An analysis of the National Measurement Institute's client base

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Abstract

This paper explores characteristics of National Measurement Institute (NMI) clients by linking client databases to Departmental and external data sources using reported ABNs as the matching variable. Analysis of this linked data reveals who NMI clients are, their interactions with DIIS, and their R&D registration and IP filing activity. NMI clients are more likely to be IP-active and R&D-active than the average firm and also spend significantly more on R&D than the average firm. NMI clients who are IP-active and/or R&D-active spend more on NMI services than the average client.

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Key points

- **Linking Departmental and external data sources to NMI client data allows for a deeper understanding of NMI's client base**

- **One quarter of NMI clients are in Industry Growth Sectors, in contrast to only nine per cent of firms in the total employing firm population**

- **NMI clients are more likely to be IP-active and R&D-active than the average firm and also spend significantly more on R&D than the average firm**

- **NMI clients who are IP-active and/or R&D-active generally spend more on NMI services than other clients**

- **There is scope for more detailed analysis on NMI clients and their performance in the future using the Business Longitudinal Analysis Data Environment (BLADE)**

1. Introduction

The National Measurement Institute (NMI) was created on 1 July 2004, from an amalgamation between the National Measurement Laboratory, the National Standards Commission and the Australia Government Analytical Laboratories. As a division of the Department of Industry, Innovation and Science (DIIS), NMI is the peak body responsible for maintaining Australia's units and standards of measurement and issues over 100,000 test and measurement reports to approximately 3,000 organisations[1] spanning Federal, State and local governments; multinationals; calibration and analytical laboratories; environmental consultants; and other small-medium enterprises.[2]

NMI provides high accuracy measurement services to industry and regulators in areas as diverse as:

- determination of food contaminants, agrichemical residues, functional components and food safety indicators

- calibration of high accuracy measurements demonstrating traceability to the international system of units (SI)

- testing of measuring instruments under fluctuating environmental conditions to ensure that they perform to specifications

- proficiency testing programs in target areas of public concern: trade, public health, law enforcement and the environment

- chemical analyses for organic and inorganic pollutants to meet statutory requirements, including specialised facilities for providing high accuracy reference values, low-level and speciation analysis

- development of new measuring instruments, systems and solutions to meet industrial and scientific needs

- measurement of nanoparticle size, size distribution and shape.

Metrology (the science of measurement) has an important role in the innovation process, by improving the effectiveness of the R&D process, making it easier for innovative producers to market innovative new products, reducing transaction costs and limiting market failure.[3] Australia's standards and conformance system relies on the NMI's measurement capabilities to support the adoption of overseas-made technologies and processes, which are often drivers of technological change. The NMI is a foundation element of publicly funded innovation in Australia, which includes research organisations, research grant providers, and the patent system. Therefore it is unsurprising that findings

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[1] The National Measurement Institute, viewed 25 May,
http://www.measurement.gov.au/Documents/NMIbrochure.pdf

[2] Williamson S (2003) National analytical labs to merge, *Australian Life Scientist*, viewed 25 May,
http://www.labonline.com.au/content/life-scientist/news/national-analytical-labs-to-merge-556570644

[3] For further discussion on the economic benefits of measurement, see Robertson,K & Swanepoel, J. (2015) The economics of metrology, Canberra, Department of Industry, Innovation and Science

in this report demonstrate NMI clients exhibit characteristics of highly innovative-active firms.

The primary motivation of this research is to test what is known about NMI's diverse client base, fill the gaps and add to the stock of knowledge on these firms. This will enable NMI to strategically extend its outreach and strengthen direct engagements and collaborations and provision of services, support the Department's program suite and prioritise activities based on Australian economic and societal needs. For DIIS, studying fee-for-service activity versus broader grant related analysis will also extend the empirical evidence base on DIIS's activities.

2. Data, methodology and associated issues

2.1 Methodology and data sources

NMI client databases

Two NMI client databases have been used in this report: the Sample Manager client database and the Test & Calibration client database. The Sample Manager database is the Laboratory Information Management System used by NMI to track the receipt, registration, processing, analysis, reporting and invoicing of chemical and biological analysis services. All of NMI's analytical services are processed through Sample Manager except for those provided by NMI's specialist laboratories: the Australian Forensic Drug Laboratory and the Australian Sports Drug Testing Laboratory. The Test & Calibration database provides a workflow management and customer relationship functionality for calibration and testing of physical measurement standards and instruments. This includes quotation, effort logging, job tracking, invoicing, reporting and statistics.

Both databases contain detailed client information including a unique client ID assigned by NMI, the client's Australian Business Number (ABN), the type of service and the transaction value for financial years 2004-05[4] to 2015-2016. The ABNs are the core linking variable to other data sources used to describe NMI's clients.

Other data sources

Finding rich sources of de-identified firm-level data is a challenge, and to link firm-level data requires a reliable matching variable (Australian Business Number). Figure 2.1 outlines all data sources used for this report.

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[4] NMI's Test & Calibration database begins in 2005–06

Australian Business Register (ABR)

When an ABN is registered the business identity information is stored in the ABR as public and non-public data.[5] This dataset contains entity type, name, industry, location and contact information of each registered business in Australia. The main use for the ABR in this report is to identify the Australian and New Zealand Standard Industrial Classification (ANZSIC) of NMI clients. Only eligible government agencies can access and use the non-public data to provide improved community services.

Intellectual Property Government Open Data (IPGOD)

The IPGOD is the first complete and open national Intellectual Property (IP) register that links IP rights to business numbers, and contains over 100 years of records comprising patents, trade marks, designs and plant breeder's rights held by IP Australia.[6] IPGOD contains registrant information such as ABNs, business name and application status.

Department of Industry, Innovation and Science program data

DIIS holds program interaction reports, providing firm level reporting on all the applications for assistance that a business entity has made with the Department. This includes the business's ABN, name, program and application status.

R&D Registration data

The Australian Tax Office and DIIS (on behalf of Innovation and Science Australia) jointly administer the R&D Tax Incentive. R&D activities must be registered with DIIS before the tax offset is claimed, and DIIS determines if the expenditure claimed for R&D activities is eligible for the tax offset.

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[5] Australian Government (2017) Accessing ABR data, viewed 1st August 2017,
https://www.ipaustralia.gov.au/about-us/economics-ip/ip-government-open-data

[6] Australian Government IP Australia (2016) IP Government Open Data, viewed 10th August 2017,
https://www.ipaustralia.gov.au/about-us/economics-ip/ip-government-open-data

Figure 2.1: Sources of data
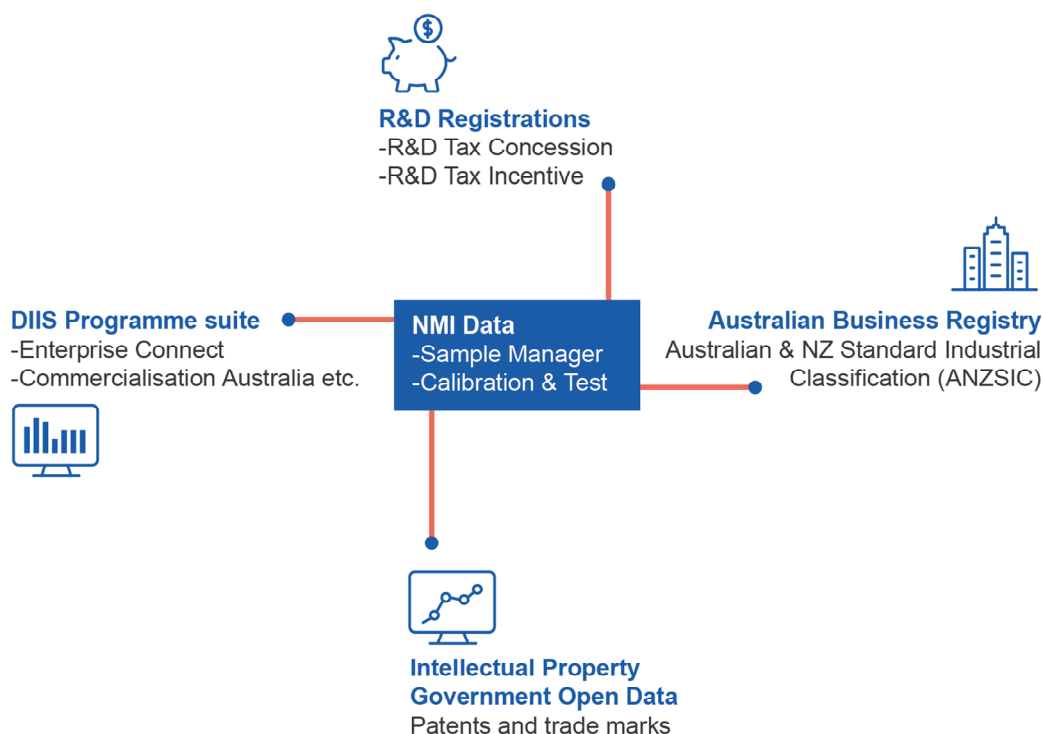
2.2   Data limitations

The ABN of firms allows the linkage of NMI client databases to external datasets. However, not all clients in NMI's databases have reported an ABN. This is either because the ABN entry is invalid, or the client does not have an ABN registered with the Australian Tax Office. The client may not be an Australian company or does not need to collect GST, and therefore will not be required to register. It is assumed omission of ABNs are random and therefore do not bias any results.

A number of clients considered distinct by NMI (distinct client name and client identification number) will report the same ABN and presumably these firms will be a part of a larger Enterprise Group. As analysis is based on matching NMI client ABNs to other datasets, multiple clients reporting the same ABN will be treated as one entity throughout this report.

There has been considerable improvement in reporting of ABNs for the Sample Manager client database since 2004-05, as shown in Table 2.1. In the most recent year of data collected (2015-16), 82.3 per cent of NMI clients reported a valid ABN. The second column shows the number of distinct ABNs used in this report.

The Test & Calibration client database has had a more consistent reporting rate of ABNs over time, with 68.0 per cent of clients reporting an ABN in the 2015-16 year (Table 2.1). This database is about one fifth of the size of the Sample Manager client database when comparing the distinct count of ABNs.

This report uses NMI client data that is available up to 2015-16, however when matching to external data sources, typically 2014-15 will be the latest year of available data.

To assist in the comparison of results, in some cases an all-firm 'benchmark' has been constructed using all employing firms in Australia. This is to provide a baseline to compare the NMI client group, and using only employing firms trims the active non-employing businesses that are a poor comparison.[7] In other cases, NMI client results are compared to distinct industries that are highly representative of NMI clients. This is an attempt to compare NMI clients with like firms.

Table 2.1: Share of clients with reported ABN and counts of distinct ABNs

Year	Sample Manager client database		Test & Calibration client database	
	Reported ABN (per cent)	Unique ABNs	Reported ABN (per cent)	Unique ABNs
2004–05	43.8	1117	n/a	n/a
2005–06	53.6	1090	77.2	118
2006–07	61.1	1206	78.6	185
2007–08	66.1	1175	75.7	155
2008–09	70.0	1173	75.6	158
2009–10	72.7	1143	76.8	175
2010–11	74.7	1203	65.4	324
2011–12	74.1	1192	69.0	285
2012–13	77.1	1177	69.7	321
2013–14	78.3	1168	68.5	279
2014–15	79.1	1159	71.3	288
2015–16	82.3	1277	68.0	249

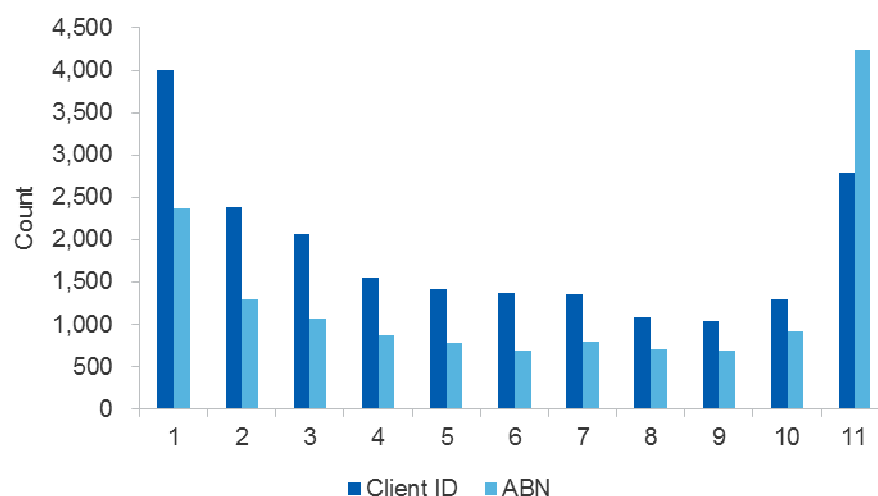Source: Department of Industry, Innovation and Science (2017)

Persistence

The level of persistence of NMI clients is defined by the total number of years a client or an ABN has engaged with NMI's services between the financial years 2005-06 and 2015-16. Figure 2.2 and Figure 2.3 show that NMI clients are highly persistent in accessing NMI services across the two groups of clients and across the two methods of defining a unique client (by ABN or client ID). ABNs across the two groups also have a much higher level of persistence than client IDs. This is to be expected as there are subsets of clients that are reporting a single ABN, and highlights the difference in analysing ABNS to client IDs.

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[7] Non-employing businesses include arrangements such as residential and commercial property strata bodies and corporate and trust structures whose main purpose is legal or financial in nature. Typically DIIS interacts with employing firms.
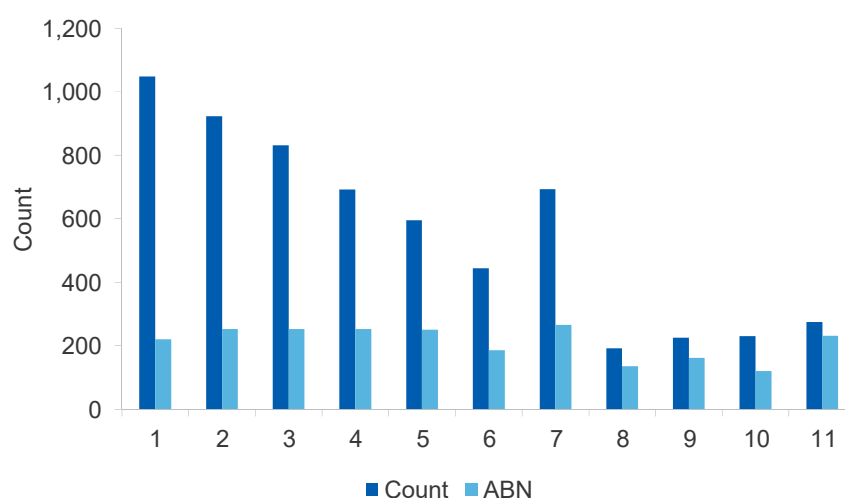
Figure 2.2: Years of active engagement in NMI services, Sample Manager clients IDs and ABNs

Figure 2.3: Years of active engagement in NMI services, Test & Calibration client IDs and ABNs

3. Characteristics of Sample Manager clients

3.1 Industry classification

The majority of NMI's Sample Manager clients in 2015-16 were in the Wholesale Trade (31.9 per cent), Manufacturing (18.7 per cent) or Professional, Scientific & Technical Services (11.2 per cent) industries. Figure 3.1 compares the NMI industry shares with all (employing) firms in Australia, and illustrates which industries are over or under represented in the NMI client

base. NMI clients are overwhelmingly overrepresented in Wholesale Trade, Manufacturing, Public Administration & Safety industries, Electricity, Gas, Water & Waste Services and Mining industries. NMI Clients are marginally overrepresented in the Agriculture, Forestry and Fishing industry.

Figure 3.1: NMI and all firm industry shares, 2015-16 - Sample Manager
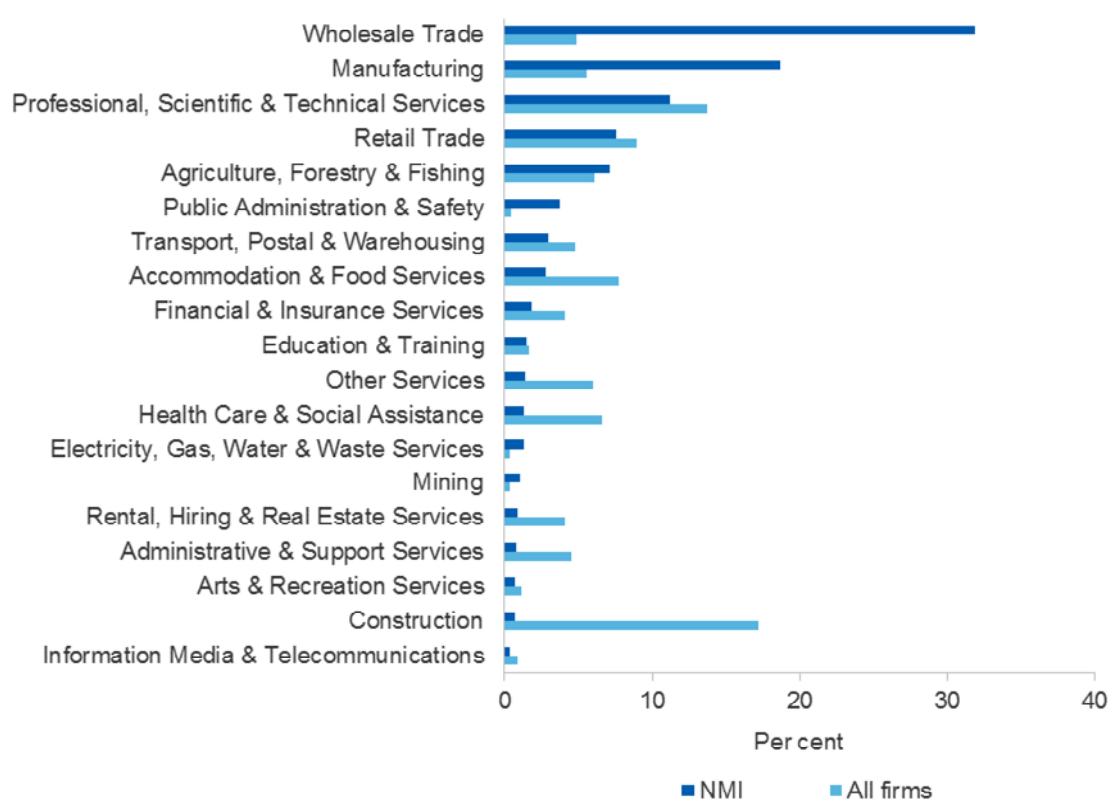
The top five subdivisions represented in the NMI Sample Manager client database include Grocery, Liquor & Tobacco Product Wholesaling (22.7 per cent), Professional, Scientific & Technical Services (11.1 per cent), Food Product Manufacturing (9.2 per cent), Agriculture (5.7 per cent) and Food Retailing (5.6 per cent) (Figure 3.2).

Figure 3.2: Top five ANZSIC subdivisions, by proportion of NMI clients, 2015-16 - Sample Manager
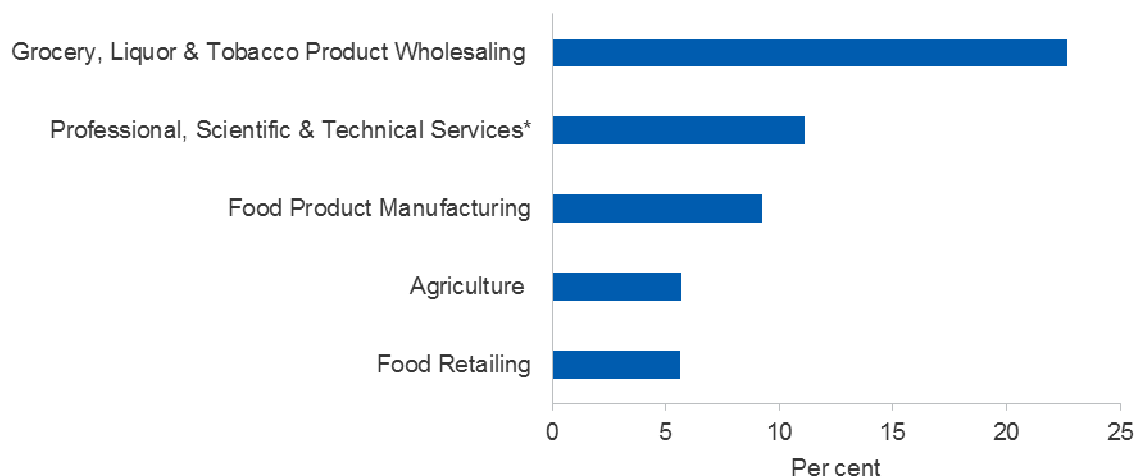
3.2   Industry Growth Centres

The Industry Growth Centres Initiative was announced in late 2014 under the *Industry Innovation and Competitiveness Agenda* and is an industry-led approach driving innovation, productivity and competitiveness by focusing on areas of competitive strength and strategic policy.[8] The list of ANZSIC classes included in each of the five growth sectors, Advanced Manufacturing, Food and Agribusiness, Medical Technologies and Pharmaceuticals, Mining Equipment, Technology and Services and Oil, Gas and Energy Resources[9] can be found in ABS Cat. No. 8170.0.[10]

One quarter of NMI clients (26.8 per cent) are classified as a growth sector firm in 2015-16, with the majority represented in the Food and Agribusiness growth sector (18.7 per cent). Figure 3.3 shows the proportion of clients represented in the Food and Agribusiness growth sector increased sharply after the introduction of the Growth Centres Initiative. In contrast, just 8.7 per cent of firms in the total employing firm population that are classified as a growth sector firm in 2015-16.[11]

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[8] Read more about growth centres here: https://industry.gov.au/industry/Industry-Growth-Centres/Pages/default.aspx

[9] Cyber security was recently added as a sixth growth sector, however does not have assigned ANZSIC classes.

[10] Australian Bureau of Statistics Cat. No. 8170.0 Characteristics of Businesses in Selected Growth Centres, Australia, 2013-14, http://www.abs.gov.au/AUSSTATS/abs@.nsf/DetailsPage/8170.02013-14?OpenDocument

[11] ABS Cat. No. 8165.0, Counts of Australian Businesses, including Entries and Exits, Jun 2012 to Jun 2016

Figure 3.3: Share of NMI clients classified as growth sector firms — Sample Manager
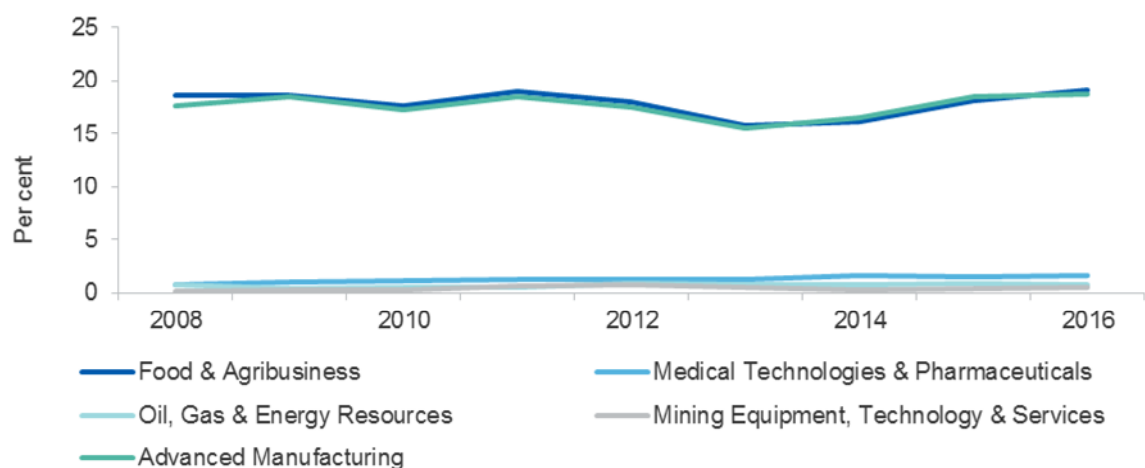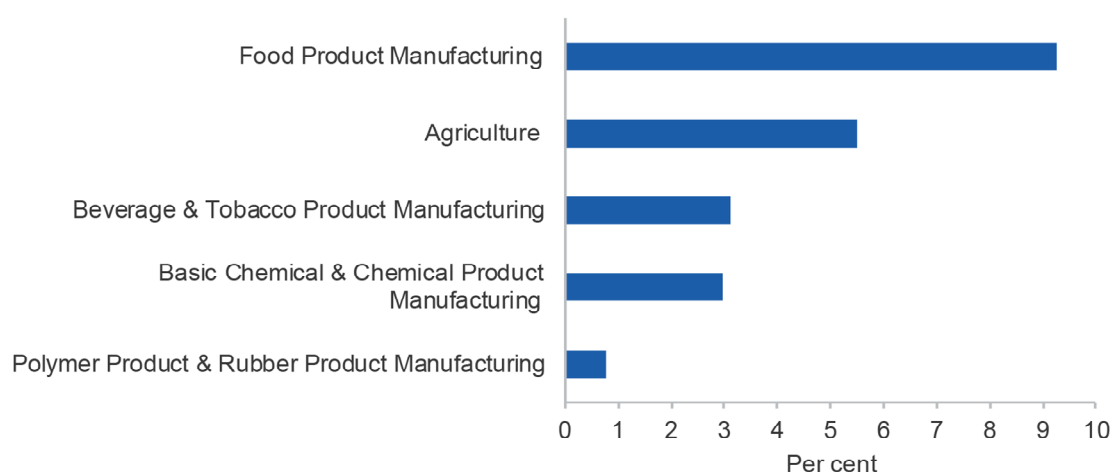

Notes: A small amount of firms appear in more than one growth sector. Financial years are rounded up – i.e. year 2015 is financial year 2014–15

Source: Department of Industry, Innovation and Science (2017); Australian Business Registry (2016); ABS Australian Bureau of Statistics Cat. No. 8170.0 Characteristics of Businesses in Selected Growth Centres, Australia, 2013–14,

Almost half of the NMI clients in growth sectors are in the Food Product Manufacturing subdivision. This translates to 9.2 per cent of all NMI clients in the Food Product Manufacturing subdivision, followed by Agriculture (5.5 per cent), Beverage & Tobacco Product Manufacturing (3.1 per cent)

Basic Chemical & Chemical Product Manufacturing (3.0 per cent) and Other Goods Wholesaling (1.2 per cent) (Figure 3.4).

Figure 3.4: Share of NMI clients in top five growth sector subdivisions, 2015–16 — Sample Manager


Notes: A small amount of firms appear in more than one growth sector.

Source: Department of Industry, Innovation and Science (2017); Australian Business Registry (2016); ABS Cat. No. 8170.0 Characteristics of Businesses in Selected Growth Centres, Australia, 2013–14,

3.3   Intellectual Property

Intellectual property (IP) rights including patents and trade marks are often used as a measure of output of innovation. In 2014–15, 15.0 per cent of NMI clients filed trade mark applications and 2.2 per cent of NMI clients filed patent applications. Figure 3.5 shows these shares have remained fairly constant over time.

Figure 3.5: Share of NMI clients filing for trade marks or patents — Sample Manager
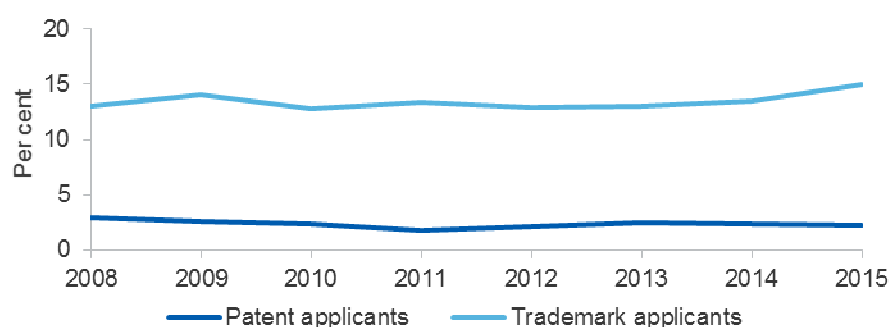

Notes: These are patent applicants and/or trade mark applicants, not applications.

Source: Department of Industry, Innovation and Science (2017); IPGOD 2017

Figure 3.6 and Figure 3.7 compare IP filing activity between NMI clients and firms in similar industries. NMI clients consistently outperform firms in Manufacturing, Wholesale Trade and PST in filing for patents and trade marks.

Figure 3.6: Share of NMI clients, innovative-active firms and industries filing for patents — Sample Manager
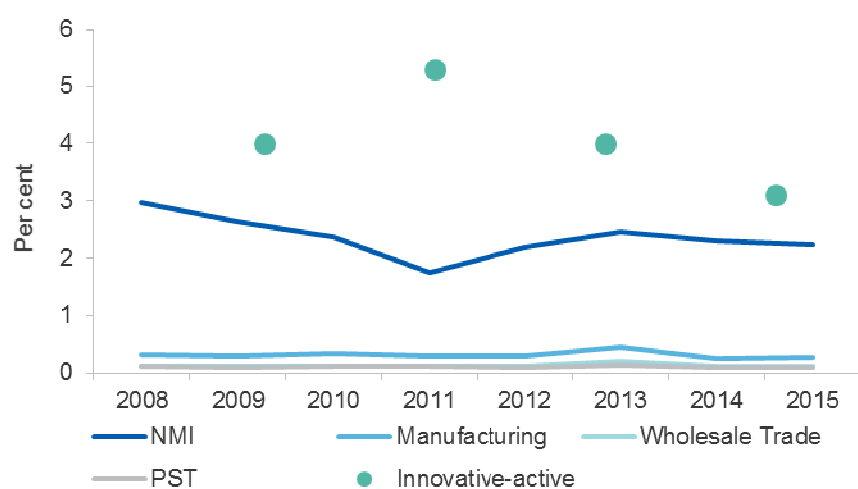
Notes: Financial years are rounded up – i.e. year 2015 is financial year 2014–15. Innovative-active data

Source: Department of Industry, Innovation and Science (2017); IPGOD (2017); ABS Cat. No. 8158.0 Innovation in Australian Business, 2014–15

Figure 3.7: Share of NMI clients, innovative-active firms and industries filing for trade marks — Sample Manager
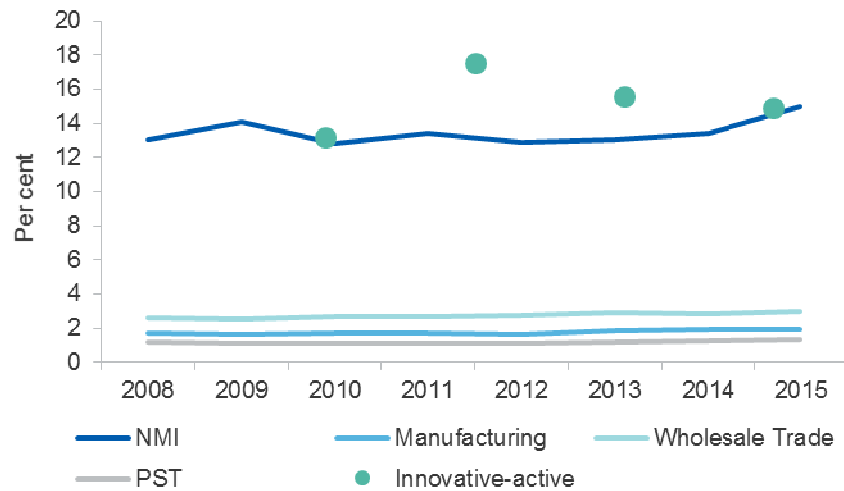

Notes: Financial years are rounded up – i.e. year 2015 is financial year 2014–15. The innovative-active firm population includes registration of copyright and trademarks.

Source: Department of Industry, Innovation and Science (2017); IPGOD 2017; ABS Cat. No. 8158.0 Innovation in Australian Business, 2014–15

Amongst IP-active NMI clients, almost a quarter (24.4 per cent) are in the Grocery, Liquor & Tobacco Product Wholesaling subdivision, followed by Food Product Manufacturing (15 per cent), Tertiary Education (8.3 per cent), Beverage & Tobacco Product Manufacturing (6.7 per cent) and Basic Chemical & Chemical Product Manufacturing (5.6 per cent) (Figure 3.8).

Figure 3.8: Share of NMI IP-active clients, top five subdivisions, 2014–15 — Sample Manager
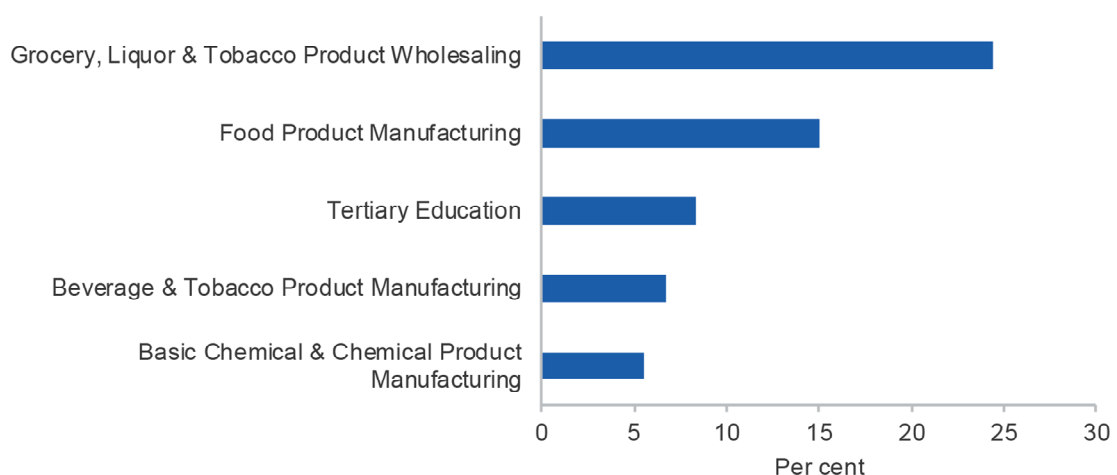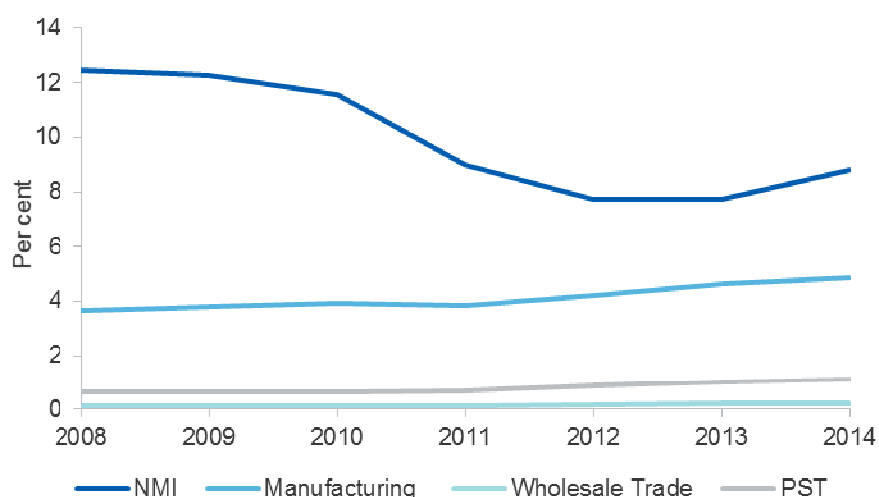

Source: Department of Industry, Innovation and Science (2017); IPGOD (2017); ABR (2016)

3.4   R&D registrations

The R&D Tax Incentive[12] (RDTI) programme provides a tax benefit to companies to help offset some of the cost of conducting eligible research and development activities. Companies must be liable to pay income tax in Australia and have incurred eligible R&D expenditure of at least $20,000 to be eligible for the RDTI.[13] The RDTI programme replaced the R&D Tax Concession (RDTC) in on 1 July 2011.

In 2014–15, 9.0 per cent (102 firms) of NMI clients were R&D-active (Figure 3.9). This share fell sharply in and continued to fall from 2010–11, the year in which the RDTC programme transitioned to the RDTI programme. This fall may be due to the RDTI targeting smaller firms to engage in R&D, however this program transition has not affected firms in Manufacturing, Wholesale Trade and PST industries.

Figure 3.9: R&D-active share NMI clients and R&D-active share of selected industries — Sample Manager

Notes: Financial years are rounded up – i.e. year 2015 is financial year 2014–15
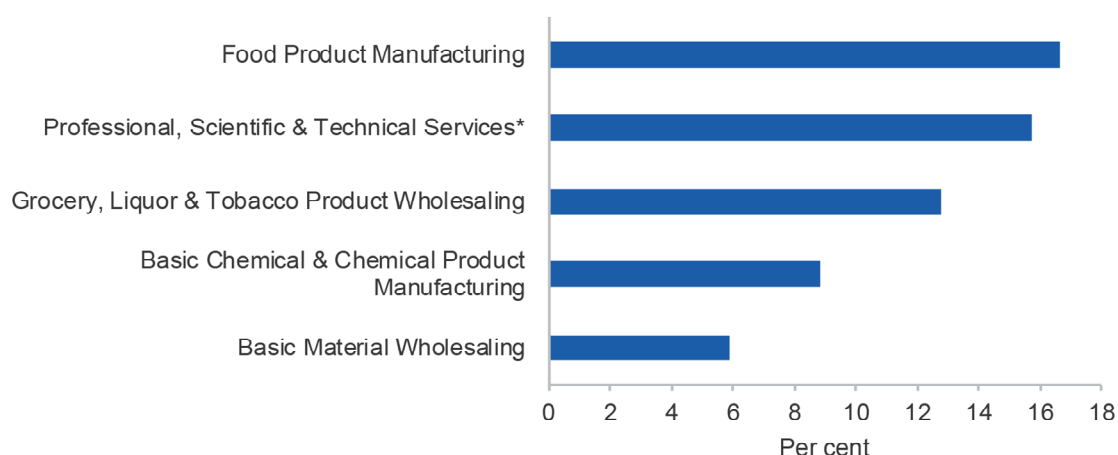
Source: Department of Industry, Innovation and Science (2017)

Food Product Manufacturing contains the highest number of R&D-active NMI clients (16.7 per cent) followed by Professional, Scientific and Technical Services (15.7 per cent), Grocery, Liquor & Tobacco Product Wholesaling (12.7 per cent), Basic Chemical & Chemical Product Manufacturing (8.8 per cent) and Basic Material Wholesaling (5.9 per cent) (Figure 3.10).

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[12] Previously the R&D Tax Concession programme preceding 2011–12

[13] Australian Government (2017) R&D Tax Incentive, viewed 10 August 2017, https://www.business.gov.au/assistance/research-and-development-tax-incentive

Notes: *Except Computer System Design and Related Services

Source: Department of Industry, Innovation and Science (2017); ABR (2016)

Using NMI defined market segment categories (Figure 3.11), about a third of R&D-active clients are in Food Manufacturing (32.3 per cent) followed by Environmental Resources/Mining (11.8 per cent), Environmental Consultants (10.8 per cent), Food Agriculture (9.8 per cent) and Food Imports (8.8 per cent).

Figure 3.11: NMI Market Segment* share of R&D-active clients, top five, 2014–15 — Sample Manager
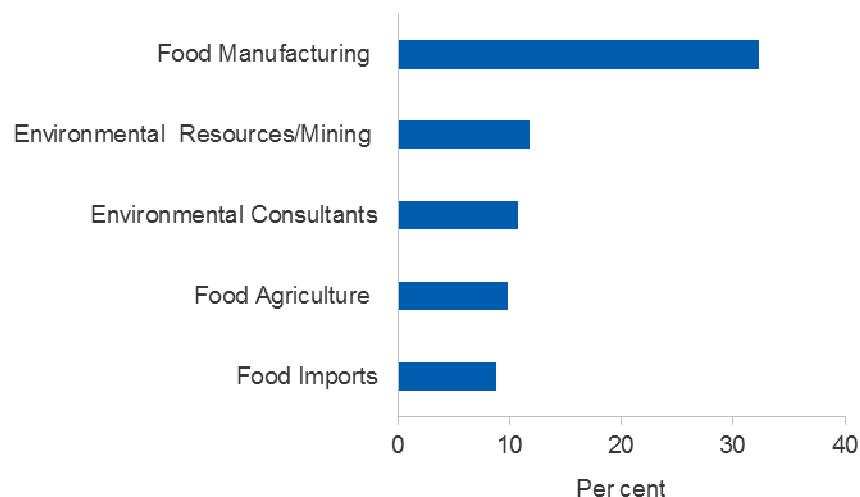
Notes: *Market Segments defined by NMI

Source: Department of Industry, Innovation and Science (2017); ABR (2016)

3.5   Expenditure on R&D

Table 3.1 compares median and mean R&D expenditure between NMI clients and all firms registered for the R&D Tax Incentive between 2011–12 and 2014–

15. The average (mean) NMI client spends significantly more on R&D (four times) than the average firm in every year of the RDTI programme. This is also true for the middle (median) NMI client against the middle firm in the RDTI programme. The median indicates what the middle firm would spend. The mean is higher as it is raised by a number of firms spending significantly more on R&D than the middle firm.

Table 3.1: Median & Mean R&D expenditure (thousands), NMI clients and all firms — Sample Manager

Year	Median		Mean	
	NMI	All firms	NMI	All firms
2011–12	1,862	350	8,063	2,099
2012–13	1,714	336	8,607	1,976
2013–14	1,733	312	7,264	1,638
2014–15	1,324	300	5,005	1,365

Source: Department of Industry, Innovation and Science (2017)

3.6   IP-active and R&D-active expenditure on NMI services

R&D-active and IP-active NMI clients on average spend more on NMI services (Figure 3.12). Average expenditure by R&D-active clients has also been increasing faster over time than other client types.

Figure 3.12: Average NMI client expenditure by client type — Sample Manager
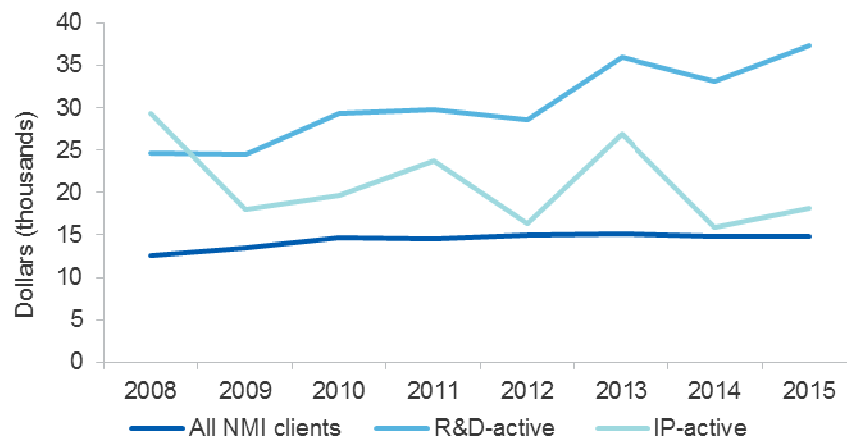
Notes In nominal dollars. Financial years are rounded up – i.e. year 2015 is financial year 2014–15.

Source: Department of Industry, Innovation and Science (2017)

3.7   Other departmental programs

NMI clients were also matched to other DIIS's program participant datasets, including:

- Commercialisation Australia

- Enterprise Connect

- Entrepreneurs' Programme

- Tradex Scheme

- Certain Inputs to Manufacture Scheme

- Australian Government Innovation and Investment Fund (Tasmania)

- Automotive New Markets Program

- Green Building Fund

- Geelong Innovation and Investment Fund

- Innovation and Investment Fund for South Australia

- Illawarra Region Innovation and Investment Fund

- North West and Northern Tasmania Innovation and Investment Fund

- South Australian Innovation and Investment Fund

- South East South Australia Innovation and Investment Fund

- Textile, Clothing and Footwear Post-2005 Strategic Investment Program

- Textile, Clothing and Footwear Small Business Program

- Textile, Clothing and Footwear Strategic Investment Program

- Tasmania Innovation and Investment Fund

- Venture Capital

NMI clients were found to have participated in four of these programs, including R&D Tax Concession/Incentive, Commercialisation Australia, Enterprise Connect and the Entrepreneurs' Programme (Table 3.2).

Table 3.2: NMI firm participation in DIIS programs – Sample Manager

	2008–09	2009–10	2010–11	2011–12	2012–13	2013–14	2014–15
R&D Tax Concession/ Incentive*	146	140	139	107	91	90	102
Commercialisation Australia	n/a	0	3	1	2	2	1
Enterprise Connect	6	8	6	8	6	5	2
Entrepreneurs Programme	n/a	n/a	n/a	n/a	n/a	5	5

Notes: *R&D Incentive is a continuation of the R&D Concession from 2010–11. Firms participating in the R&D Tax Concession/Incentive may also be present in other DIIS programs. There is one firm that participated in both Commercialisation Australia and Enterprise Connect in 2013–14.
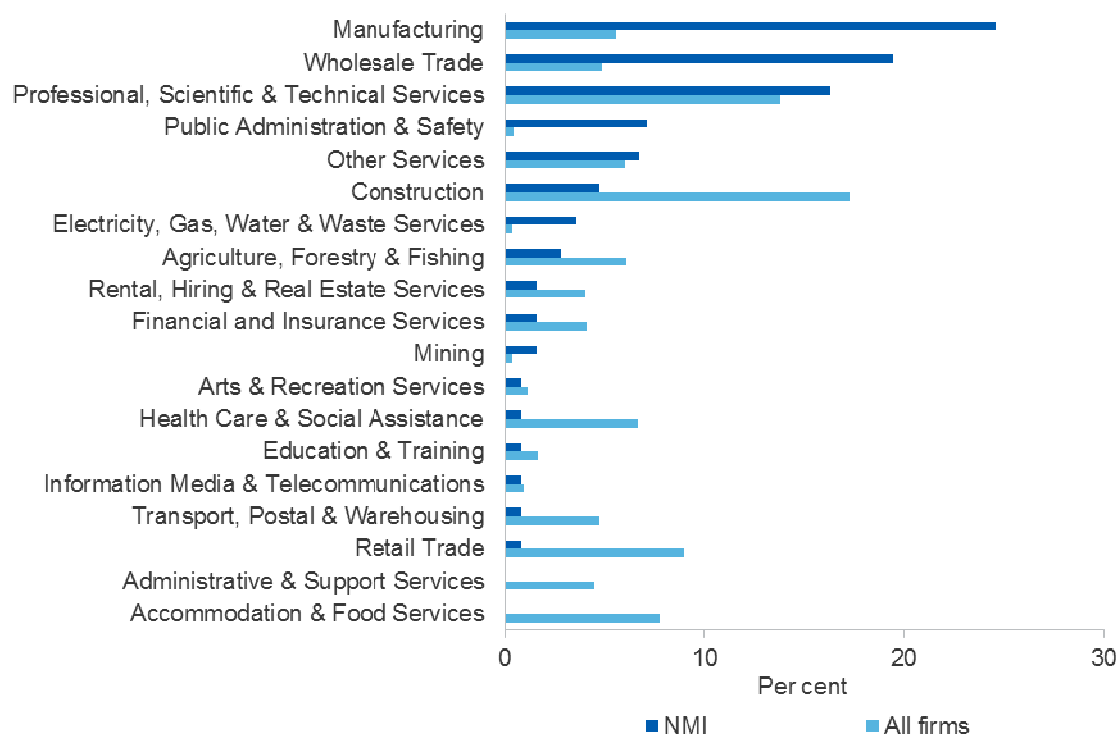
Source: Department of Industry, Innovation and Science (2017)

4. Characteristics of Test & Calibration clients

4.1 Industry classification

The majority of NMI's client base in 2015–16 were in the Manufacturing (24.6 per cent), Wholesale Trade (19.4 per cent), or Professional, Scientific & Technical Services (16.3 per cent) industries. Figure 4.1 compares the NMI industry shares with all (employing) firms in Australia, and illustrates which industries are over or under represented in the NMI client base. NMI clients are overwhelmingly overrepresented in Manufacturing, Wholesale Trade, Professional, Scientific & Technical Services, Electricity, Gas, Water & Waste Services and Mining. NMI clients are marginally overrepresented in the Other Services industry.

Figure 4.1: NMI and all firm industry shares, 2015–16 – Test & Calibration

Notes: All firms refers to total employing firms only.

Source: Department of Industry, Innovation and Science (2017); ABR (2016); ABS Cat. No. 8165.0, Counts of Australian Businesses, including Entries and Exits, Jun 2012 to Jun 2016

The top five subdivisions represented in the NMI client database include Professional, Scientific & Technical Services (14.5 per cent), Machinery & Equipment Wholesaling (12.9 per cent), Machinery & Equipment Manufacturing (11.6 per cent), Repair & Maintenance (5.6 per cent) and Food Product Manufacturing (5.6 per cent) (Figure 4.2).

Figure 4.2: Top five ANZSIC subdivisions, by proportion of NMI clients, 2015–16 – Test & Calibration
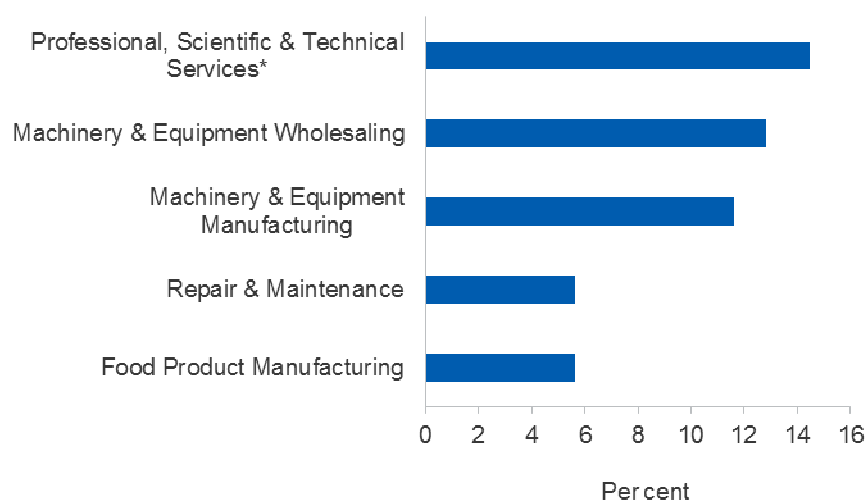
Source: Department of Industry, Innovation and Science (2017); ABR (2016)

4.2   Industry Growth Centres

One third of clients (30.1 per cent) are classified as a growth sector firm in 2015–16, with the majority in the Advanced Manufacturing (15.3 per cent), followed by Food & Agribusiness (7.2 per cent) and Medical Technologies & Pharmaceuticals (6.8 per cent) (Figure 4.3). In contrast, just 8.7 per cent of firms in the total employing firm population that are classified as a growth sector firm in 2015–16.[14]

Most NMI growth sector clients are in Machinery & Equipment Manufacturing, Food Product Manufacturing and Transport Equipment Manufacturing (Figure 4.4). No growth sector) has particularly high representation in contrast to results for Sample Manager clients in Figure 3.4.

[14] ABS Cat. No. 8165.0, Counts of Australian Businesses, including Entries and Exits, Jun 2012 to Jun 2016
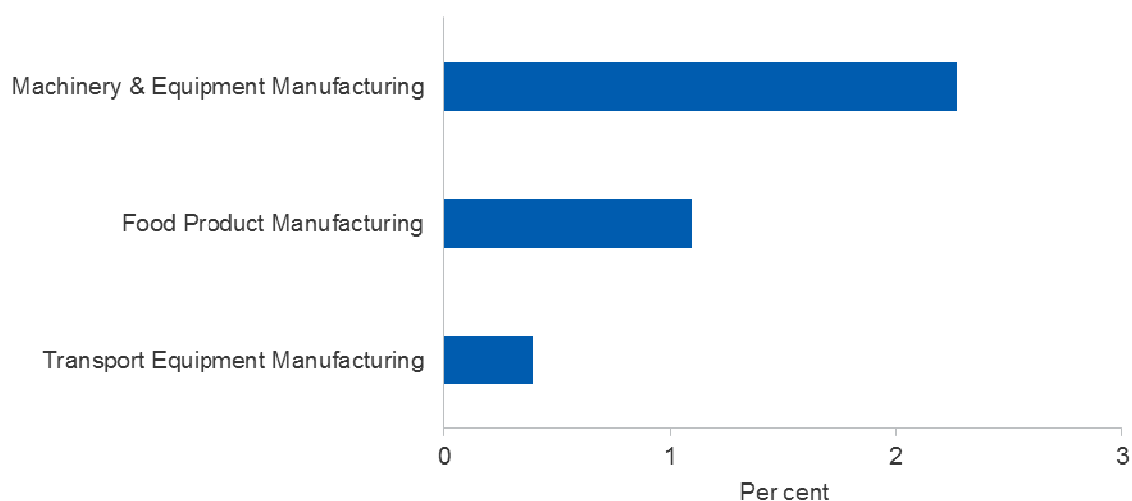
Figure 4.3: Share of NMI clients classified as growth sector firms – Test & Calibration
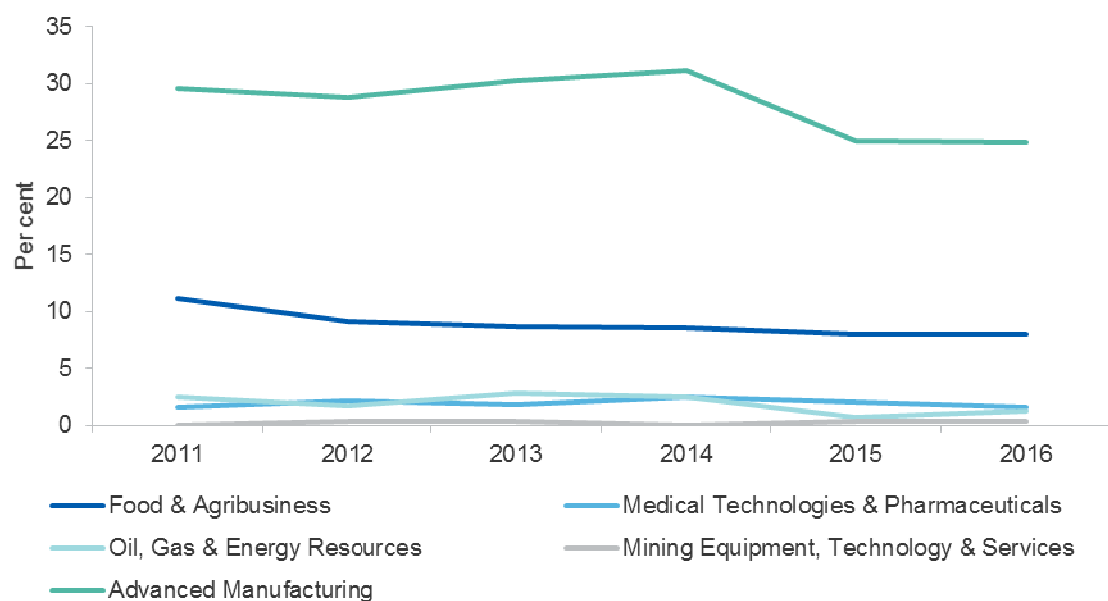
Notes: A small amount of firms appear in more than one growth sector. Financial years are rounded up — i.e. year 2015 is financial year 2014–15.

Source: Department of Industry, Innovation and Science (2017); ABR (2016); ABS Statistics Cat. No. 8170.0 Characteristics of Businesses in Selected Growth Centres, Australia, 2013–14

Figure 4.4: Share of NMI clients in top three growth sector subdivisions, 2015–16 – Test & Calibration

Notes: A small amount of firms appear in more than one growth sector.

Source: Department of Industry, Innovation and Science (2017); ABR (2016); ABS Cat. No. 8170.0 Characteristics of Businesses in Selected Growth Centres, Australia, 2013–14

4.3   Intellectual Property

In 2014–15, 10.8 per cent of NMI clients filed trade mark applications and 2.9 per cent of NMI clients filed patent applications. Figure 4.5 shows these shares have declined over time.

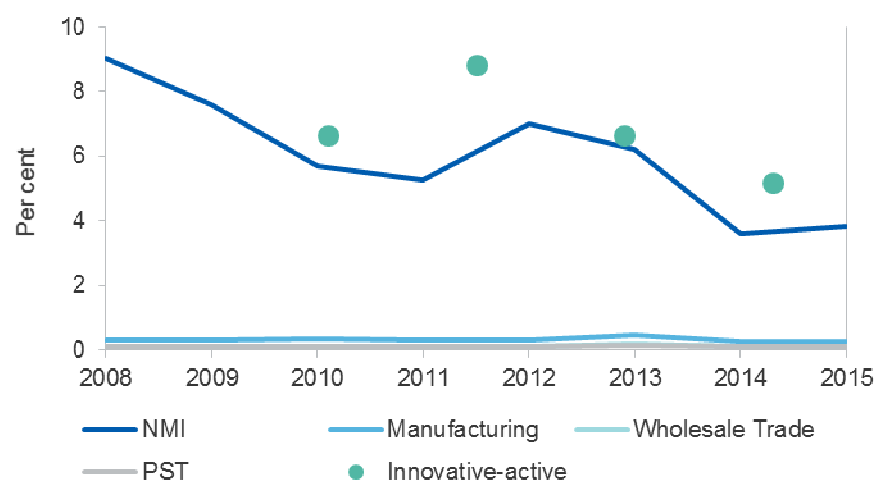Figure 4.5: Share of NMI clients filing for trade marks or patents – Test & Calibration
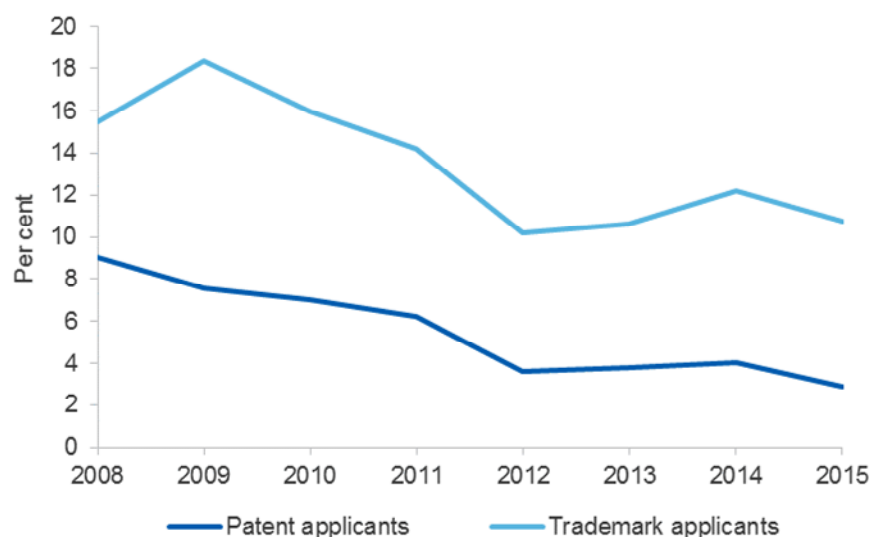
Notes: These are patent applicants or trade mark applicants, not applications. Financial years are rounded up — i.e. year 2015 is financial year 2014–15.

Source: Department of Industry, Innovation and Science (2017); IPGOD 2017

Figure 4.6 and Figure 4.7 compare IP filing activity between NMI clients and firms in similar industries. NMI clients consistently outperform firms in Manufacturing, Wholesale Trade and PST in filing for patents and trade marks.
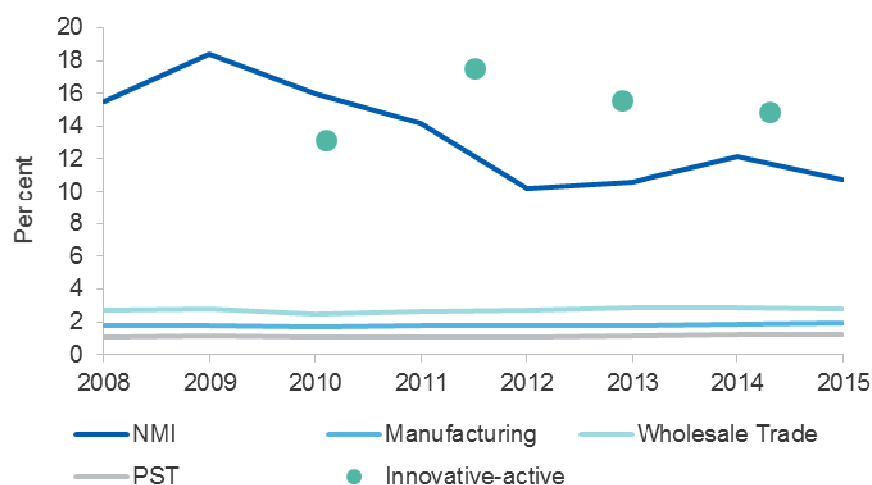
Figure 4.6: Share of NMI clients, innovative-active firms and industries filing for patents – Test & Calibration

Figure 4.7: Share of NMI clients, innovative-active firms and industries filing for trade marks — Test & Calibration

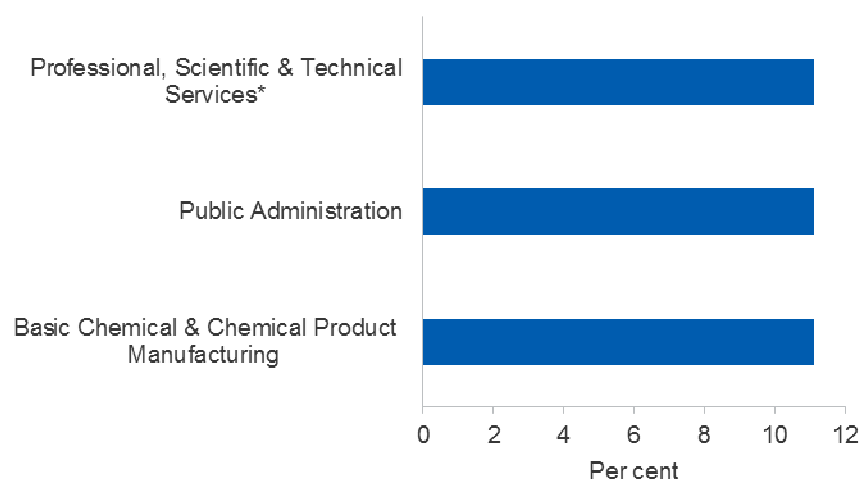Amongst IP-active NMI clients, Professional, Scientific & Technical Services, Public Administration and Basic Chemical & Chemical Product Manufacturing subdivisions have the highest shares of IP-active clients (11.3 per cent each) (Figure 4.8).

Figure 4.8: Share of NMI IP-active clients, top three subdivisions, 2014–15 – Test & Calibration

Notes: *Except computer system design and related services

Source: Department of Industry, Innovation and Science (2017); IPGOD (2017); ABR (2016)

4.4   R&D Registrations

In 2014–15, 11.8 per cent (34 firms) of NMI clients were R&D-active (Figure 4.9). This share fell sharply in and continued to fall from 2010–11, the year in which the R&D Tax Concession (RDTC) programme transitioned to the R&D Tax Incentive programme. This fall may be due to the R&D Tax Incentive targeting smaller firms to engage in R&D, however this programme transition has not affected firms in Manufacturing, Wholesale Trade and PST industries.

Figure 4.9 R&D-active share of NMI clients and R&D-active share of selected industries – Test & Calibration
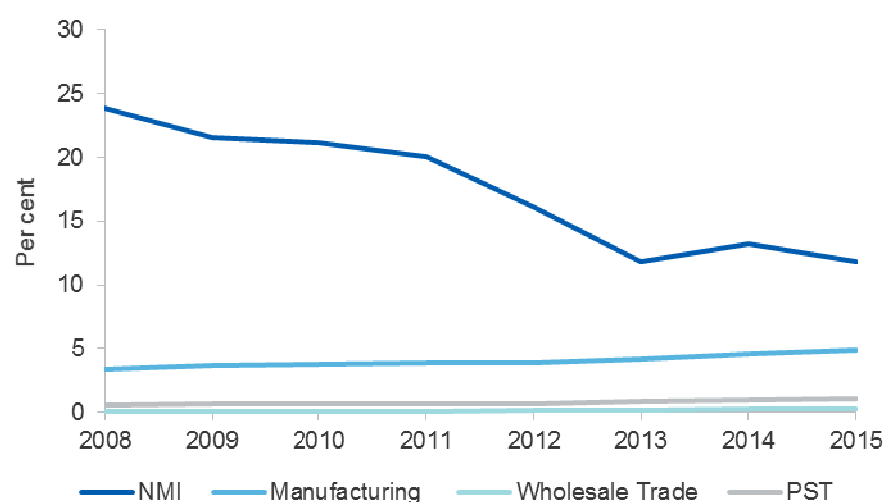

Notes: Financial years are rounded up – i.e. year 2015 is financial year 2014–15

Source: Department of Industry, Innovation and Science (2017)

Amongst R&D-active NMI clients, the Professional, Scientific & Technical Services subdivision contains the highest share (26.5 per cent) followed by the Machinery & Equipment Manufacturing (20.6 per cent) and the Machinery & Equipment Wholesaling (20.6 per cent) subdivisions. Grocery, Liquor & Tobacco Product Wholesaling (12.7 per cent), Basic Chemical & Chemical Product Manufacturing (8.8 per cent) and Basic Material Wholesaling (5.9 per cent) (Figure 4.10).

Figure 4.10: Share of NMI R&D-active clients, top three subdivisions, 2014–15 – Test & Calibration
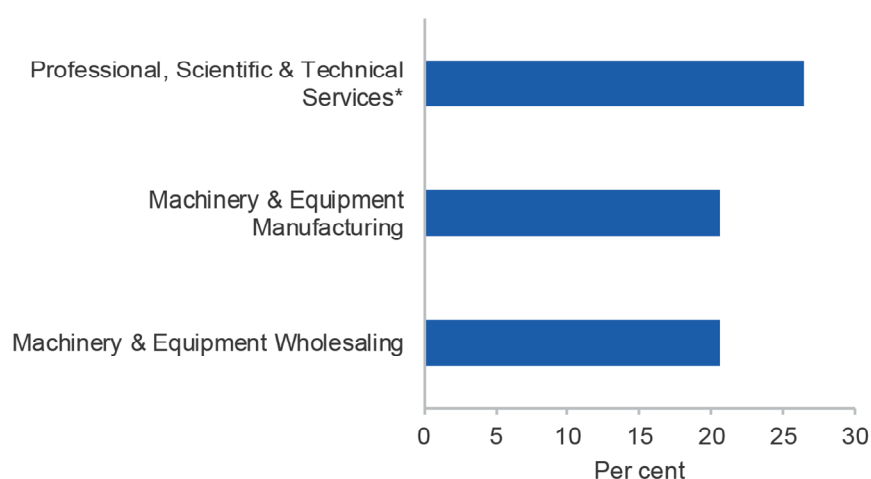
Notes: *Except Computer System Design and Related Services

Source: Department of Industry, Innovation and Science (2017); ABR (2016)

4.5   Expenditure on R&D

Table 4.1 compares median and mean R&D expenditure between NMI clients and all firms registered for the R&D Tax Incentive between 2011–12 and 2014–15. The average (mean) NMI client spends significantly more on R&D (four times) than the average firm in every year of the RDTI programme. This is also true for the middle (median) NMI client against the middle firm in the RDTI programme.

Table 4.1: Median & Mean R&D expenditure (thousands), NMI clients and all firms – Test & Calibration

Year	Median		Mean	
	NMI	All firms	NMI	All firms
2011–12	2,045	350	9,978	2,099
2012–13	1,209	336	10,764	1,976
2013–14	1,390	312	6,748	1,638
2014–15	1,764	300	11,941	1,365

Source: Department of Industry, Innovation and Science (2017)

4.6 IP-active and R&D-active expenditure on NMI services

In contrast to Sample Manager clients, Test & Calibration R&D-active clients spent less on average on NMI services compared to the average NMI client (Figure 4.11).

Figure 4.11: Average NMI client expenditure by client type – Test & Calibration
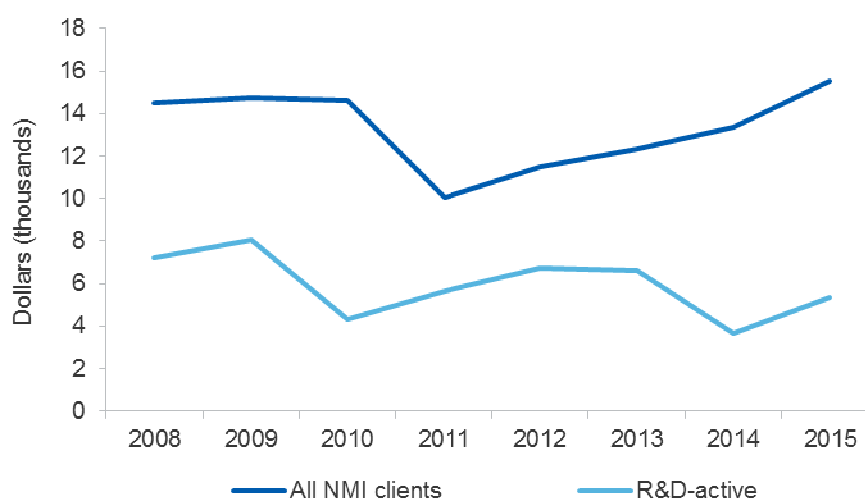
Notes: In nominal dollars. Financial years are rounded up i.e. year 2015 is financial year 2014–15

Source: Department of Industry, Innovation and Science (2017)

4.7 Other departmental programs

NMI clients participated in four different DIIS programs, including R&D Tax Concession/Incentive, Commercialisation Australia, Enterprise Connect and Entrepreneurs Programme (Table 4.2).

Table 4.2: NMI client participation in DIIS programs – Test & calibration

	2008–09	2009–10	2010–11	2011–12	2012–13	2013–14	2014–15
R&D Tax Concession/ Incentive*	34	37	65	46	38	37	34
Commercialisation Australia	n/a	0	1	0	1	0	0
Enterprise Connect	2	1	6	1	1	0	0
Entrepreneurs Programme	n/a	n/a	n/a	n/a	n/a	3	2

Notes: *R&D Incentive is a continuation of the R&D Concession from 2010–11. Firms participating in the R&D Tax Concession/Incentive may also be present in other DIIS programs.

Source: Department of Industry, Innovation and Science (2017)

5. Conclusion

This paper has explored a number of characteristics of NMI clients to help illustrate who these clients are and what their interactions have been with the Department and other agencies. One quarter of NMI clients are in Industry Growth Sectors, in contrast to just nine per cent of firms in the total employing firm population.

NMI clients are more likely to be IP-active and R&D-active than the average firm and also spend significantly more on R&D than the average firm. NMI clients who are IP-active and/or R&D-active generally spend more on NMI services than other clients.

Linking NMI client data to data sources outlined in section 2.1 has been useful, however there is scope for much richer analysis on NMI clients in the future if NMI client information is linked to the Business Longitudinal Analysis Data Environment (BLADE). The BLADE integrates administrative tax data and existing survey data collected by the Australian Bureau of Statistics. Though there are a number of limitations to such a linked dataset, BLADE allows for examination of firm characteristics beyond this report such as firm size, age and exporter status, as well as firm performance such as on turnover and employment. BLADE is also useful for establishing a counterfactual to compare aspects of firm performance between treated (NMI clients) and untreated (non-NMI) firms.

6.   References

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