service Fees — Draft Report (July 2026), section 8.3.1, pp 81–82, and section 7.5.2, p 76.

enterprise's own contemporaneous assessment, the presence of governments and banks on the register did not eliminate the possibility of exit.

71. As discussed in Section II, those risks were realised rather than avoided. Across successive business plans the fiscal year in which EBITDA was forecast to turn positive slipped from FY2016 to FY2019, and the year in which pre-tax free cash flow was forecast to turn positive slipped from FY2016 to FY2020, while the losses and cash outflows to be funded in the interim tended to deepen with revisions. An investor subscribing in 2011, 2013 or 2015 was therefore funding a business whose date of self-sufficiency moved further away as the period progressed, and whose capital requirement rose accordingly.

72. Moreover, as discussed in Section II.C, PEXA faced regulatory risks. An ELNO can operate only where legislation permits electronic lodgment, and its prices are subject to the regulator. Specific regulation of PEXA's prices began in February 2019, when the Model Operating Requirements first restricted an ELNO to a single increase in its individual transaction prices each year, capped at the change in the CPI; in NSW the Conditions of Approval cap that increase at CPI less a Factor set each year by the Registrar General, which has been set at zero since 2018-19. The constraint therefore originates with the same jurisdictions that sponsored the enterprise. That exposure has continued: IPART's Draft Report of July 2026 proposes that price regulation of ELNO service fees continue but apply only to PEXA, as the ELNO with substantial market power, and that its revenue be reduced by around 20%. Government participation in the enterprise has coincided with the regulation of its prices rather than insulated PEXA from it.

73. Section IX documents the rates of return PEXA's investors in fact expected to earn, derived from the prices at which they subscribed. Solving for the discount rate that equates the 2013 Business Plan forecasts to the \$145.7 million equity value implied by the 6 February 2013 issuance price of \$2.62 per share yields an expected return of 32% in 2013, declining in equal increments to PEXA's Established WACC by 2021. Those were the returns required by the government and bank shareholders whose participation is said to have reduced risk. The exit rates implied by the difference between those rates and 9.467% are 17.1% in 2013, falling to 4.9% in 2019, and 56.9% on a cumulative basis by 2019. Those implied rates correspond closely to the exit-rate assumptions applied in Section VIII — 24% in 2011 and 2012, 15% from 2013 through 2015 and 8% from 2016 through 2019 — which are drawn from business-survival evidence rather than from PEXA's share prices. The prices at which PEXA's own shareholders subscribed and the external survival evidence therefore imply exit risk of a similar order. These risks were thus not determined by government involvement but by PEXA's inherent business model.

74. The answer to Question 3 is accordingly that ownership type does not itself change the expected rate of return on a business venture. What determines the required return is the risk of the forecast cash flows, and on the record above government and bank ownership neither removed the adoption, funding and exit risks PEXA faced during its development period nor insulated it from the regulation of its prices.

75. In summary, ownership type does not alter the rate of return that a business venture must offer its investors; the risk borne by those investors does. PEXA's government and bank shareholders bore the adoption, delivery, funding and regulatory risks recorded in the

contemporaneous documents, and they priced those risks into successive share issuances, at expected returns beginning at 32% and declining as the risks resolved. IPART's characterisation of PEXA's establishment as not carrying the risk profile of an arm's-length seed-stage venture is not supported by that record, and IPART's own allowed return, estimated from an ownership-neutral sample of comparable firms, is itself consistent with the proposition that ownership as such does not change the required return. It follows that the discount rate applied to PEXA over the development period should reflect the risks its investors actually bore, and the time path of that rate is the subject of Section VII.

VII. QUESTION 4: WHAT IS THE TIME PATH OF PEXA'S RETURN AND FROM WHEN SHOULD AN ESTABLISHED WACC BE APPLIED?

76. In the following three Sections VIII, IX, and X, we calculate PEXA's return over time, as defined in Section III and following the three methods outlined in Section III. Our calculations yield values for PEXA's return for every year between 2011 and 2019.

77. The key characteristic of our calculations is that they capture the return that PEXA's investors expected when they provided capital to PEXA (i.e., the "minimum return estimated to attract capital to that investment"⁹⁰). The returns are highest in the early years, in particular from 2011 to 2015, because PEXA's exit risk was highest in this period. Investors in these early years required a high return in scenarios in which PEXA survived, in order to compensate them for the

⁹⁰ Quote from Australian Energy Regulator, *Pipeline information disclosure guidelines and price reporting guidelines for Part 18A facilities: Explanatory note*, October 2023, page 16.

high probability of PEXA exiting and investors losing capital. As a result, PEXA's return was not equal to the Established WACC of a publicly listed company with much lower exit risk in the early years. As PEXA's exit risk declined with each passing year, PEXA's return required by investors also decreased. However, PEXA's return was not equal to the Established WACC until PEXA became an established firm with relatively low exit risk, roughly around 2021.

78. For the period 2011 to 2012, our calculations rely on observed exit rates and the Established WACC. We calculate that PEXA's return is 44.8% in 2011 and 44.0% in 2012 (see Section VIII). Our calculations are conservative for two reasons. First, the exit rates that we use are directly measured in Australian data and follow the industry classification for PEXA selected by IPART. Exit rates in other relevant industries are not generally lower. Second, our measure of the Established WACC follows IPART's methodology. Consistent with our calculations, the venture capital (non-exit) hurdle rates for early stage investments are often around 50% (see Section X).

79. For the period 2013 to 2015, we calculate that PEXA's return is 32% in 2013, 29.2% in 2014, and 26.4% in 2015 using the 2013 DCF method. This method reflects the returns expected by PEXA's investors according to the forecasts and market value used in 2013 (see Section IX). Given that PEXA's return is meant to capture investor expectations, it is reasonable to use these returns calculated by the 2013 DCF method for PEXA's return in this period. We report that comparable venture capital hurdle rates are of a similar magnitude for firms at this development stage (see Section X). The exit rate method yields numbers of 30.4% in 2013, 28.9% in 2014, and 28.8% in 2015 (see Section VIII).

80. For the period 2016 to 2018, we calculate that PEXA's return is 23.6% in 2016, 20.8% in 2017, and 17.9% in 2018 using the 2013 DCF method (see Section IX). We again consider that it is reasonable to use these numbers for PEXA's return. The literature finds similar venture capital hurdle rates for firms at this development stage (see Section X). Using the exit rate method, we find returns of 18.3% in 2016, 18.1% in 2017, and 17.9% in 2018 (see Section VIII).

81. For the period 2019 to 2020, we can calculate investors' expected returns according to the forecasts and market value used in 2019. We calculate that PEXA's return is 16.2% in 2019 and 12.4% in 2020 using the 2019 DCF method (see Section IX). We consider it reasonable to use these numbers for PEXA's return. Venture capital hurdle rates are often of similar magnitude for similar firms (see Section X) as is our estimate of PEXA's 2019 return using the exit rate method, which lies at 16.6% (see Section VIII).

82. The three methods generate consistent numbers for PEXA's return over time, indicating that the broad conclusions are robust and not driven by methodological idiosyncrasies. Instead, the numbers are driven by the risks associated with PEXA's development in its early years, which influenced investors' expected returns and should be reflected in PEXA's returns used to calculate its capital base.

VIII. CALCULATING PEXA'S RETURN USING OBSERVED EXIT RATES

83. Following the method described in Section III, we calculate a return that incorporates the probability of business exit during PEXA's early years.

A. Main Exit Analysis: Exits in ABS Data

84. To estimate the probability of business exit, we relied on data by the Australian Bureau of Statistics (“ABS”). These data provide evidence regarding the proportion of newly established businesses that survive through their first years of operation and therefore provide a basis within an Australian setting for estimating the likelihood that an early-stage business will remain active long enough to generate the expected stream of future cash flows. Later on, we find similar results using other data, so the results are not dependent on the ABS data.

85. The ABS publishes annual business survival statistics that track cohorts of newly established Australian businesses over time. For each entry cohort, the ABS reports the number of businesses that remain active one, two and three years after establishment — that is, they measure the number that survive. According to the ABS, a business exit occurs when a business’s Australian Business Number or GST registration is cancelled or when the business ceases remitting GST for a specified period.

86. Exit events provide a useful measure of the risk faced by investors in an early-stage venture. If a business exits through closure, acquisition, restructuring, or another event that prevents investors from realising the projected stream of future cash flows underlying the valuation analysis, investors may fail to realise some or all of the anticipated return on their investment. Accordingly, we use observed business exit rates as an empirical measure of the risk that the expected stream of future cash flows will not be realised.

87. For purposes of this analysis, we examined ABS business entry cohorts covering the periods 2007 to 2011; 2008 to 2012; 2009 to 2013; and 2010 to 2014. These periods overlap

substantially with the early years of PEXA's development and therefore provide contemporaneous evidence regarding business survival outcomes during the relevant timeframe.

88. Our primary specification focuses on businesses classified under ANZSIC Industry Code 67 (Property Operators and Real Estate Services) with annual turnover between \$0 and \$50,000. We selected this category because it most closely reflects the circumstances of an early-stage venture that had not yet achieved significant revenues. During its early development period, PEXA was investing in product development, industry participation, and platform adoption, and was not expected to generate positive cash flows immediately. This lowest turnover category therefore provides an appropriate benchmark for the risk that an early-stage business may cease operating as an active business during the early stage of PEXA's development.

89. Using the ABS survival data, we calculate entry year – year 1, year 1-2, and year 2-3 exit rates for each cohort. We then calculate average exit rates across the available cohorts and use those averages as estimates of the probability that an early-stage business will no longer be active during PEXA's early years.

Exhibit VIII.1⁹¹

Exit Rates for New Businesses in the Property Operators and Real Estate Services Sector

ABS Data Years	Industry Code	Industry	Turnover	Starting Firms	1-Yr Survivors	Entry-Yr 1 Exit Rate	2-Yr Survivors	Yr 1-2 Exit Rate	3-Yr Survivors	Yr 2-3 Exit Rate	Annualized Exit Rate
2007-2011	67	Property Operators and Real Estate Services	Zero to \$50k	12,476	8,872	29%	7,623	14%	6,860	10%	18%
2008-2012	67	Property Operators and Real Estate Services	Zero to \$50k	9,928	7,830	21%	6,684	15%	5,782	13%	16%
2009-2013	67	Property Operators and Real Estate Services	Zero to \$50k	11,101	8,407	24%	6,928	18%	6,064	12%	18%
2010-2014	67	Property Operators and Real Estate Services	Zero to \$50k	8,899	6,927	22%	5,867	15%	5,200	11%	16%
<i>All Cohorts</i>					<i>Mean</i>	24%		15%		12%	
					<i>Median</i>	23%		15%		12%	
					<i>Min</i>	21%		14%		10%	
					<i>Max</i>	29%		18%		13%	
<i>All Cohorts Excluding 2007-2011</i>					<i>Mean</i>	23%		16%		12%	
					<i>Median</i>	22%		15%		12%	
					<i>Min</i>	21%		14%		10%	
					<i>Max</i>	24%		18%		13%	

90. We also performed several robustness checks using alternative turnover categories and broader industry classifications.⁹² These analyses indicate that exit rates for larger businesses within Industry Code 67 are generally similar to those observed for businesses with turnover between \$0 and \$50,000. In addition, broader industry groupings generally exhibit lower exit rates than those for Industry Code 67. Accordingly, the exit rate specification using Industry Code 67 and businesses with turnover between \$0 and \$50,000 provides an appropriate and conservative benchmark for estimating the probability of business exit for an early-stage venture such as PEXA.

91. We also examined whether the exit rate estimates were materially affected by the inclusion of the 2007-2011 entry cohort, which overlaps with the global financial crisis. To do

⁹¹ Australian Bureau of Statistics business entry and survival data for the entry cohorts 2007–2011, 2008–2012, 2009–2013 and 2010–2014; ANZSIC Industry Code 67 (Property Operators and Real Estate Services), businesses with annual turnover between \$0 and \$50,000.

⁹² See Exhibits VIII.2 and VIII.3.

so, we recalculated the exit rate estimates excluding the 2007-2011 cohort. The resulting exit rate estimates are broadly similar to those reported in Exhibit VIII.1 and continue to indicate elevated rates of business exit during the early years following formation. Accordingly, the exit rate estimates used in our analysis do not appear to be driven by temporary economic conditions resulting from the global financial crisis.

92. As an additional robustness check, we examined exit rates for firms operating in other industries relevant for PEXA. Specifically, we analysed ANZSIC Industry Code 69 (Professional, Scientific and Technical Services, except Computer System Design and Related Services) and ANZSIC Industry Code 70 (Computer System Design and Related Services) for businesses with turnover between \$0 and \$50,000, as reported in Exhibits VIII.2 and VIII.3. The results indicate that businesses in these industries exhibit exit rates that are broadly comparable to those observed for Industry Code 67 and, in several periods, higher. These findings provide additional evidence that business exit risk is a common characteristic of newly established businesses during their early years and is not unique to the Property Operators and Real Estate Services sector.

93. Although the results for Industry Codes 69 and 70 support the existence of substantial early-stage business exit risk, we are conservative in our approach. We rely on the Industry Code 67 estimates in our primary analysis. The Industry Code 67 exit rates are generally at the lower end of the range observed across the industries examined. Accordingly, the exit rate assumptions used in our analysis are conservative relative to the alternative industry benchmarks presented in Exhibits VIII.2 and VIII.3.

Exhibit VIII.2⁹³

Exit Rates for New Businesses in the Professional, Scientific and Technical Services (Except Computer System Design and Related Services) Sector

ABS Data Years	Industry Code	Industry	Turnover	Starting Firms	1-Yr Survivors	Entry-Yr 1 Exit Rate	2-Yr Survivors	Yr 1-2 Exit Rate	3-Yr Survivors	Yr 2-3 Exit Rate	Annualized Exit Rate
2007-2011	69	Professional, Scientific and Technical Services (Except Computer System Design and Related Services)	Zero to \$50k	11,951	7,815	35%	6,043	23%	5,107	15%	25%
2008-2012	69	Professional, Scientific and Technical Services (Except Computer System Design and Related Services)	Zero to \$50k	12,360	9,386	24%	7,323	22%	5,917	19%	22%
2009-2013	69	Professional, Scientific and Technical Services (Except Computer System Design and Related Services)	Zero to \$50k	14,565	10,108	31%	7,645	24%	5,992	22%	26%
2010-2014	69	Professional, Scientific and Technical Services (Except Computer System Design and Related Services)	Zero to \$50k	11,795	8,655	27%	6,471	25%	5,178	20%	24%
<i>All Cohorts</i>					<i>Mean</i>	29%		24%		19%	
					<i>Median</i>	29%		24%		20%	
					<i>Min</i>	24%		22%		15%	
					<i>Max</i>	35%		25%		22%	
<i>All Cohorts Excluding 2007-2011</i>					<i>Mean</i>	27%		24%		19%	
					<i>Median</i>	27%		24%		19%	
					<i>Min</i>	24%		22%		15%	
					<i>Max</i>	31%		25%		22%	

Exhibit VIII.3⁹⁴

Exit Rates for New Businesses in the Computer System Design and Related Services Sector

ABS Data Years	Industry Code	Industry	Turnover	Starting Firms	1-Yr Survivors	Entry-Yr 1 Exit Rate	2-Yr Survivors	Yr 1-2 Exit Rate	3-Yr Survivors	Yr 2-3 Exit Rate	Annualized Exit Rate
2007-2011	70	Computer System Design and Related Services	Zero to \$50k	3,116	1,944	38%	1,471	24%	1,201	18%	27%
2008-2012	70	Computer System Design and Related Services	Zero to \$50k	3,271	2,450	25%	1,921	22%	1,534	20%	22%
2009-2013	70	Computer System Design and Related Services	Zero to \$50k	4,232	2,915	31%	2,166	26%	1,653	24%	27%
2010-2014	70	Computer System Design and Related Services	Zero to \$50k	3,583	2,701	25%	2,040	24%	1,616	21%	23%
<i>All Cohorts</i>					<i>Mean</i>	30%		24%		21%	
					<i>Median</i>	28%		24%		20%	
					<i>Min</i>	25%		22%		18%	
					<i>Max</i>	38%		26%		24%	
<i>All Cohorts Excluding 2007-2011</i>					<i>Mean</i>	27%		24%		21%	
					<i>Median</i>	25%		24%		21%	
					<i>Min</i>	25%		22%		18%	
					<i>Max</i>	31%		26%		24%	

⁹³ Australian Bureau of Statistics business entry and survival data for the entry cohorts 2007–2011, 2008–2012, 2009–2013 and 2010–2014; ANZSIC Industry Code 69 (Professional, Scientific and Technical Services (Except Computer System Design and Related Services)), businesses with annual turnover between \$0 and \$50,000.

B. Robustness on the Exit Analysis: Exits in Other Settings

94. The exit rates derived from the ABS data are broadly consistent with academic evidence regarding the risks faced by newly established businesses. While these studies employ different methodologies and sample selection criteria than those reflected in the ABS data, they nevertheless provide a useful point of reference for evaluating the general magnitude of the exit rates observed in our analysis. Importantly, we do not rely on these studies to estimate the exit rates used in our analysis. Rather, we use the literature as a reasonableness check to assess whether the exit rates derived from the ABS data are broadly consistent with empirical research.

Exhibit VIII.4⁹⁵

Knaup and Piazza (2007): Survival Rates for U.S. Businesses Newly Established in 1998

Table 1. Survival rates of previous year's survivors, by sector and year since birth, 1999–2005							
[In percent]							
NAICS supersector	First year (1999)	Second year (2000)	Third year (2001)	Fourth year (2002)	Fifth year (2003)	Sixth year (2004)	Seventh year (2005)
National	81.2	81.0	82.6	81.7	86.3	89.9	90.5
Natural resources and mining	82.3	84.5	85.4	83.4	87.6	92.0	91.8
Construction	80.7	81.5	81.5	79.5	86.8	90.3	89.8
Manufacturing	84.2	81.6	83.0	83.2	86.2	90.6	91.6
Trade, transportation, and utilities	82.6	80.9	81.9	81.7	85.5	89.3	90.9
Information	80.8	77.8	78.7	76.2	82.9	90.5	87.6
Financial activities	84.1	82.7	84.2	84.1	89.2	91.8	91.5
Professional and business services	82.3	81.2	82.5	80.3	86.1	90.4	90.2
Education and health services	85.6	85.1	87.5	86.9	90.5	92.8	94.1
Leisure and hospitality	81.2	80.1	82.5	81.6	87.1	90.6	90.9
Other services	80.7	80.3	82.3	82.3	84.4	87.3	89.0

⁹⁴ Australian Bureau of Statistics business entry and survival data for the entry cohorts 2007–2011, 2008–2012, 2009–2013 and 2010–2014; ANZSIC Industry Code 70 (Computer System Design and Related Services), businesses with annual turnover between \$0 and \$50,000.

⁹⁵ Knaup, Amy E., and Merissa C. Piazza, “Business Employment Dynamics data: survival and longevity, II,” Monthly Labor Review, vol. 130, no. 9 (September 2007), pp. 3–10. The cohort comprises establishments born in the second quarter of 1998.

Exhibit VIII.5⁹⁶

Knaup and Piazza (2007): Survival and Exit Rates for U.S. Businesses Newly Established in 1998

Sector	Entry-Yr 1		Yr1-Yr2		Yr2-Yr3		Yr3-Yr4		Yr4-Yr5		Yr5-Yr6		Yr6-Yr7	
	Survival Rate	Exit Rate	Survival Rate	Exit Rate	Survival Rate	Exit Rate	Survival Rate	Exit Rate	Survival Rate	Exit Rate	Survival Rate	Exit Rate	Survival Rate	Exit Rate
National	81.2%	18.8%	81.0%	19.0%	82.6%	17.4%	81.7%	18.3%	86.3%	13.7%	89.9%	10.1%	90.5%	9.5%
Natural Resources and Mining	82.3%	17.7%	84.5%	15.5%	85.4%	14.6%	83.4%	16.6%	87.6%	12.4%	92.0%	8.0%	91.8%	8.2%
Construction	80.7%	19.3%	81.5%	18.5%	81.5%	18.5%	76.5%	23.5%	86.8%	13.2%	90.3%	9.7%	89.8%	10.2%
Manufacturing	84.2%	15.8%	81.6%	18.4%	83.0%	17.0%	83.2%	16.8%	86.2%	13.8%	90.6%	9.4%	91.6%	8.4%
Trade, transportation and utilities	82.6%	17.4%	80.9%	19.1%	81.9%	18.1%	81.7%	18.3%	85.5%	14.5%	89.3%	10.7%	90.9%	9.1%
Information	80.8%	19.2%	77.8%	22.2%	78.7%	21.3%	76.2%	23.8%	82.9%	17.1%	90.5%	9.5%	87.6%	12.4%
Financial activities	84.1%	15.9%	82.7%	17.3%	84.2%	15.8%	84.1%	15.9%	89.2%	10.8%	91.8%	8.2%	91.5%	8.5%
Professional and business services	82.3%	17.7%	81.2%	18.8%	82.5%	17.5%	80.3%	19.7%	86.1%	13.9%	90.4%	9.6%	90.2%	9.8%
Education and health services	85.6%	14.4%	85.1%	14.9%	87.5%	12.5%	86.9%	13.1%	90.5%	9.5%	92.8%	7.2%	94.1%	5.9%
Leisure and hospitality	81.2%	18.8%	80.1%	19.9%	82.5%	17.5%	81.6%	18.4%	87.1%	12.9%	90.6%	9.4%	90.9%	9.1%
Other services	80.7%	19.3%	80.3%	19.7%	82.3%	17.7%	82.3%	17.7%	84.4%	15.6%	87.3%	12.7%	89.0%	11.0%
Average - All		17.7%		18.5%		17.1%		18.4%		13.4%		9.5%		9.3%
Average - Financial activities and Professional business services		16.8%		18.1%		16.7%		17.8%		12.4%		8.9%		9.2%
Average - ABS Data Industry Code 67 & Zero to \$50K Turnover		24.1%		15.4%		11.8%								

95. Using a cohort of 212,182 U.S. businesses newly established in 1998, Knaup and Piazza (2007) report annual business survival rates across a number of industry sectors. As shown in Exhibits VIII.4 and VIII.5, these estimates exhibit the same pattern observed in the ABS cohorts: the risk that a newly established business will cease operating is highest during the early years following formation and declines materially as businesses mature.

96. The industry sectors reported by Knaup and Piazza (2007) that are somewhat, although not exactly, related to PEXA include the financial activities sector and the professional and business services sector. As shown in Exhibit VIII.5 across these sectors, annual exit rates generally range from approximately 15.8% to 18.8% during the first three years following formation. However, the level of these numbers is not directly comparable because the Knaup and Piazza (2007) study examines businesses of a different size profile and industry than PEXA. In addition, this study examines businesses in the U.S. established in the high-growth year of

⁹⁶ Knaup, Amy E., and Merissa C. Piazza, "Business Employment Dynamics data: survival and longevity, II," Monthly Labor Review, vol. 130, no. 9 (September 2007), pp. 3–10. The cohort comprises establishments born in the second quarter of 1998.

1998, whereas our analysis focuses on Australian businesses established during the early 2010s.⁹⁷ The observed time pattern of business survival in Knaup and Piazza (2007) is useful for our point that newly established businesses face elevated exit risk during their early years of operation, which then slowly falls over time.⁹⁸

97. Using the U.S. Census Bureau's Longitudinal Business Database, Puri and Zarutskie (2012) compared venture capital ("VC")-backed and non-VC-backed firms formed between 1981 and 2005.⁹⁹ By the end of the fifth year, cumulative exits of non-VC financed firms reached approximately 51% of firms, with exit rates falling over time.¹⁰⁰

98. Data from the U.S. Bureau of Labor Statistics ("BLS") similarly indicate substantial exit risk among private sector businesses. The BLS tracks annual business cohorts through 2025, providing survival statistics over horizons extending from one to ten years and beyond.¹⁰¹ Five-year survival rates for the 2011 – 2019 cohorts ranged from approximately 51% to 56%, implying corresponding five-year exit rates of approximately 44% to 49%.¹⁰² The BLS data also

⁹⁷ In addition, Knaup and Piazza employ a methodology that seeks to account for business exits arising from changes in ownership, whereas the ABS measures may classify such events differently. Knaup, Amy E., and Merissa C. Piazza. "Business employment dynamics data: survival and longevity, II." *Monthly Lab. Rev.* 130 (2007): 3-10, p. 4.

⁹⁸ See also, Damodaran, Aswath. "Valuing young, start-up and growth companies: Estimation issues and valuation challenges." *Available at SSRN 1418687* (2009), p. 6: "Knaup and Piazza (2008) used data from the Bureau of Labor Statistics Quarterly Census of Employment and Wages (QCEW) to compute survival statistics across firms. This census contains information on more than 8.9 million U.S. businesses in both the public and private sector. Using a seven year database from 1998 to 2005, the authors concluded that only 44% of all businesses that were founded in 1998 survived at least 4 years and only 31% made it through all seven years."

⁹⁹ Puri, Manju, and Rebecca Zarutskie. "On the life cycle dynamics of venture-capital-and non-venture-capital-financed firms." *Journal of Finance* 67, no. 6 (2012): 2247-2293, pp. 2249, 2255-56, 2261.

¹⁰⁰ Puri, Manju, and Rebecca Zarutskie. "On the life cycle dynamics of venture-capital-and non-venture-capital-financed firms." *Journal of Finance* 67, no. 6 (2012): 2247-2293, Table 5.

¹⁰¹ https://www.bls.gov/bdm/us_age_naics_00_table7.txt, last accessed August 6, 2026.

¹⁰² https://www.bls.gov/bdm/us_age_naics_00_table7.txt, last accessed August 6, 2026.

show substantial longer-term attrition. For cohorts formed between 2011 and 2015, for which ten-year outcomes are available, ten-year survival rates ranged from approximately 33% to 38%, implying that approximately 62% to 67% of firms had exited within ten years of formation.¹⁰³

C. PEXA's Return Based on Exit Rates

Exhibit VIII.6¹⁰⁴
Exit Rate Assumptions

Year	Exit Rate
2011	24%
2012	24%
2013	15%
2014	15%
2015	15%
2016	8%
2017	8%
2018	8%
2019	8%

99. For purposes of estimating the return applicable to PEXA's early development period, we applied annual exit-rate assumptions that reflect both the empirical literature discussed above and the evolving circumstances of PEXA over time. Specifically, as shown in Exhibit VIII.6, we applied a 24% exit rate during 2011 and 2012, corresponding to the average entry-to-Year 1 exit rates observed in the ABS cohort data. This is consistent with the ABS cohort methodology, which groups businesses established over two consecutive years into a single cohort and then tracks that cohort's subsequent annual survival experience. Consequently, the entry-to-Year 1

¹⁰³ https://www.bls.gov/bdm/us_age_naics_00_table7.txt, last accessed August 6, 2026.

¹⁰⁴ Exit rates applied in our analysis, derived from the exit rates reported in Exhibit VIII.1 and the survival evidence discussed above.

exit rate reported in Exhibit VIII.1 reflects the average early-stage attrition experienced by businesses formed during those two entry years and provides an appropriate benchmark for exit risk during the initial two years of operation.

100. This elevated early-stage exit risk is also consistent with PEXA's contemporaneous business plans. Prior to 2013, the company identified several material uncertainties, including the risk that enabling legislation would not be enacted, that key stakeholders and banks would not participate, that the platform could not be delivered on time and within budget, and that additional funding would be required before the business became self-sustaining.¹⁰⁵ The business plans from this period also describe subscriber adoption as a critical determinant of commercial success.¹⁰⁶ These risks are characteristic of an early-stage venture and support the application of higher exit rates during the initial years of operation.

101. The pattern of shareholder valuations is consistent with this assessment. As shown in the share price data, PEXA's share price remained relatively low and largely unchanged during 2011 and 2012, at approximately \$1.00 to \$1.50 per share, before increasing materially in later years as development and adoption milestones were achieved.¹⁰⁷ The absence of significant appreciation during the first two years is consistent with investors continuing to face substantial uncertainty regarding the venture's prospects and ultimate success.

¹⁰⁵ See Section II and Appendix C.

¹⁰⁶ See Section II and Appendix C.

¹⁰⁷ See Exhibits II.1 and II.3.

102. We applied a 15% exit rate during 2013 through 2015, corresponding to the average Year 1-to-Year 2 exit rates observed in the ABS cohorts.¹⁰⁸ These assumptions reflect the empirical evidence that newly established businesses face their highest risk of exit during their earliest years of operation and that exit risk declines as businesses survive and mature. They are also consistent with PEXA's contemporaneous risk assessments, which during this period continued to identify subscriber adoption, stakeholder alignment, platform delivery, and funding requirements as material risks to the venture's success.¹⁰⁹ Although some early development risks had begun to recede, PEXA remained dependent on achieving broad market adoption and securing the transaction volumes necessary to become commercially viable.¹¹⁰ Consistent with these ongoing uncertainties, PEXA's share price remained relatively modest during 2013 through 2015 compared with the substantial appreciation observed in later years, suggesting that investors continued to perceive meaningful execution and commercialisation risk.¹¹¹

103. Beginning in 2016, we applied an exit-rate assumption of 8%.¹¹² This rate is below the average Year 2-to-Year 3 exit rates observed in the ABS cohort data and therefore provides a more conservative estimate of business-exit risk. We consider this assumption reasonable because, by this stage, PEXA had progressed beyond its initial formation period, had established industry participation, and had continued to advance platform development and implementation. At the same time, contemporaneous business plans indicate that several of the most significant

¹⁰⁸ See Exhibit VIII.1.

¹⁰⁹ See Sections II.B and C and Appendix C.

¹¹⁰ See Sections II.B and C and Appendix C.

¹¹¹ See Sections II.B and C and Appendix C.

¹¹² See Exhibit VIII.6.

early-stage risks identified during the development period, including platform-delivery and implementation risk, had diminished, while the principal remaining uncertainty related to achieving broader utilisation and market adoption.¹¹³ The academic evidence reviewed above likewise indicates that business-exit risk declines materially as firms survive beyond their earliest years and establish an operating track record. Consistent with this evolution in risk, PEXA's share price increased from approximately \$3 per share in 2015 to approximately \$5 per share by 2017, reflecting growing investor confidence as key development milestones were achieved and uncertainty surrounding the venture's long-term viability declined.¹¹⁴ Accordingly, the use of an 8% annual exit-rate assumption during 2016 through 2019 reflects both the maturation of the business and a conservative application of the empirical survival evidence.

104. We note that in 2018 and 2019, PEXA's future value remained dependent on continued growth in platform utilisation and market penetration. As shown in Appendix C,¹¹⁵ the number of practitioner firms using the platform increased from approximately 6,700 in FY18 to more than 8,200 in FY19, while transactions per practitioner firm increased from approximately 65 to 175 over the same period, demonstrating significant continuing growth in both adoption and usage. Therefore, although many of PEXA's early development and implementation risks had been reduced by 2018, the company's long-term success remained dependent on continued expansion of its user base and transaction activity. Accordingly, commercial risk had not been eliminated

¹¹³ See Sections II.B and C and Appendix C.

¹¹⁴ See Exhibit II.1.

¹¹⁵ See Appendix C, Section D: Adoption, Take-Up and Utilisation Risk.

entirely. The continued application of an 8% exit rate reflects the risk profile of a business that faced risks tied to continued adoption and increased usage of the platform.

105. We incorporated the annual exit-rate assumptions into the applicable returns to derive exit-adjusted rates of return. The adjustment reflects the economic principle that investors require a higher expected rate of return when there is a meaningful possibility that the business may not survive long enough to generate the projected future cash flows underlying the valuation analysis. Consistent with the pattern observed in the ABS survival data and the broader academic literature, as shown in Exhibit VIII.7, the resulting adjustment is greatest during PEXA's earliest years and declines as the business matures and the probability of exit decreases.

Exhibit VIII.7¹¹⁶
PEXA's Return Based on Exit Rates and the Established WACC

Date	PEXA Established WACC	Australian Gov 10 Yr YTM	PEXA Risk Premium	Exit Rate	PEXA Established WACC Adjusted for Exit Rate
31-Dec-11	9.894%	3.825%	6.069%	24.112%	44.811%
31-Dec-12	9.297%	3.228%	6.069%	24.112%	44.024%
31-Dec-13	10.331%	4.262%	6.069%	15.402%	30.418%
31-Dec-14	9.033%	2.964%	6.069%	15.402%	28.884%
31-Dec-15	8.921%	2.852%	6.069%	15.402%	28.752%
31-Dec-16	8.868%	2.799%	6.069%	8.000%	18.335%
31-Dec-17	8.652%	2.583%	6.069%	8.000%	18.100%
31-Dec-18	8.500%	2.431%	6.069%	8.000%	17.935%
31-Dec-19	7.271%	1.202%	6.069%	8.000%	16.599%
Average	8.974%	2.905%	6.069%	14.048%	27.540%

IX. CALCULATING PEXA'S EXPECTED RETURN USING A DCF

106. Following the method described in Section III, we calculate the rates of return that investors expected to earn on their PEXA shareholdings, based on the prices at which PEXA shares were issued and the cash flows that were expected at the corresponding issuance dates. The discount rate that equates the present value of the expected cash flows to the price paid is the rate of return that the investor expected to earn. Solving for that rate therefore recovers the investor's ex ante expected return, inclusive of whatever compensation the investor required for the risk that the company would exit before the forecast cash flows were realised. Hence, it recovers PEXA's return as expected by investors, which is the key object of interest.

¹¹⁶ Calculated by applying the exit-rate assumptions reported in Exhibit VIII.6 to PEXA's Established WACC as reported in Exhibit II.9.

107. As discussed previously, we assume the rate of return investors expected to earn beginning in 2021 (the year of the initial public offering of PEXA's stock) was the Established WACC (using a risk-free rate equal to the yield-to-maturity on a 10-year Australian Government bond on the valuation date). The rate of return investors expected to earn before 2021 is assumed to decline linearly each year from the first year of the forecasts until it converges to PEXA's Established WACC in 2021.

A. The 6 February 2013 DCF Analysis

108. On 6 February 2013, PEXA shares were issued in the Secondary Stage – Priority round at \$2.62 per share; applied to the 55.6 million shares then outstanding, that price implies a total equity value of \$145.7 million. PEXA's 2013 Business Plan includes forecasts for 2013 to 2019 and assumes a market growth rate of 1.6%, which is the growth rate we used to estimate PEXA's cash flows in 2020, 2021, and its terminal value.¹¹⁷

109. As shown in Exhibit IX.1, the 2013 Business Plan forecasts net revenue to increase from \$0.02 million in 2013 to \$104.8 million in 2019. EBITDA improves from negative \$11.9 million in 2013 to positive \$79.6 million in 2019. Pre-tax free cash flow increases from negative \$31.6 million in 2013 to \$71.0 million in 2019 and is negative in each of the years 2013 to 2015. After-

¹¹⁷ PEXA 2013 Business Plan v1.4 (Board Approved, 24 May 2013), Exhibit 88, p 122 (forecast profit and loss, FY2013 to FY2019) and Exhibit 90, p 126 (forecast cash flow, FY2013 to FY2019). The 1.6% growth rate is the forecast Compound Annual Growth Rate of the Australian real property market stated at section 1.2.2.2, p 7, and shown in Exhibit 4, p 24, where it is attributed to PwC forecasts.

tax free cash flow increases from negative \$31.6 million in 2013 to \$49.7 million in 2019 and \$50.5 million in 2020.¹¹⁸

Exhibit IX.1 2013 Business Plan Forecasts and Terminal Year Forecasts

Line item (\$'000)	2013 Business Plan Forecasts (2013 - 2019)							HZ Forecasts (2020 - 2021)	
	2013	2014	2015	2016	2017	2018	2019	2020	2021
Net Revenue	\$20.0	\$475.0	\$11,540.2	\$39,607.1	\$65,518.2	\$88,126.6	\$104,803.4	\$106,480.3	\$108,184.0
<i>Growth Rate</i>		2275.1%	2329.4%	243.2%	65.4%	34.5%	18.9%	1.6%	1.6%
EBITDA	-\$11,874.1	-\$20,062.9	-\$12,037.6	\$13,039.1	\$39,015.5	\$62,638.3	\$79,556.5	\$80,829.4	\$82,122.7
<i>Growth Rate</i>					199.2%	60.5%	27.0%	1.6%	1.6%
Free Cash Flow - Pre Tax	-\$31,628.9	-\$44,952.5	-\$20,867.8	\$8,914.8	\$29,872.3	\$62,587.8	\$71,014.4	\$72,150.7	\$73,305.1
Less Tax	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	-\$1,177.7	-\$21,304.3	-\$21,645.2	-\$21,991.5
Free Cash Flow - After Tax	-\$31,628.9	-\$44,952.5	-\$20,867.8	\$8,914.8	\$29,872.3	\$61,410.0	\$49,710.1	\$50,505.5	\$51,313.6
<i>Growth Rate</i>					235.1%	105.6%	-19.1%	1.6%	1.6%

110. As of 6 February 2013, the valuation date, we assume the rate of return PEXA investors expected to earn beginning in 2021, PEXA's Established WACC, was 9.467% (3.398% + 6.069%).¹¹⁹ For the years before 2021, we solved for the series of discount rates that equates the discounted cash flow valuation to the equity value implied by the 6 February 2013 issuance price, requiring that the rate decline linearly to 9.467% in 2021. The discounted cash flow valuation is shown in Exhibit IX.2. The terminal value is based on the Gordon growth perpetuity model using a 1.6% terminal growth rate and the 9.467% discount rate. Summing the discounted cash flows results in a valuation of \$145.7 million, which, by construction, equals that implied by the equity value of PEXA's stock issuance on 6 February 2013.

¹¹⁸ Income tax is calculated as the lesser of zero and the greater of (i) the applicable 30% tax rate multiplied by the current year pre-tax free cash flow and (ii) the applicable 30% tax rate applied to cumulative pre-tax free cash flow from the beginning of the forecast period through the relevant year. Under this approach tax expense is limited to zero while cumulative pre-tax free cash flow remains negative, thereby allowing losses incurred in earlier years to offset future taxable income. As cumulative pre-tax free cash flow remains negative through 2017, no income tax expense is recognised during 2013, 2014, 2015, 2016, or 2017.

¹¹⁹ PEXA's Established WACC is equal to the Australian Government Bond 10-Year Yield on 31 January 2013 plus PEXA's assumed risk premium discussed in Section II.

Exhibit IX.2
Discounted Cash Flow Valuation as of 6 February 2013

Line item (\$'000)	2013	2014	2015	2016	2017	2018	2019	2020	2021
Forecasted Free Cash Flow	-\$31,628.9	-\$44,952.5	-\$20,867.8	\$8,914.8	\$29,872.3	\$61,410.0	\$49,710.1	\$50,505.5	\$51,313.6
Forecasted Free Cash Flow + TV	-\$31,628.9	-\$44,952.5	-\$20,867.8	\$8,914.8	\$29,872.3	\$61,410.0	\$49,710.1	\$50,505.5	\$714,013.0
Discount Factor	89.51%	69.27%	54.80%	44.32%	36.70%	31.12%	27.04%	24.07%	21.99%
Discounted FCF + TV	-\$28,311.4	-\$31,138.2	-\$11,435.9	\$3,951.1	\$10,963.8	\$19,111.5	\$13,439.5	\$12,156.3	\$156,994.5
DCF Valuation	\$145,731.1								
	2013	2014	2015	2016	2017	2018	2019	2020	2021
Annual Discount Rate	32.04%	29.22%	26.40%	23.58%	20.76%	17.93%	15.11%	12.29%	9.47%

111. The resulting expected rate of return (discount rate) begins at 32.0% in 2013 and decreases by eight equal increments converging to 9.467% in 2021. Thus, the discount rates for 2014 through 2020 are 29.2% (2014), 26.4% (2015), 23.6% (2016), 20.8% (2017), 17.9% (2018), 15.1% (2019), and 12.3% (2020). As shown below in Exhibit IX.3, the exit rates implied by the difference between those rates and 9.467% are 17.1% in 2013, falling to 4.9% in 2019, and 56.9% on a cumulative basis by 2019. However, note that we have more relevant values for the discount rates for the years starting in 2019, which more accurately reflect investor expectations as of 2019 and which we turn to next.

Exhibit IX.3
Exit and Survival Rates as of 6 February 2013

	2013	2014	2015	2016	2017	2018	2019	2020	2021
Implied Annual Exit Rate	17.10%	15.29%	13.40%	11.42%	9.35%	7.18%	4.90%	2.51%	0.00%
Cumulative Exit Rate	17.10%	29.77%	39.18%	46.12%	51.16%	54.67%	56.89%	57.97%	57.97%
Implied Annual Survival Rate	82.90%	84.71%	86.60%	88.58%	90.65%	92.82%	95.10%	97.49%	100.00%
Cumulative Survival Rate	82.90%	70.23%	60.82%	53.88%	48.84%	45.33%	43.11%	42.03%	42.03%

B. The 16 January 2019 DCF Analysis

112. On 16 January 2019, the Exit to BidCo transaction was priced at \$11.7286 per share; applied to the 133.7 million shares then outstanding, that price implies a total equity value of \$1,567.7 million. As shown in Exhibit IX.4, PEXA's 2019 Business Plan includes forecasts for 2019 to 2023. Net revenue increases from \$100.9 million in 2019 to \$333.5 million in 2023,

forecasting annual growth of 59.7% in 2020, 34.5% in 2021, 32.5% in 2022 and 16.0% in 2023. EBITDA increases from \$4.9 million in 2019 to \$205.9 million in 2023, turning positive in 2019 after a loss of \$30.8 million in 2018. Pre-tax free cash flow is likewise taken from the business plan, increasing from negative \$17.6 million in 2019 to \$170.3 million in 2023, and after-tax free cash flow runs from negative \$17.7 million in 2019 to \$119.2 million in 2023.¹²⁰

Exhibit IX.4
2019 Business Plan Forecasts

2019 Business Plan Forecasts (2019 - 2023)					
Line item (\$'000)	2019	2020	2021	2022	2023
Net Revenue	\$100,940.0	\$161,177.0	\$216,860.0	\$287,402.0	\$333,514.0
<i>Growth Rate</i>		59.7%	34.5%	32.5%	16.0%
EBITDA	\$4,857.0	\$64,166.0	\$111,358.0	\$169,027.0	\$205,918.0
<i>Growth Rate</i>		1221.1%	73.5%	51.8%	21.8%
Free Cash Flow - Pre Tax	-\$17,644.0	\$41,008.0	\$85,558.0	\$142,406.0	\$170,307.0
Less Tax	-\$69.0	-\$3,109.0	-\$7,865.0	-\$13,547.0	-\$51,092.1
Free Cash Flow - After Tax	-\$17,713.0	\$37,899.0	\$77,693.0	\$128,859.0	\$119,214.9
<i>Growth Rate</i>			105.0%	65.9%	-7.5%

113. As of 16 January 2019, we assume that PEXA's Established WACC was 8.50% (2.431% + 6.069%).¹²¹ We used the government forecast of long-run inflation as of December 2018, 2.5%, which conservatively excludes population growth, to estimate PEXA's terminal value.¹²² We calculated the discount rates for 2019 and 2020 as we did in the 2013 valuation, that is, so that PEXA's value is equal to the Exit to BidCo transaction price of \$1,567.7 million.

¹²⁰ Income tax from 2019 through 2022 is calculated as the difference between forecast after-tax free cash flow and forecast pre-tax free cash flow. From 2023 onward, income tax is calculated as the lesser of the negative of the 30% tax rate applied to pre-tax free cash flow and zero.

¹²¹ PEXA's Established WACC is equal to the Australian Government Bond 10-Year Yield on 31 December 2018 plus PEXA's assumed risk premium discussed in Section II.

¹²² Australian Government, The Treasury, *Mid-Year Economic and Fiscal Outlook 2018-19* (December 2018), Part 1: Overview, Table 1.2 (Major economic parameters). Available at https://archive.budget.gov.au/2018-19/myefo/myefo_2018-19.pdf. CPI measured as through-the-year growth to the June quarter.

Exhibit IX.5
Discounted Cash Flow Valuation as of 16 January 2019

Line item (\$'000)	2019	2020	2021	2022	2023
Forecasted Free Cash Flow	-\$17,713.0	\$37,899.0	\$77,693.0	\$128,859.0	\$119,214.9
Forecasted Free Cash Flow + TV	-\$17,713.0	\$37,899.0	\$77,693.0	\$128,859.0	\$2,155,802.8
Discount Factor	93.38%	83.09%	76.58%	70.58%	65.05%
Discounted FCF + TV	-\$16,540.4	\$31,489.5	\$59,496.4	\$90,948.1	\$1,402,356.2
DCF Valuation	\$1,567,749.9				
	2019	2020	2021	2022	2023
Annual Discount Rate	16.20%	12.35%	8.50%	8.50%	8.50%

114. The resulting expected rate of return (discount rate) begins at 16.2% in 2019 and decreases in 2020 to 12.4%, converging to 8.50% in 2021. As shown below in Exhibit IX.6, the exit rates implied by the difference between those rates and 8.50% in 2019, falling to 0.0% by 2021, and 9.83% on a cumulative basis by 2021.

Exhibit IX.6
Exit and Survival Rates as of 16 January 2019

	2019	2020	2021	2022	2023
Implied Annual Exit Rate	6.63%	3.43%	0.00%	0.00%	0.00%
Cumulative Exit Rate	6.63%	9.83%	9.83%	9.83%	9.83%
Implied Annual Survival Rate	93.37%	96.57%	100.00%	100.00%	100.00%
Cumulative Survival Rate	93.37%	90.17%	90.17%	90.17%	90.17%

X. CALCULATING PEXA'S RETURN USING VENTURE CAPITAL HURDLE RATES

115. Venture capitalists generally distinguish among stages of a venture's life cycle and require different rates of return depending on the company's stage of development, because the nature and magnitude of risk change as the company progresses from concept development to commercial expansion.¹²³

¹²³ Sahlman, William A., and Daniel R. Scherlis. "A Method For Valuing High-Risk, Long-Term Investments: The 'Venture Capital' Method." *Harvard Business School*. Background Note 288-006. 52, 2009: 1-52, pp. 6-7.

116. Sahlman and Scherlis (2009) describe a progression from seed financing through startup, first-stage, second-stage, bridge, and restart financing, each characterised by distinct operational and financial circumstances.¹²⁴ Consistent with this stage-based framework, Sahlman and Scherlis (2009) report that required returns decline as ventures advance through the life cycle and uncertainty is progressively resolved.¹²⁵ Similarly, Fenn, Liang, and Prowse (1995) report substantially higher expected returns for early-stage venture investments than for later stage venture investments and mature private companies,¹²⁶ reflecting the broader principle that investors demand higher compensation when investing in younger firms facing greater technological, managerial, and commercial uncertainty.

117. Consistent with the stage-of-life framework described above, Sahlman and Scherlis (2009) report required returns exceed 80% for seed-stage investments, decline to approximately 50% - 70% for startup financing, 40% - 60% for first-stage financing, 30% - 50% for second-

¹²⁴ Sahlman, William A., and Daniel R. Scherlis. "A Method For Valuing High-Risk, Long-Term Investments: The 'Venture Capital' Method." *Harvard Business School*. Background Note 288-006. 52, 2009: 1-52, pp. 6-7. At the seed stage, investors are often funding little more than an idea, an incomplete management team, or an unproven technology, resulting in exceptionally high required returns. Startup investments are made when a company is preparing to commence operations and can demonstrate some competitive advantage, prototype, or commercial concept, although substantial uncertainty regarding execution and market acceptance remains. First-stage financing typically supports companies that have established an organization, developed a product, and generated some initial revenues, while second-stage financing is directed toward firms with active production, sustainable sales, and a demonstrated ability to expand. By the bridge stage, the business is generally approaching an initial public offering or other liquidity event, and investors face considerably less development and commercialization risk than in earlier financing rounds.

¹²⁵ Sahlman, William A., and Daniel R. Scherlis. "A Method For Valuing High-Risk, Long-Term Investments: The 'Venture Capital' Method." *Harvard Business School*. Background Note 288-006. 52, 2009: 1-52, pp. 6-7.

¹²⁶ Fenn, George W., Nellie Liang, and Stephen Prowse. "The Economics of the Private Equity Market." *Federal Reserve Bank*, 168 (1995):1-67, pp. 2-3, 17-18.

stage financing, and 20% - 35% for bridge financing approaching an initial public offering or other liquidity event.¹²⁷

118. Fenn, Liang, and Prowse (1995) report that investors require substantially higher returns on early-stage venture investments than on later-stage investments because of the greater risk and lower liquidity associated with younger firms. Specifically, they report required returns of approximately 35% to 70% for early-stage venture investments compared with 25% to 40% for later-stage venture investments.¹²⁸ Fenn, Liang, and Prowse (1995) explain that the lower risk profile and greater liquidity of later-stage ventures justify lower required returns, reflecting investors' assessment that uncertainty declines as firms mature and move closer to a realisable exit opportunity.^{129, 130}

119. The Private Capital Markets Report has conducted an annual survey series since 2007 that estimates the cost of capital across the private capital spectrum, including senior debt, asset-based lending, mezzanine financing, private equity, venture capital, and angel investments.¹³¹

¹²⁷ Sahlman, William A., and Daniel R. Scherlis. "A Method For Valuing High-Risk, Long-Term Investments: The 'Venture Capital' Method." *Harvard Business School*. Background Note 288-006. 52, 2009: 1-52, pp. 6-7.

¹²⁸ Fenn, George W., Nellie Liang, and Stephen Prowse. "The Economics of the Private Equity Market." *Federal Reserve Bank*, 168 (1995):1-67, pp. 17-19.

¹²⁹ Fenn, George W., Nellie Liang, and Stephen Prowse. "The Economics of the Private Equity Market." *Federal Reserve Bank*, 168 (1995): 1-67, p 19.

¹³⁰ The rationale for high venture-capital discount rates is also supported by evidence from Bernstein, Korteweg, and Laws (2017) who sent approximately 17,000 emails to nearly 4,500 investors and found that early-stage investors respond most strongly to information about the founding team, which indicates that execution and management uncertainty are central to early-stage investment decisions. The authors report that disclosure of founding-team information increased investor click-through by approximately 2.2 percentage points on a 16.5 percent base click rate, while information regarding traction and current investors did not have a statistically significant effect in their randomized experiment. See, Bernstein, Shai, Arthur Korteweg, and Kevin Laws. "Attracting early-stage investors: Evidence from a randomized field experiment." *Journal of Finance* 72, no. 2 (2017): 509-538, pp. 511, 524.

¹³¹ Everett, Craig R. "2022 Private Capital Markets Report." (2022), *Pepperdine Graziadio Business School*, p. 3.

The 2022 version of the report estimates required internal rates of return for venture capital investments of approximately 30% to 43%.¹³²

120. Gompers, Gornall, Kaplan, and Strebulaev (2021) survey 1,033 institutional and corporate venture capitalists representing 915 venture-capital firms during June and July 2020 to examine how venture-capital investment practices and performance expectations were affected by the COVID-19 pandemic.¹³³ The authors report that venture capitalists continued to apply high required return thresholds when evaluating new investments, with an average current required internal rate of return of approximately 32% across all respondents.¹³⁴ This figure covers both early and late financing rounds, so is not directly comparable to the first-year required returns of a startup. Consistent with these return expectations, 91% of institutional venture capitalists reported that they expected their own investments to outperform the public stock market and approximately 75% expected the venture capital industry as a whole to outperform public markets.¹³⁵

121. Ewens, Jones, and Rhodes-Kropf (2013) explain that venture capitalists commonly employ high required returns and show that idiosyncratic risk can be priced in venture capital

¹³² Everett, Craig R. "2022 Private Capital Markets Report." (2022), *Pepperdine Graziadio Business School*, p. 3.

¹³³ Gompers, Paul, Will Gornall, Steven N. Kaplan, and Ilya A. Strebulaev. "Venture capitalists and COVID-19." *Journal of Financial and Quantitative Analysis* 56, no. 7 (2021): 2474-2499, pp. 2474, 2479-2480; Table 1.

¹³⁴ Gompers, Paul, Will Gornall, Steven N. Kaplan, and Ilya A. Strebulaev. "Venture capitalists and COVID-19." *Journal of Financial and Quantitative Analysis* 56, no. 7 (2021): 2474-2499, p. 2484, Table 3.

¹³⁵ Gompers, Paul, Will Gornall, Steven N. Kaplan, and Ilya A. Strebulaev. "Venture capitalists and COVID-19." *Journal of Financial and Quantitative Analysis* 56, no. 7 (2021): 2489-90, Table 5.

investments because venture capitalists hold concentrated positions that expose them to risks that cannot be fully diversified.¹³⁶

Kilian Huber



Mark E. Zmijewski



August 13, 2026

¹³⁶ Ewens, Michael, Charles M. Jones, and Matthew Rhodes-Kropf. "The Price of Diversifiable Risk in Venture Capital and Private Equity." *The Review of Financial Studies* 26, no. 8 (2013): 1854-1889, available at: <https://dash.harvard.edu/entities/publication/73120378-cafb-6bd4-e053-0100007fdf3b>, pp. 1-2, 4.

Kilian Huber

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Academic Employment

Current	Professor of Economics and Finance, Booth School of Business and Dawson Family Professor in the Wallman Society of Fellows, University of Chicago
2023–2025	Associate Professor, Booth School of Business, University of Chicago
2019–2023	Assistant Professor, Booth School of Business, University of Chicago
2018–2019	Saieh Family Fellow, Becker Friedman Institute, University of Chicago

Education

2013–2018	PhD in Economics, London School of Economics (LSE)
2012–2013	Master of Research in Economics, LSE
2011–2012	Master of Science in Economics, LSE
2008–2011	Bachelor of Science in Economics, LSE

Awards, Fellowships, and Honors

2024–2026	Alfred P. Sloan Research Fellowship in Economics
2023–2026	Lee Research Program Faculty Fellow
2025	Macro Finance Society Methods Lecture
2025	FESE De la Vega Prize for “Climate Capitalists”
2025	Leo Melamed Prize for Outstanding Research in Finance
2025	Capital Magazine 40 under 40
2024	Kellogg School of Management Moskowitz Prize for “Climate Capitalists”
2024	Conference on Asia-Pacific Financial Markets Best Paper for “Climate Capitalists”
2022–2023	William S. Fishman Faculty Scholar
2022	Lamfalussy Fellowship, European Central Bank
2019	First Prize Social Sciences, Deutscher Studienpreis, Körber-Stiftung
2018	Ieke van den Burg Prize, European Systemic Risk Board, European Central Bank
2018	Sir John Hicks Prize for an Outstanding Doctoral Dissertation, LSE
2018	AQR Top Finance Graduate Award, Copenhagen Business School
2016–2018	Paul Woolley Centre Scholarship, LSE
2014–2016	Doctoral Scholarship (non-material), Studienstiftung des deutschen Volkes
2010–2015	Basic and Doctoral Scholarship, Cusanuswerk
2011–2013	Scholarship for Graduate Studies, Haniel Foundation

Affiliations and Visiting Positions

From 2024	NBER Conference on Research in Income and Wealth
From 2021	National Bureau of Economic Research (NBER)
From 2020	Centre for Economic Policy
From 2019	CESifo Research Network
From 2018	LSE Centre for Economic Performance
2016–2018	Academic Visitor, Monetary Analysis, Bank of England
2015	Visiting Student Researcher, Center for Labor Economics, UC Berkeley

Academic Working Papers and Publications

“A Market-Based Cost of Capital,” with Niels Joachim Gormsen and Theis Ingerslev Jensen

“Sticky Discount Rates,” with Masao Fukui and Niels Joachim Gormsen

“Big Government and Dynamism Drain,” with Anselm Hager

“Firms’ Perceived Cost of Capital,” with Niels Joachim Gormsen
Accepted by *Quarterly Journal of Economics*

“Climate Capitalists,” with Niels Joachim Gormsen and Sangmin S. Oh
Accepted by *Journal of Financial Economics*

“Disaggregated Economic Accounts,” with Asger Andersen, Niels Johannesen, Ludwig Straub, and Emil Toft Vestergaard
Quarterly Journal of Economics, 141(2), 1005–1075, May 2026

“Corporate Discount Rates,” with Niels Joachim Gormsen
American Economic Review, 115(6), 2001–49, June 2025

“Tracing the International Transmission of a Crisis through Multinational Firms,” with Marcus Biermann
Journal of Finance, 79(3), 1789–1829, June 2024

“Estimating General Equilibrium Spillovers of Large-Scale Shocks”
Review of Financial Studies, 36(4), 1548–1584, April 2023

“Discrimination, Managers, and Firm Performance: Evidence from “Aryanizations” in Nazi Germany,” with Volker Lindenthal and Fabian Waldinger,
Journal of Political Economy, 129(9), 2455–2503, September 2021, lead article

“Are Bigger Banks Better? Firm-Level Evidence from Germany,”
Journal of Political Economy, 129(7), 2023–2066, July 2021

“The Effect of House Prices on Household Borrowing: A New Approach,” with James Cloyne, Ethan Ilzetzki, and Henrik Kleven,
American Economic Review, 109(6), 2104–2136, June 2019

“Disentangling the Effects of a Banking Crisis: Evidence from German Firms and Counties,”
American Economic Review, 108(3), 868–898, March 2018

Research Grants

2026	NBER Economic Measurement Research Institute
2020–2026	Fama-Miller Center
2019–2025	Becker Friedman Institute
2025	Polsky Center
2022	Washington Center for Equitable Growth
2017	LSE Institute of Global Affairs
2016	LSE Sticerd
2015 & 2016	Stiftung Familienunternehmen
2014 & 2016	Centre for Macroeconomics
2014 & 2016	Centre for Economic Performance
2014	Cusanuswerk

Academic Teaching

2027	“Managers, Markets, and Meltdowns” for the Master in Finance and Master in Management, Booth School of Business
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2026	BFI Price Theory Summer Camp
2019–2026	“Money & Banking” for the Master of Business Administration and Master in Finance, Booth School of Business
2015–2017	Examiner for the International Program, University of London
2011–2013	Class Teacher for Introductory Undergraduate Micro- and Macroeconomics, LSE

Invited Presentations at Workshops and Conferences (Including Scheduled)

2027	AFA Annual Meeting, AEA Annual Meeting
2026	Duke, Michigan, NBER SI AP, Red Rock Finance Conference, SITE Macroeconomics of Uncertainty and Volatility, San Francisco Macrofinance Conference, St. Louis Macrofinance Conference
2025	AFA Annual Meeting, AEA Annual Meeting, Financial Transactions Global Research Network, Halle, Harvard, Impact and Sustainable Finance Consortium Kellogg, Maryland Smith School, MIT, NBER AP Spring, Stanford Sustainability Conference on Capital Finance, Tuebingen, Utah Winter Finance Conference, Western Finance Association
2024	Columbia, Columbia/NYU Mini-Conference, Minneapolis Fed, Minnesota Carlson, MIT, NBER EFG Winter, NBER SI CF, NBER SI IPM, NBER SI ME, NBER SI Micro Data and Macro Models, NBU-NBP Conference, Princeton Julis-Rabinowitz Center Annual Conference, Virtual Corporate Finance Friday
2023	AFA Annual Meeting, Danish Economic Councils, Danmarks Nationalbank, IIES Stockholm, NBER AP Fall, NBER ITI Fall, NBER SI EFG, NBER SI CRIW, Northwestern, Northwestern Kellogg, NYU, Paris School of Economics, PUC Chile, Rochester, UC San Diego, Yale Macro-Finance Junior Conference
2022	Bristol, Brown, Cowles Foundation Conference on Macroeconomics, Dalhousie, Harvard, NBER SI Forecasting and Empirical Methods, NBER SI ME, NBER AP Spring, New York Fed, SED Meeting, SITE Financial Regulation, UT Austin, World Bank
2021	Becker Friedman Institute, Bonn, Boston University, CEPR New Consumption Data, Cleveland Fed, Copenhagen, Cornell, Dallas Fed, Danmarks Nationalbank, Fed Board, FDIC, IMF, Imperial Business School, LSE, NBER Economics and Politics of Mega-Firms, NBER ME Spring, Office of the Comptroller of the Currency, Penn State, San Francisco Fed, SED Meeting, SITE Financial Regulation, Universitat Pompeu Fabra, Yale Junior Finance Conference
2020	AFA Annual Meeting, ESMT/Applied Micro Berlin, HEC Paris, Linz, NBER IFM Spring, Northwestern Kellogg, St. Louis Fed, Vanderbilt, VATT Helsinki, Villanova Webinar in Financial Intermediation, Virtual Economic History Seminar, Virtual Macro Seminar
2019	Harvard, Ifo Munich, LMU Munich, LSE, MIT Sloan, NBER SI DAE, Rutgers, Stanford, UT Austin McCombs
2018	Bonn, CEMFI Madrid, Chicago Booth, Columbia University, Copenhagen Business School, European Central Bank, European Systemic Risk Board, Harvard, Harvard Business School, London Business School, MIT, MIT Sloan, New York Fed, Norges Bank, Northwestern Kellogg, NYU Stern, Princeton University, Stanford GSB, UC Berkeley, Wharton
Pre-2018	Centre for Economic Performance Annual Conference, Georgetown Carroll Round Research Conference, NBER SI ME, Royal Economic Society Annual Conference, Swiss Winter Conference on Financial Intermediation, UC Berkeley Graduate Economics Symposium

Conference Organization (Including Scheduled)

2027 AFA Annual Meeting Session Chair, NBER Conference on Research in Income and Wealth (with Ludwig Straub)
2023–2026 Annual Cost of Capital Conference (with Niels Joachim Gormsen)
2025 AFA Annual Meeting Session Chair, AEA Annual Meeting Session Chair, NBER Conference on Disaggregated National Accounts (with Ludwig Straub)
2024 NBER ME Spring
2023 Chicago Economic History Workshop
2021 Advancing Macro Finance Workshop (with Lars Peter Hansen and Yueran Ma)
2019 & 2021 Junior Finance and Macro Conference (with Ludwig Straub)

Academic Reviewer for Journals and Foundations

American Economic Journal: Applied Economics, American Economic Journal: Economic Policy, American Economic Journal: Macroeconomics, American Economic Review, American Economic Review: Insights, Econometrica, Economica, Economic Journal, European Economic Review, IMF Economic Review, Journal of Banking and Finance, Journal of Development Economics, Journal of Finance, Journal of Financial and Quantitative Analysis, Journal of Financial Economics, Journal of International Economics, Journal of Law and Economics, Journal of Monetary Economics, Journal of Political Economy, Journal of Political Economy Macroeconomics, Journal of Political Economy Microeconomics, Journal of Public Economics, Journal of the European Economic Association, Management Science, Managerial Finance, Quarterly Journal of Economics, Review of Economic Dynamics, Review of Economics and Statistics, Review of Economic Studies, Review of Finance, Review of Financial Studies
Cusanuswerk, German Research Foundation, National Science Foundation

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ACADEMIC EMPLOYMENT

- 1984 –** The University of Chicago Booth School of Business
Charles T. Horngren Professor of Accounting Emeritus (2018-Present)
Charles T. Horngren Professor of Accounting (2015-2018)
Leon Carroll Marshall Professor of Accounting (1999-2015)
Deputy Dean (1996–2011)
Professor of Accounting (1992–1999)
Associate Dean for PhD Studies (1995–1996)
Executive Director, Center for Research in Securities Prices (CRSP)
(1992–1998)
Associate Professor of Accounting (1988–1992)
Assistant Professor of Accounting (1984–1988)
- 1980 – 1984** *Assistant Professor of Accounting, State University of New York at Buffalo*
- 1979 – 1982** *Course Director, York University, Toronto Canada*
- 1977 – 1980** *Teaching Assistant, State University of New York at Buffalo*

EDUCATION AND CERTIFICATIONS

PhD in Accounting, Economics, Finance | State University of New York Buffalo
MBA in Accounting | State University of New York Buffalo
BS in Business, Accounting | State University of New York Buffalo

HONORS AND AWARDS

Business Information Professional of the Year—Education, Beta Alpha Psi, 2007

Hillel J. Einhorn Excellence in Teaching Award, The Executive MBA Program, The University of Chicago Graduate School of Business, 1999

Emory Williams Award for Excellence in Teaching, The University of Chicago, 1988

Competitive Manuscript Award, American Accounting Association, 1984

Beta Alpha Psi, Honorary Accounting Society, 1981

Beta Gamma Sigma, Honorary Business Society, 1980

ECONIC PARTNERS

GRANTS

Research Grant, SEC and Financial Reporting Institute, 1985

University Fellowship, State University of New York at Buffalo, 1979

Graduate Fellowship, State University of New York at Buffalo, 1976–1978

PUBLICATIONS

Corporate Valuation: Theory, Evidence and Practice (textbook). With Robert W. Holthausen, Cambridge Business Publishers, LLC, 1st Edition, 2014; 2nd edition, 2020

“Valuation with Market Multiples: How to Avoid Pitfalls When Identifying and Using Comparable Companies.” With R. Holthausen. Journal of Applied Corporate Finance, Summer 2012

“Pitfalls in Levering and Unlevering Beta and Cost of Capital Estimates in DCF Valuations.” With R. Holthausen. Journal of Applied Corporate Finance, Summer 2012

“Accounting and Disclosure Issues in Structured Finance.” With Keith Bockus and W. Dana Northcut. In Corporate Aftershock: The Public Policy Lessons from the Collapse of Enron and Other Major Corporations, C.L. Culp and W.A. Niskanen, eds., Wiley, 2003

“Discovery and the Financial Analyst.” With Roger Hickey. Litigation Services Handbook, January 1995

“How Useful Are Wall Street Week Stock Recommendations?” With P. Griffin and J. Jones. Journal of Financial Statement Analysis, Fall 1995

“Contemporaneous Announcements of Dividends and Earnings.” With R. Leftwich. Journal of Accounting, Auditing, and Finance, Autumn 1994

“The Relative Informativeness of Accounting Disclosures in Different Countries.” With A. Alford, J. Jones, and R. Leftwich. Journal of Accounting Research, Supplement, 1993

“Extensions and Violations of the Statutory SEC Form 10 K Filing Requirements.” With A. Alford and J. Jones. Journal of Accounting and Economics, 1993

“SEC Form 10-K/10-Q Reports and Annual Reports to Shareholders: Reporting Lags and Squared Market Model Prediction Errors.” With P. Easton. Journal of Accounting Research, Winter 1993

ECONIC PARTNERS

- The Phish Corporation: A Practice Case in Managerial Accounting, With R. Derstine, R. Huefner, and S. Gunn. McGraw-Hill, 1991
- “Cross-Sectional Variation in the Stock Market Response to the Announcement of Accounting Earnings.” With P. Easton. Journal of Accounting and Economics, 1989
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DISSERTATION COMMITTEES

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Keith Bockus, The University of Chicago, 1998, Co-Chairperson

Beverly Walther, The University of Chicago, 1995, Member

Howard Bunsis, The University of Chicago, 1993, Co-Chairperson

Phillip Berger, The University of Chicago, 1992, Member

Stuart Essig, The University of Chicago, 1991, Member

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Andrew Alford, The University of Chicago, 1990, Chairperson

Mark Lang, The University of Chicago, 1990, Member

Laureen Maines, The University of Chicago, 1990, Member

Walter Teets, The University of Chicago, 1988, Member

Siew Teoh, The University of Chicago, 1988, Member

Kirsten Ely, The University of Chicago, 1988, Member

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Pat O'Brien, The University of Chicago, 1986, Member

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UNIVERSITY ACTIVITIES

Accounting Advisory Counsel, State University of New York at Buffalo, 1993–1995

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Faculty Facilitator, Leadership, Education, and Development (LEAD) Program, The University of Chicago, Graduate School of Business, 1989, 1991

Dean's Advisory Committee on MBA Students and Curriculum, The University of Chicago, 1988

Executive Director, Management Development Council, State University of New York at Buffalo, 1981–1984

Advisor, Center for Management Development, State University of New York at Buffalo, 1979–1980

EDITORIAL SERVICE AND BOARDS

Associate Editor, The Accounting Review, 1993–1997

Editorial Board, Journal of Accounting Research, 1988–1993

Editorial Board, The Accounting Review, 1985–1987

AD HOC REFEREE

Journal of Accounting, Auditing, and Finance

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Contemporary Accounting Research

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Journal of Banking and Finance

Journal of Business

Journal of Forecasting

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PROFESSIONAL ORGANIZATIONS

American Accounting Association

The American Finance Association

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APPENDIX C

ANALYSIS OF PEXA’S RISKS, 2010 – 2018

A. Introduction

1. This appendix provides a detailed review of the perceived risks faced by PEXA’s investors from 2010 – 2018. It is based on six board-adopted business plans spanning 2010 to 2017, together with the independent market analysis prepared for prospective investors by PricewaterhouseCoopers in August 2010, and the contemporaneous board papers, minutes, and funding and governance documents of the founding and development period. It is organised by type of risk: each section that follows addresses a single risk category and explains how that risk was described and how its characterisation changed from 2010 through 2017.¹³⁷

B. Risk Governance and the Evolution of the Risk Framework

2. The 2010 plan did not define a risk-management framework of its own; it relied on externally developed work, citing the “Clayton Utz Regulation Framework, 2008”¹³⁸ and an IP catalogue that included a Clayton Utz document prepared “to identify, assess and propose treatments for all material risks inherent in, implied by or resulting from the model for electronic conveyancing,”

¹³⁷ PricewaterhouseCoopers, National e-Conveyancing Development Limited Market Analysis Consulting Brief (19 August 2010); National E-Conveyancing Development Limited, Business Plan for an E-Conveyancing Enterprise (Board Adopted 11 October 2010); National E-Conveyancing Development Limited, 2013 NECDL Business Plan (v1.4, Board Approved 24 May 2013); PEXA, 2014 Business Plan, (v1.8, Board Approved 1 May 2014); PEXA, 2015 Business Plan (Board Approved 11 June 2015); PEXA, 2016 Business Plan (2016); and PEXA, 2017 (FY18) Business Plan, final version (2017).

¹³⁸ “Clayton Utz Regulation Framework, 2008” (National E-Conveyancing Development Limited, Business Plan for an E-Conveyancing Enterprise (Board Adopted 11 October 2010), pp. 30, 72) — an external legal analysis of the regulatory and legislative framework required for national electronic conveyancing, prepared by Clayton Utz in 2008, before NECDL’s own planning cycle, and listed in the 2010 plan’s intellectual-property catalogue. The 2010 plan relied on it in place of an internally developed risk-management framework. The document itself was not among the materials reviewed for this analysis; it is described here only as characterised in the 2010 plan.

and it resolved risk-assessment items with the generic mitigation to “Build a Risk Management Capability.”¹³⁹

3. By 2013 PEXA (NECDL) had, in its words, “put in place many of the building blocks required for an effective Enterprise Risk Management (ERM) capability,” with overall responsibility residing with the Chief Financial Officer and a Three Lines of Defence model in which the third line was “an independent ‘assurance’ capability” certified by an Independent Expert as required by the ARNECC Model Operating Requirements.¹⁴⁰

4. From 2014 the framework was expressed as a Governance, Risk and Compliance (GRC) model aligned in part to “AS8000:2003 *Corporate Governance*,” “ISO31000:2009 *Risk Management: Principles and Guidelines*” and “AS3806:2006 *Compliance Programs*,” overseen by a board Audit and Risk Committee and an executive Governance Risk and Compliance Committee.¹⁴¹

¹³⁹ National E-Conveyancing Development Limited, Business Plan for an E-Conveyancing Enterprise (Board Adopted 11 October 2010), p. 68, 72.

¹⁴⁰ National E-Conveyancing Development Limited, 2013 NECDL Business Plan (v1.4, Board Approved 24 May 2013), pp. 12, 107-108. The Model Operating Requirements (MOR) are developed and approved by the Australian Registrars’ National Electronic Conveyancing Council (ARNECC) and determined by the Registrar in each State and Territory under section 22 of the Electronic Conveyancing National Law as that jurisdiction’s Operating Requirements, which bind Electronic Lodgment Network Operators; the parallel Model Participation Rules, determined under section 23, bind Subscribers. Jurisdictional Operating Requirements carry the same version numbers as the MOR on which they are based. See ARNECC, Model Operating Requirements (Version 7.1, February 2025).

¹⁴¹ PEXA, 2014 Business Plan (v1.8, Board Approved 1 May 2014), pp. 57-61. The three instruments named are voluntary standards rather than legal obligations. AS 8000—2003 Good governance principles is the head standard of the Standards Australia corporate-governance series, which also includes AS 8004—2003 on whistleblower protection (Standards Australia, “Australian Standard: Whistleblower protection programs for entities,” 23 June 2003, available at: https://www.apf.gov.au/parliamentary_business/committees/house_of_representatives_committees?url=laca/whistleblowing/subs/attachment16.pdf, p. 2). AS/NZS ISO 31000:2009 Risk management — Principles and guidelines is the Australian adoption of the international risk-management standard, which displaced the earlier Australian standard AS/NZS 4360:2004; it was itself superseded by AS ISO 31000:2018 (Standards Australia, “AS/NZS ISO 31000:2009,” <https://www.standards.org.au/standards-catalogue/standard-details?designation=as-nzs-iso-31000->

C. Market and Demand Risk

5. The enterprise's revenue is a direct function of property-transaction volumes, which are cyclical. This was the most heavily qualified assumption in the founding analysis. PwC sized approximately "1,057,000 property transactions in Australia considered in-scope for electronic conveyancing,"¹⁴² and an Australian residential conveyancing market of "\$2.5 billion, with multi party lodgments generating over 86% of total revenue," concentrating revenue in complex, cyclically sensitive transactions.¹⁴³
6. The revenue model assumed a recovery that had not occurred. PwC recorded that "the total number of instruments lodged (also a proxy for total transactions) has declined by a CAGR of 4.8% since 05/06" and that "Housing Finance Commitments have also declined by a CAGR 6.2% since 2007,"¹⁴⁴ a decline it attributed to the fact that it "has coincided with a peak in the

2009). AS 3806—2006 Compliance programs, the second edition of a standard first issued in 1998 (AS 3806—1998), sets out the essential principles of an effective compliance program; it formed the basis of ISO 19600, which was adopted in Australia as AS ISO 19600:2015 (superseding AS3806—2006), and that standard was in turn replaced by ISO 37301:2023 (Standards Australia, "Australian Standard: Compliance Programs (AS3806—2006)," 9 March 2006, available at: <https://store.accuristech.com/products/preview/2066555?srsId=AfmBOoolqkwCEV2c7n0BDYmbwORpu2HCY4PbgEHEDrWjoGuAPFnRZ05A>; Clayton Utz, "New international compliance standard launched," December 17, 2014, <https://www.lexology.com/library/detail.aspx?g=36eb0533-006b-426e-ab44-637da38c239b>; Standards Australia, "AS ISO 19600:2015," <https://www.standards.org.au/standards-catalogue/standard-details?designation=as-iso-19600-2015>).

¹⁴² PricewaterhouseCoopers, National e-Conveyancing Development Limited Market Analysis Consulting Brief (19 August 2010), p. 5.

¹⁴³ PricewaterhouseCoopers, National e-Conveyancing Development Limited Market Analysis Consulting Brief (19 August 2010), p. 9.

¹⁴⁴ PricewaterhouseCoopers, National e-Conveyancing Development Limited Market Analysis Consulting Brief (19 August 2010), p. 10.

property market and the Global Financial Crisis.”¹⁴⁵ Against those actual declines, the forecast “assumed that transaction volumes will resume its long term growth rate of 2% - 3%.”¹⁴⁶

7. The 2010 plan itself carried the residual market risk of “Continued deterioration in the market – slowing down of transaction volumes,” to which its stated mitigation was that this was “Unlikely to materially reduce to the point of making the business economic” and a direction to “Pursue and develop other lines of revenue.”¹⁴⁷ The 2013 plan reflected the same pressure in a lowered long-run growth assumption.

D. Adoption, Take-up and Utilisation Risk

8. Across every plan, the single most consistently emphasised risk is that subscribers — banks first, then practitioners — would not adopt and use the platform at the forecast rate. The investment case depends on this risk, because revenue accrues only when transactions are completed through the platform.¹⁴⁸

9. The founding documents were explicit that take-up, not technology, was the principal risk. The 2010 plan warned that “take up rate is the second major risk to any E-Conveyancing enterprise,”¹⁴⁹ and PwC cautioned that even at “maximum take-up” of 80% of solicitors/conveyancers,” only “62% of transfers will be possible in EC” — a structural ceiling on the

¹⁴⁵ PricewaterhouseCoopers, National e-Conveyancing Development Limited Market Analysis Consulting Brief (19 August 2010), p. 10.

¹⁴⁶ PricewaterhouseCoopers, National e-Conveyancing Development Limited Market Analysis Consulting Brief (19 August 2010), p. 10.

¹⁴⁷ National E-Conveyancing Development Limited Business Plan for an E-Conveyancing Enterprise (Board Adopted 11 October 2010), p. 70.

¹⁴⁸ The statements from each document supporting this characterisation, with their sources, follow in this section.

¹⁴⁹ National E-Conveyancing Development Limited Business Plan for an E-Conveyancing Enterprise (Board Adopted 11 October 2010), p. 24.

highest-value revenue line.¹⁵⁰ PwC further warned that the adoption roadmap was unproven: “The indicative delivery roadmap has been drafted to the best of our understanding. It has not taken into account stakeholder’s priorities, constraints and has not been validated with stakeholders.”¹⁵¹ Overseas evidence was consistent — “Uptake slow where EC is not mandatory,” with British Columbia reaching a take up rate of only 58.7% after several years absent a mandate.¹⁵²

10. The same risk was disclosed to prospective investors and repeated in the funding documents. The investor presentation included in the 2012 board pack warned that bank participation might not reach forecast rates and that practitioner take-up might be lower than expected, recording as key business risks that “[i]f one or more of the Major Banks are not on board there is risk that take up rates will not occur at the forecast rates” and that “[t]here is a risk that the take-up rates of the key conveyancing market participants will be lower than expected.”¹⁵³ The Primary Stage B funding offer document put to investors in March 2012 carried the same disclosure among its key risks: “[i]f one or more of the Major Banks are not on board there is risk that take up rates will not occur at the forecast rates.”¹⁵⁴ On the enterprise’s own account to investors, therefore, the banks’ status as shareholders and expected subscribers did not secure their use of the platform, nor that of the practitioners on whom the largest part of revenue would depend.

¹⁵⁰ PricewaterhouseCoopers, National e-Conveyancing Development Limited Market Analysis Consulting Brief (19 August 2010), p. 43.

¹⁵¹ PricewaterhouseCoopers, National e-Conveyancing Development Limited Market Analysis Consulting Brief (19 August 2010), p. 41.

¹⁵² PricewaterhouseCoopers, National e-Conveyancing Development Limited Market Analysis Consulting Brief (19 August 2010), pp. 53, 55.

¹⁵³ NECDL Board #55 (2012), investor presentation included in the board pack, PDF pp. 149–150.

¹⁵⁴ NECDL Board #46 (1 March 2012), Primary Stage B Funding Offer Document, sections 7-8 (Key Risks — Business), PDF pp. 180, 183–184.

11. The 2013 risk assessment included the risk of “Inability to secure the confidence of subscribers resulting in declining uptake and revenue,”¹⁵⁵ and, in its delivery appendix, referred to “Suboptimal user experience of PEXA platform resulting in declining uptake, usage, and revenue.”¹⁵⁶ The 2014 plan stated: “The major operational focus in 2014 (and also the biggest risk for PEXA Ltd) will be network uptake and usage.”¹⁵⁷ Its enterprise risk assessment rated “Subscribers do not push through budgeted volume” at Likely likelihood and Major consequence — the sole “Extreme”-rated risk in the entire risk assessment.¹⁵⁸

12. By late 2013 the risk had materialised in the form the plans had anticipated. The December 2013 board minutes recorded that “[t]ransaction volumes are still low and the most significant current risk to the business is the slower than anticipated uptake by the banks,” prompting management to form “a new team combining account management, deployment and business integration resources” to address bank uptake.¹⁵⁹

13. By 2015 PEXA stated that “the technology delivery risk has been virtually eliminated” and that “[w]idespread use of the platform is the only major challenge remaining,”¹⁶⁰ identifying utilisation as “The remaining long-term risk for the business.”¹⁶¹ Its strategic risk assessment rated utilisation at “High likelihood, critical impact” — the highest-rated risk in that plan —

¹⁵⁵ National E-Conveyancing Development Limited, 2013 Business Plan (v1.4, Board Approved 24 May 2013), p. 22.

¹⁵⁶ National E-Conveyancing Development Limited, 2013 Business Plan (v1.4, Board Approved 24 May 2013), p. 129.

¹⁵⁷ PEXA 2014 Business Plan (v1.8, Board Approved 1 May 2014), p. 3.

¹⁵⁸ PEXA 2014 Business Plan (v1.8, Board Approved 1 May 2014), pp. 92-93.

¹⁵⁹ Board Meeting #74 (17 December 2013), BoardMeeting74 Minutes, PDF pp. 3-5, 7.

¹⁶⁰ PEXA 2015 Business Plan (Board Approved 11 June 2015), p. 7.

¹⁶¹ PEXA 2015 Business Plan (Board Approved 11 June 2015), p. 49.

noting that “Delays in transitioning PEXA from a ‘pilot mode’ to ‘BAU’ may slow down full market adoption,”¹⁶² and it disclosed that “Utilisation rates in the major banks in particular are lower than expected.”¹⁶³

14. By 2016 the same risk was reframed around the fragmented practitioner market. The 2016 risk assessment rated the PEXA Direct practitioner-competency risk at “Critical” impact.¹⁶⁴

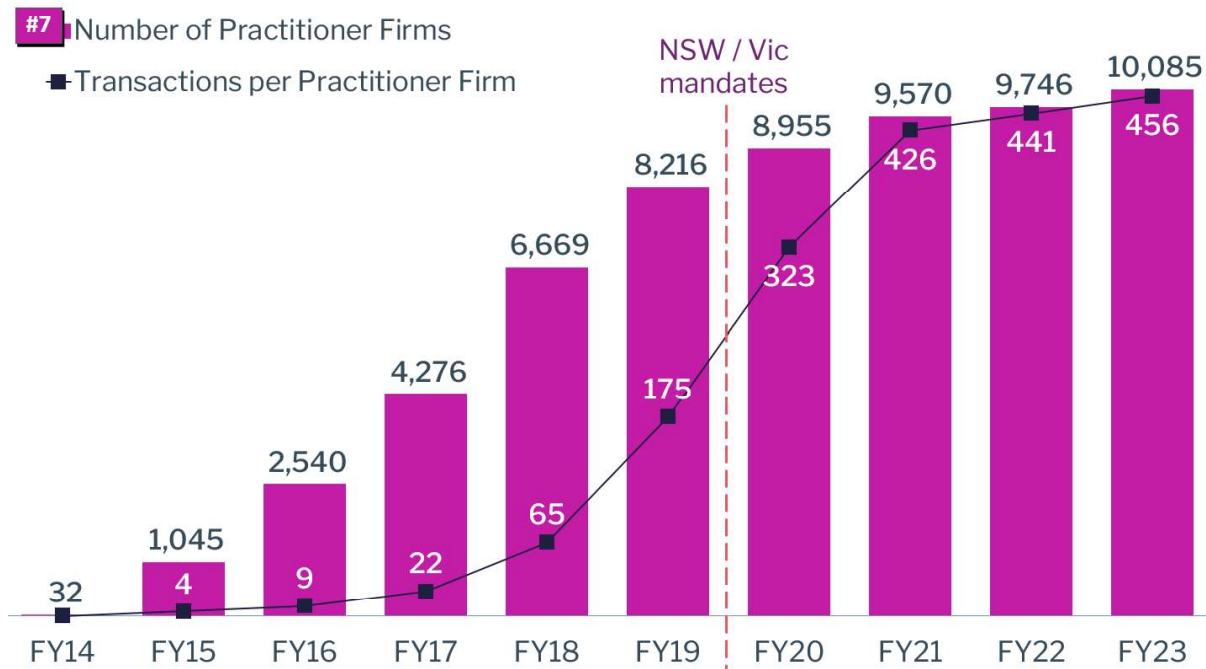
15. The subsequent operating data are consistent with the central importance of adoption and utilisation identified in the business plans. As shown in Figure D-1 below, the number of practitioner firms using the platform increased from 1,045 in FY15 to 2,540 in FY16, 4,276 in FY17, 6,669 in FY18 and 8,216 in FY19. At the same time, transactions per practitioner firm increased from 4 in FY15 to 9 in FY16, 22 in FY17, 65 in FY18 and 175 in FY19.

¹⁶² PEXA 2015 Business Plan (Board Approved 11 June 2015), p. 49.

¹⁶³ PEXA 2015 Business Plan (Board Approved 11 June 2015), p. 8.

¹⁶⁴ PEXA 2016 Business Plan (final), p. 95.

Figure D-1¹⁶⁵
Number of Practitioner Firms Using PEXA's Platform and Transactions per Practitioner Firm



16. These trends demonstrate that the commercial success of the platform depended not simply on developing and launching the technology, but on achieving widespread adoption and increasing utilisation by existing users. Consistent with the risk assessments described above, growth in practitioner participation and transaction activity became increasingly important drivers of the enterprise's performance as the platform moved from development to commercial operation.

17. The data also show that adoption and utilisation continued to develop materially after FY19. Following the introduction of the NSW and Victorian mandates, the number of practitioner firms using the platform increased to 8,955 in FY20 and 9,570 in FY21, while transactions per

¹⁶⁵ See "Penetration chart 26 08 10."

practitioner firm increased to 323 and 426, respectively. These outcomes are consistent with the business plans' repeated identification of take-up, utilisation and network participation as key determinants of the platform's long-term success.

E. Stakeholder Alignment and Dependency Risk

18. Because the platform only delivers value if all parties to a transaction participate, the enterprise carried a dependency on aligning stakeholders whose interests diverge. The 2010 plan identified this as foundational: “the largest and enduring challenge to this business is the alignment of stakeholders. There are multiple groups deriving value in different ways from different products, and with currently quite wide divergences in exposure and commitment to E-Conveyancing.”¹⁶⁶

19. Bank participation was treated as a precondition. The 2010 plan stated that “Without banking sector commitment to the ECE there is a substantial increase in the risk of this project, to the extent that third party, and even further government investment in this enterprise could be compromised,” and that the “absence of banking sector commitment could ultimately compromise this entire business and investment case.”¹⁶⁷ PwC noted the concentration, stating that “Electronic conveyancing is not the largest opportunity available to banks to lower costs” and that “All stakeholders have to come on board for banks to realise [the] full amount of potential benefits.”¹⁶⁸

¹⁶⁶ National E-Conveyancing Development Limited, Business Plan for an E-Conveyancing Enterprise (Board Adopted 11 October 2010), p. 28.

¹⁶⁷ National E-Conveyancing Development Limited, Business Plan for an E-Conveyancing Enterprise (Board Adopted 11 October 2010), p. 29.

¹⁶⁸ PricewaterhouseCoopers, National E-Conveyancing Development Limited Market Analysis Consulting Brief (19 August 2010), p. 14.

20. Alignment of the eight State and Territory Land Registries was an equal dependency. The 2010 risk assessment listed the risk that “The LTO’s do not agree on data standards, risks, processes and systems which may undermine a National E-Conveyancing approach,” with the mitigation that the “Enterprise must maintain different ‘flavours’ for each state at an additional development cost.”¹⁶⁹ PwC stated that benefit realisation required full participation: “NECDL needs to implement a national solution with the acceptance of all the key stakeholders, across all key State jurisdictions.”¹⁷⁰

21. State participation did not resolve this dependency. The December 2012 key-risks paper recorded, for board noting, that “[l]and Registry jurisdictional differences have the potential to impact the take up of PEXA,” rated Moderate, and the Primary Stage B funding offer identified as a stakeholder-alignment risk “[i]nsufficient support from key shareholder groups for the ECE initiative.”^{171, 172} The participation of the States as shareholders therefore did not guarantee that their registries would implement the interfaces on which the platform depended, nor that the wider stakeholder group would align behind it.

22. The dependency persisted into the operating years. The 2015 plan cautioned that “PEXA cannot instigate transactions. Support from stakeholders, in particular the major banks and Land Registries, is needed to drive industry transformation,”¹⁷³ and that “Further efforts from State

¹⁶⁹ National E-Conveyancing Development Limited, Business Plan for an E-Conveyancing Enterprise (v10.1, Board Adopted 11 October 2010), p. 68.

¹⁷⁰ PricewaterhouseCoopers, National E-Conveyancing Development Limited Market Analysis Consulting Brief (19 August 2010), p. 3.

¹⁷¹ NECDL Board #58 (12 December 2012), Key Risks and Mitigants, p. 378.

¹⁷² NECDL Board #46 (1 March 2012), Primary Stage B Funding Offer Document, sections 7-8, PDF pp. 180, 183–184.

¹⁷³ PEXA 2015 Business Plan (Board Approved 11 June 2015), p. 8.

Governments are needed to achieve the long-term industry goal of 100% electronic lodgments.”¹⁷⁴

F. Delivery, Technology and Platform Execution Risk

23. The construction and reliable operation of the platform represented a substantial execution risk, particularly in the development years. The 2010 plan acknowledged that “The cost of building the E-Conveyancing platform is high, and requires substantial lead time before revenues are forthcoming. Consequently there is a substantial risk in terms of both capital expenditure and execution risk around the development,”¹⁷⁵ and its risk assessment grouped delivery risks around the “Ability to manage the technical complexities associated with the delivery of each product bundle” and “Managing development and roll out of solution within the target timeframes,” mitigated chiefly by appointing a capable management team and ensuring the vendor has expertise to “understand complexities.”¹⁷⁶

24. These were live risks in the funding documents as well. The March 2012 funding offer disclosed to investors that “[t]here is a risk that the technology will not be built in the estimated time, or within the estimated budget, or a combination of both,” alongside the risk of “unforeseen expenses which have not been accounted for in the financial projections.”¹⁷⁷ The execution risk was borne out in the deployment schedule: the December 2013 board minutes recorded that the

¹⁷⁴ PEXA 2015 Business Plan (Board Approved 11 June 2015), p. 12.

¹⁷⁵ National E-Conveyancing Development Limited Business Plan for an E-Conveyancing Enterprise (Board Adopted 11 October 2010), p. 24.

¹⁷⁶ National E-Conveyancing Development Limited Business Plan for an E-Conveyancing Enterprise (Board Adopted 11 October 2010), p. 70.

¹⁷⁷ NECDL Board #46 (1 March 2012), Primary Stage B Funding Offer Document, section 8 (Key Risks — technology and unforeseen expenditure), PDF pp. 180, 183-184.

revised Release 2 schedule had lifted the reforecast funding requirement, confirming that a technology release had slipped and that the cost of delivery had risen.¹⁷⁸

25. PwC characterised the undertaking as one that “carries significant execution and implementation risk.”¹⁷⁹ The 2013 plan carried platform delivery as a named strategic risk — the “Inability to deliver the PEXA platform on time and/or within budget resulting in significant brand damage” — mitigated by a dedicated PMO function and Steering Committee,¹⁸⁰ and added scalability risk: the “Inability to accommodate additional volumes through the PEXA platform resulting in declining uptake and revenue.”¹⁸¹

26. The 2014 plan reported that platform risk had fallen materially now that Release 1 was live — “PEXA Release 1 operating since June 2013 and Release 2 well advanced, which has significantly reduced the Platform risk”¹⁸² — but its enterprise risk assessment still rated “Inability to deliver each increment of Release 2 within schedule” at High (Likely Likelihood / Moderate Consequence).¹⁸³ By 2015 PEXA judged that “technology is no longer a significant strategic risk,”¹⁸⁴ and the risk thereafter shifted toward availability, resilience and the cloud migration: the 2017 plan noted PEXA “must ensure its platform remains stable, reliable and

¹⁷⁸ Board Meeting #74 (17 December 2013), BoardMeeting74 Minutes, PDF pp. 3–5.

¹⁷⁹ PricewaterhouseCoopers, National E-Conveyancing Development Limited Market Analysis Consulting Brief (19 August 2010), p. 3.

¹⁸⁰ National E-Conveyancing Development Limited, 2013 NECDL Business Plan (v1.4, Board Approved 24 May 2013), p. 21.

¹⁸¹ National E-Conveyancing Development Limited, 2013 NECDL Business Plan (v1.4, Board Approved 24 May 2013), p. 129.

¹⁸² PEXA 2014 Business Plan (v1.8, Board Approved 1 May 2014), p. 6.

¹⁸³ PEXA 2014 Business Plan (v1.8, Board Approved 1 May 2014), pp. 92, 94.

¹⁸⁴ PEXA 2015 Business Plan (Board Approved 11 June 2015), p. 48.

efficient as it migrates to the cloud and as the industry moves to 100 per cent digital and transaction volumes massively increase.”¹⁸⁵

G. Competition and Disintermediation Risk

27. The competitive threat inverted over the life of the venture: from the enterprise displacing established intermediaries to the enterprise being the incumbent exposed to new licensed competitors. At the outset PwC identified that NECDL’s value creation displaced incumbent revenue — “the intermediary industry will lose approximately \$125m in revenues per annum”¹⁸⁶ — and that “The largest competitors/ intermediaries that will be impacted by NECDL are SAI Global, Legalink and Perpetual,” firms occupying the same value chain.¹⁸⁷ The 2010 plan recognised the risk that “The competitors (i.e. software developers) get to market ahead of enterprise.”¹⁸⁸

28. During the monopoly years the plans monitored barriers to entry. The 2013 plan carried the risk that “Barriers to entry into our markets fall resulting in one or more new entrants to the

¹⁸⁵ PEXA 2017 (FY18) Business Plan, final version (2017), p. 34.

¹⁸⁶ PricewaterhouseCoopers, National e-Conveyancing Development Limited Market Analysis Consulting Brief (19 August 2010), p. 32.

¹⁸⁷ PricewaterhouseCoopers, National e-Conveyancing Development Limited Market Analysis Consulting Brief (19 August 2010), p. 13.

¹⁸⁸ National E-Conveyancing Development Limited Business Plan for an E-Conveyancing Enterprise (Board Adopted 11 October 2010), p. 70.

market,”¹⁸⁹ and the parallel risk of “Hostile Acquisition of the NSW Land Registry resulting in the emergence of a direct competitor.”¹⁹⁰

H. Regulatory and Legislative Risk

29. Regulation is intrinsic to the business because it can operate only where legislation permits electronic lodgment, and its pricing and structure are subject to the regulator. In 2010 the threshold risk was the enabling legislation itself. The plan treated as “a show stopper” the risk that “Legislation does not get enacted to allow land registries to accept electronic instruments” and the risk of “Changes in legislation / regulation during build and deployment.”¹⁹¹ It also flagged the market-power risk that “With too much market power, the State governments or the ACCC (or both) could regulate price points, or even force the business to release infra-structure to a competitor,”¹⁹² and adopted a five-principle pricing discipline including that its value capture “will not exceed 40%” and that above 60% market share it would “approach the ACCC to obtain sign off.”¹⁹³

30. Once operating, the regulatory relationship was formalised through ARNECC’s Model Operating Requirements and Model Participation Rules. The 2013 plan carried the risk of

¹⁸⁹ National E-Conveyancing Development Limited, 2013 NECDL Business Plan (v1.4, Board Approved 24 May 2013), p. 21.

¹⁹⁰ National E-Conveyancing Development Limited, 2013 NECDL Business Plan (v1.4, Board Approved 24 May 2013), p. 21.

¹⁹¹ National E-Conveyancing Development Limited Business Plan for an E-Conveyancing Enterprise (Board Adopted 11 October 2010), p. 69.

¹⁹² National E-Conveyancing Development Limited Business Plan for an E-Conveyancing Enterprise (Board Adopted 11 October 2010), p. 25.

¹⁹³ National E-Conveyancing Development Limited Business Plan for an E-Conveyancing Enterprise (Board Adopted 11 October 2010), pp. 30-31.

“Inability to fully comply with our legislative and regulatory obligations resulting in fines, enforceable undertakings and brand damage.”¹⁹⁴ The 2013 plan also disclosed a specific pricing-pressure risk: “Increasing pressure by one or more of the big four banks to reduce prices by more than 10% resulting in a potential decrease in profitability of up to \$4m per annum and potential scrutiny from the ACCC.”¹⁹⁵

I. Compliance Risk

31. Distinct from the risk of adverse regulatory change is the risk of failing to comply with the obligations already in force. This risk grew as the business scaled and its obligations multiplied. The 2014 plan named “Inability to fully comply with our legislative and regulatory obligations” as a strategic risk, mitigated by a “comprehensive compliance training program” and “[m]onthly compliance reporting to ARNECC.”¹⁹⁶ The 2015 plan located the risk in a defined obligation set — “under ARNECC’s Model Operating Requirements, the National Electronic Conveyancing Law and National Privacy Law” — and disclosed a rising burden, citing “A greater than anticipated compliance burden” as a reason operating expenditure had been revised upward.¹⁹⁷

J. Cyber-Security, Fraud and Information-Security Risk

32. As a platform holding sensitive data and orchestrating the movement of large sums at settlement, PEXA carried significant information-security and fraud risk, which became more

¹⁹⁴ National E-Conveyancing Development Limited, 2013 NECDL Business Plan (v1.4, Board Approved 24 May 2013), p. 22.

¹⁹⁵ National E-Conveyancing Development Limited, 2013 NECDL Business Plan (v1.4, Board Approved 24 May 2013), p. 22.

¹⁹⁶ PEXA 2014 Business Plan (v1.8, Board Approved 1 May 2014), p. 7.

¹⁹⁷ PEXA 2015 Business Plan (Board Approved 11 June 2015), pp. 54, 78.

prominent as the network grew. The 2013 delivery risk assessment carried the “Inability to secure our mission critical IP and infrastructure resulting in operational threats to PEXA and lower barriers to entry into our market,” mitigated by an Information Security Management System and “Ernst and Young Attack and Penetration Testing.”¹⁹⁸ The 2014 plan hosted the platform “on an ISO27000 Compliant Platform” and rated “Mission critical information is unavailable and/or not appropriately secured” as a strategic risk,¹⁹⁹ carrying a \$10m Cyber Policy.²⁰⁰

33. The 2016 risk assessment rated the information-security risk’s consequence as “Critical due to the impact a security breach or data compromise would have on market and regulatory confidence.”²⁰¹

K. Operational, Business-Continuity and Third-Party Dependency Risk

34. Operational risk in the documents reviewed is expressed as the capacity of the platform to carry volume and to remain available. The 2013 plan carried scalability as a named strategic risk — the “Inability to accommodate additional volumes through the PEXA platform resulting in declining uptake and revenue”²⁰² — and framed the loss of control of core infrastructure in operational terms, as the “Inability to secure our mission critical IP and infrastructure resulting in operational threats to PEXA and lower barriers to entry into our market,” mitigated by an

¹⁹⁸ National E-Conveyancing Development Limited, 2013 NECDL Business Plan (v1.4, Board Approved 24 May 2013), p. 129.

¹⁹⁹ PEXA 2014 Business Plan (v1.8, Board Approved 1 May 2014), p. 7.

²⁰⁰ PEXA 2014 Business Plan (v1.8, Board Approved 1 May 2014), p. 100.

²⁰¹ PEXA 2016 Business Plan (2016), p. 97.

²⁰² National E-Conveyancing Development Limited, 2013 NECDL Business Plan (v1.4, Board Approved 24 May 2013), p. 129.

“Information Security Management System.”²⁰³ The 2014 plan rated “Mission critical information is unavailable and/or not appropriately secured” as a strategic risk and hosted the platform “on an ISO27000 Compliant Platform.”²⁰⁴

35. Third-party dependency is present from the outset: the 2010 plan’s delivery risk mitigation rested on appointing a vendor able to “bear the execution risk around the development,”²⁰⁵ so that continuity of the platform depended in part on parties outside the enterprise. By 2017 the exposure was expressed as availability under migration and growth, the plan recording that PEXA “must ensure its platform remains stable, reliable and efficient as it migrates to the cloud and as the industry moves to 100 per cent digital and transaction volumes massively increase.”²⁰⁶ Exhibit II.5 records the category as addressed in each document from 2013 to 2017, in each case without a stated rating.

L. Title Integrity, Settlement and Transaction-Failure Risk

36. A category unique to this business is the risk to the integrity of the land-title register itself — the legal guarantee on which the property system rests. The 2010 risk assessment placed this first, as the risk that “The E-Conveyancing solution diminishes / undermines integrity of the Land Title Registries” and the “potential loss of accuracy, probity and integrity of information before any change is entered into the land registry,” mitigated by building end-to-end controls to

²⁰³ National E-Conveyancing Development Limited, 2013 NECDL Business Plan (v1.4, Board Approved 24 May 2013), p. 129.

²⁰⁴ PEXA 2014 Business Plan (v1.8, Board Approved 1 May 2014), p. 7.

²⁰⁵ National E-Conveyancing Development Limited Business Plan for an E-Conveyancing Enterprise (Board Adopted 11 October 2010), p. 70.

²⁰⁶ PEXA 2017 (FY18) Business Plan, final version (2017), p. 34.

the registries’ requirements and providing them a “warranty.”²⁰⁷ It also flagged “Potential increases in TAF fund exposure” — the state Torrens Assurance Funds that indemnify against title fraud — a risk-assessment row for which no mitigation was stated.²⁰⁸

37. A closely related exposure was fraud liability shifting to practitioners through digital signing — the “Increased risk to Solicitors and Conveyancers etc. through use of digital signatures,”²⁰⁹ described elsewhere as a “major misalignment of interest” to be mitigated by building identity tools such that a compliant user “would be indemnified against any claim of loss or damage arising from fraudulent use of the system.”²¹⁰

38. In the operating plans this category was reframed as settlement- and transaction-failure risk. The Title Activity Check service was described as reducing “the risk that last minute changes to a title could cause a transaction to fail to lodge or register,”²¹¹ and the 2014 plan identified a forward work item to assess “the risks inherent in the Release 2 Settlement Model and underlying liabilities of each party to the Settlement model.”²¹²

²⁰⁷ National E-Conveyancing Development Limited Business Plan for an E-Conveyancing Enterprise (Board Adopted 11 October 2010), p. 68.

²⁰⁸ National E-Conveyancing Development Limited Business Plan for an E-Conveyancing Enterprise (Board Adopted 11 October 2010), p. 68.

²⁰⁹ National E-Conveyancing Development Limited Business Plan for an E-Conveyancing Enterprise (Board Adopted 11 October 2010), p. 68.

²¹⁰ National E-Conveyancing Development Limited Business Plan for an E-Conveyancing Enterprise (Board Adopted 11 October 2010), p. 30.

²¹¹ PEXA 2017 Business Plan, final version (2017), p. 68.

²¹² PEXA 2014 Business Plan (v1.8, Board Approved 1 May 2014), p. 63.

M. Financial, Funding, Solvency and Capital Risk

39. The venture was loss-making for many years and repeatedly dependent on further capital, so that funding and solvency risk was live in every plan through to breakeven. The 2010 plan stated “a minimum of \$78.8m in funding will be required to fund operating losses during the start-up phase,” with losses forecasted until 2016,²¹³ and the enterprise was entirely equity-funded, so that its solvency depended on that raise.

40. The founding financial plan framed the investment in expressly venture terms. The September 2010 board financial plan sought “\$75m of funding” that was “required in tranches over time,” projected “[c]ash [f]low break even in 2016” and an “IRR of 38% for NECDL foundation owners in 2017,” and identified the corresponding downside as “Solution Execution Risk; Market Take-Up Risk; [and] Financial Risk.”²¹⁴ The founding business plan of the same period likewise recorded that the “[p]rimary risks were solution execution risk, market take-up risk, financial risk and legal risk.”²¹⁵ A staged-funding structure paired with a forecast 38% equity return and an explicit execution-, adoption- and funding-risk set is the profile of a development-stage venture, not that of a low-risk utility.

41. The early solvency position was correspondingly fragile. In July 2011 the board minutes recorded a cash balance of “\$499,972” that was adequate only “through to 21 September” and depended on professional advisers deferring fees, an arrangement the company’s solicitors

²¹³ National E-Conveyancing Development Limited Business Plan for an E-Conveyancing Enterprise (Board Adopted 11 October 2010), p. 62.

²¹⁴ NECDL Board Papers #11 (13 September 2010), NECDL Financial Plan and major risk factors, PDF pp. 25–26.

²¹⁵ NECDL Board Papers #11 (13 September 2010), Founding business plan “risks were solution execution risk, market take-up risk, financial risk and legal risk.”

advised “it is possible...constitute an arrangement of the kind referred to... [as an] ‘Insolvency Event.’”²¹⁶ The 2012 business plan recorded that the first funding round had raised “\$42.5m, which included a \$6m early contribution made by the State Governments of Victoria, New South Wales and Western Australia,” but that “without further funding the business will run out of funds in May 2013,” and that “second and third rounds of funding” would be required to reach break-even.²¹⁷ The March 2012 funding offer put the further requirement at approximately \$61m to reach cash-flow break-even.²¹⁸

42. The going-concern risk was confirmed by the company’s auditors. The Ernst & Young closing report on the FY12 statutory accounts recorded an “emphasis of matter” noting that “there are significant hurdles to be achieved in the next calendar year in order to secure continued funding for the company,” and that, because “[t]he achievement of commercialisation hurdles to provide ongoing funding for the company is not confirmed at 30 June 2012...a significant uncertainty exists.”²¹⁹ The December 2012 key-risks paper carried, for board noting, the “[f]ailure to maintain adequate levels of working capital to fund our growth objectives,” rated Moderate.²²⁰

43. The 2013 plan contained the most explicit going-concern statement in the series: “without further funding, the business will experience solvency issues by January 2014 and run out of

²¹⁶ NECDL Minutes #35 (26 July 2011), Funding warranties and cash-flow projections, PDF pp. 2–3.

²¹⁷ NECDL Board #48 (3 May 2012), 2012 NECDL Business Plan -- Board Draft (26 April 2012), pp. 90–91 (PDF pp. 95–96).

²¹⁸ NECDL Board #46 (1 March 2012), Primary Stage B Funding Offer Document, sections 7–8, PDF pp. 180, 183–184.

²¹⁹ NECDL Board #54 (4 October 2012), FY12 Statutory Accounts paper and Ernst & Young Closing Report, PDF pp. 169, 214.

²²⁰ NECDL Board #58 (12 December 2012), Key Risks and Mitigants, p. 378.

funds in March 2014,”²²¹ requiring “a minimum of \$25m” in additional funding to complete development,²²² with debt unavailable because “access to debt funding will not be available to the company at least until beyond break-even.”²²³ It further disclosed that the raise depended on shareholders unanimously approving an amendment to the Shareholders’ Deed, and that the plan retained funding “to cover any liabilities in the event of a requirement to wind up the company.”²²⁴

44. The 2013 position was reflected in the board’s funding decisions. The December 2013 board minutes recorded that the revised Release 2 schedule had lifted the reforecast funding requirement to “between \$12.4 million and \$31.3 million,” with a “likely case” of \$17 million, and that, “based on the advice from Grant Samuel that debt funding is not available on commercially reasonable terms,” any further funding “should be by way of an equity issue” — so that the shortfall fell to be met by shareholders through further dilution rather than debt.²²⁵ In June 2014 the board considered a “Supplementary Tertiary Stage Funding of \$25.8m to establish a solvency and contingency fund,” after one of the State investors’ own due diligence “identified risks that justified a total raise of \$45m,” of which “\$12m...[was] an appropriate contingency for solvency and any potential wind-up costs.”²²⁶ That the board provisioned specifically for

²²¹ National E-Conveyancing Development Limited, 2013 NECDL Business Plan (v1.4, Board Approved 24 May 2013), p. 127.

²²² National E-Conveyancing Development Limited, 2013 NECDL Business Plan (v1.4, Board Approved 24 May 2013), p. 125.

²²³ National E-Conveyancing Development Limited, 2013 NECDL Business Plan (v1.4, Board Approved 24 May 2013), p. 127.

²²⁴ National E-Conveyancing Development Limited, 2013 NECDL Business Plan (v1.4, Board Approved 24 May 2013), p. 127.

²²⁵ Board Meeting #74 (17 December 2013), BoardMeeting74 Minutes, PDF pp. 3–5, 7.

²²⁶ PEXA Minutes #82 (19 June 2014), Supplementary Tertiary Stage Funding, PDF pp. 1–2.

“potential wind-up costs,” and that a State investor’s diligence enlarged rather than reduced the required raise, is direct evidence that exit remained a credible outcome which state participation had not removed.

45. The 2014 plan quantified a funding gap “between \$12.5m and \$32.9m (net of costs)” before cash-flow breakeven, recommending a raise of up to \$40m “to put the viability of PEXA Ltd beyond doubt.”²²⁷ The 2015 plan sought “a capital investment of up to \$44.3 million,”²²⁸ disclosing that its projections included “no allowance made for a solvency buffer.”²²⁹ The 2016 plan required a further “\$47m (net of costs) comprising the \$37.0m shortfall and an allowance of \$10m for a solvency buffer.”²³⁰

46. The pattern continued to the pre-listing stage. The 2017 plan raised a “Pre-IPO FEF” of up to \$115.6m and noted a contractual capital-call mechanism under “Clause 21.1 of PEXA’s Shareholders Deed” capped at the plan maximum.²³¹ A further structural financial vulnerability recurs: dependence on the R&D refundable tax offset, which each plan flagged with the qualifier “As the legislation currently stands.”²³²

N. People and Organisational Risk

47. The early plan placed particular weight on organisational and key-person risk as a driver of execution risk. The 2010 plan made the point that a small, capable team built around a specific

²²⁷ PEXA 2014 Business Plan (v1.8, Board Approved 1 May 2014), p. 72.

²²⁸ PEXA 2015 Business Plan (Board Approved 11 June 2015), p. 9.

²²⁹ PEXA 2015 Business Plan (Board Approved 11 June 2015), p. 56.

²³⁰ PEXA 2016 Business Plan (final), p. 76.

²³¹ PEXA 2017 Business Plan (Final), p. 55.

²³² PEXA 2016 Business Plan (final), p. 76.

culture was “absolute imperative to reduce execution risk” in both the development and take-up phases, and that the venture would need to attract senior people to what would be perceived as a “risky start up.”²³³

48. Once operating, the risk was expressed as the “Inability to recruit, develop and/or retain high performing resources resulting in loss of IP, specialist skills and declining engagement,” mitigated by HR policies and a Talent Management Program.²³⁴ The 2015 plan stated the key-person exposure: “There is a risk that the business will lose its key personnel and their knowledge about the business and the PEXA platform.”²³⁵

O. Governance, Shareholder and Liquidity-Event Risk

49. As the enterprise matured toward a potential listing, a set of ownership, governance and corporate-action risks emerged that were absent from the early plans. The 2017 plan contemplated a listing within the plan period, budgeting “Incremental costs in relation to an IPO” and an explicit “Liquidity Event” cost line.²³⁶

P. Forecast-Reliability and Valuation Risk

50. A distinct risk attaches not to the business but to the reliability of the financial and market analysis on which the earliest investment case rested. The PwC brief, prepared for prospective investors, disclaimed reliance on its own face: “prospective Investors are not entitled to rely and

²³³ National E-Conveyancing Development Limited Business Plan for an E-Conveyancing Enterprise (Board Adopted 11 October 2010), p. 47.

²³⁴ National E-Conveyancing Development Limited, 2013 NECDL Business Plan (v1.4, Board Approved 24 May 2013), p. 129.

²³⁵ PEXA 2015 Business Plan (Board Approved 11 June 2015), p. 78.

²³⁶ PEXA 2017 (FY18) Business Plan (Final), pp. 51-54.

will not rely on any information, comment, conclusion, or opinion in our Report, or the accuracy or completeness of any information included in the Report,”²³⁷ and stated that its work “did not constitute an audit or review” and that, except where stated, “we have not subjected the financial or other information contained in this report to checking or verification procedures.”²³⁸

51. The substantive conclusions were correspondingly hedged. PwC acknowledged that “market analysis and valuation work cannot be regarded as an exact science and the conclusions arrived at in many cases will, of necessity, be subjective,”²³⁹ and that stakeholder-supplied benefit and cost data “has not been verified and has been received also in good faith.”²⁴⁰ The revenue figure was a wide, assumption-driven band — “annual revenues of approximately \$53 - \$89m” — resting on an assumed capture of “30% - 50% of the available gross benefits” and expressly excluding “any integration and operating costs,” so that the figures overstate the economics actually available.²⁴¹

52. The same subjectivity attached to the asset being acquired. The intellectual-property value underpinning the enterprise was assessed as a range “between \$11.7 million and \$13.2 million, with a mid-point of \$12.4 million,”²⁴² derived on a historic-cost basis and adjusted by subjective

²³⁷ PricewaterhouseCoopers, National e-Conveyancing Development Limited Market Analysis Consulting Brief (19 August 2010), p. 2.

²³⁸ PricewaterhouseCoopers, National e-Conveyancing Development Limited Market Analysis Consulting Brief (19 August 2010), p. 3.

²³⁹ PricewaterhouseCoopers, National e-Conveyancing Development Limited Market Analysis Consulting Brief (19 August 2010), p. 1.

²⁴⁰ PricewaterhouseCoopers, National e-Conveyancing Development Limited Market Analysis Consulting Brief (19 August 2010), p. 1.

²⁴¹ PricewaterhouseCoopers, National e-Conveyancing Development Limited Market Analysis Consulting Brief (19 August 2010), p. 48.

²⁴² PricewaterhouseCoopers, National e-Conveyancing Development Limited Market Analysis Consulting Brief (19 August 2010), p. 59.

re-use and update percentages, and it “does not consider the cost of any other IP that would need to be accessed or acquired in order to build the NECS platform.”²⁴³ The single largest component, the Victorian ECV platform, rested on an Accenture assessment whose “underlying valuation assumptions” PwC had “not reviewed or assessed.”²⁴⁴ The founding revenue, benefit and asset figures are therefore indicative ranges built on unverified inputs rather than reliable point estimates.

53. Distinct from the reliability of the founding forecasts is the basis on which the company was subsequently valued and its shares priced, which the governing documents fixed by reference to the company’s stage of development and risk. The Shareholders’ Deed of 5 August 2011 provided that “the appropriate discount rate for the Company will be based on the Company’s risk profile as at the time of the valuation,” that the Independent Expert’s assessment “will take into account the benchmark discount rates for other businesses at a similar stage of development as the Company at the time of the valuation,” and that the expert was to additionally have regard to “the marketability, or lack of marketability of the Shares.”²⁴⁵ The valuation standard the shareholders themselves adopted was therefore a development-stage, risk-adjusted and illiquidity-adjusted one, not the benchmark of a mature regulated utility.

54. The independent valuations bore this out and showed risk being priced directly into successive capital raisings. The May 2015 funding proposal recorded that “[i]n all previous

²⁴³ PricewaterhouseCoopers, National e-Conveyancing Development Limited Market Analysis Consulting Brief (19 August 2010), p. 64.

²⁴⁴ PricewaterhouseCoopers, National e-Conveyancing Development Limited Market Analysis Consulting Brief (19 August 2010), pp. 60, 66.

²⁴⁵ Shareholders’ Deed National e-Conveyancing Development Limited, (5 August 2011), clause 22.2, PDF pp. 29–30.

funding rounds the Board set the offer price at the lowest extremity of the independent valuation,” and that the environment had by then changed because “risks around completion and operation of the network are much diminished” — an assessment which, by describing those risks as only “much diminished” as late as 2015, confirms that investors in the earlier rounds had borne materially greater risk.²⁴⁶ The pricing debate continued into 2016: the board minutes of 14 April 2016 recorded the Independent Valuation Committee’s recommendation that the board “set a price of \$5.00 (or an amount lower than this if the Board’s assessment of the market landscape risk is significant),” against a Lonergan Edwards valuation range of “\$4.79 to \$7.07,” with the opinion expressed that “the issue price should be closer to \$4.79.”²⁴⁷ A wide independent valuation range, priced at or near its lower bound on account of market-landscape risk, is inconsistent with the low-risk profile attributed to the early years.

²⁴⁶ PEXA Minutes #97 (20 May 2015), Further Tertiary Stage Funding Proposal, p. 2 (PDF p. 2).

²⁴⁷ PEXA Minutes #110 (14 April 2016), board minutes recording the Independent Valuation Committee recommendation of 12 April 2016; valuation range determined by Lonergan Edwards (\$4.79–\$7.07).