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With global company tax reform in the air, will Australia finally respond?

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POLICY PAPER



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The Minerals Council of Australia is the peak national body representing Australia's exploration, mining and minerals processing industry, nationally and internationally, in its contribution to sustainable economic, and social development.

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Overview

Capital investment is critical to growing an economy. It provides the tools for workers to develop new products and services for the global economy.

New projects create employment for workers of all types and investment dollars are needed to create and adopt the latest technologies.

Capital investment is also long-term in nature. When a business chooses to make multi-million dollar investments, it is expecting to run the business for many years. Thus, when a country attracts more capital, it generates years of income for workers and suppliers as well as revenues for governments.

Australia's domestic private investment was about 16.7 per cent of GDP from 2010 to 2015 but almost two-fifths of that investment was in the capital-intensive mining sector, which has sharply declined as commodity prices turned downwards since 2014. Private investment in manufacturing and services accounts for less than 10 per cent of GDP, one of the lowest rates amongst industrialised countries. Australia has fared better on foreign direct investment compared to other industrialised economies but this is substantially driven by capital intensity in the mining sector.

Australia is not tax competitive for manufacturing and service investments

In the desire for economic growth, countries have been reducing tax burdens on investment, including company income tax rates.

Australia's company income tax rate is now 10th highest among 43 countries surveyed in this study (9th highest among OECD countries). Australia taxes more heavily investments in manufacturing and services compared to most other countries. Thus, in terms of tax

competitiveness for business investment, Australia is 36 highest among 43 countries due to its excessively high company tax rate and stamp duties, with an effective tax rate on new investments equal to 28.7 per cent.

The average OECD company income tax rate has fallen about one percentage point since 2010. So has the tax burden on new investment. Australia has stood pat continuing to lose tax competitiveness to other countries.

Mining tax burdens

Mining is a key sector in the Australian economy, warranting special attention.

Iron ore investments are relatively tax-disadvantaged in Australia at an effective tax rate of 37.8 per cent. The key reasons are: Australia's high company income tax rate compared to most countries except Colombia, the United States and Zambia; a higher royalty rate compared to Brazil, Colombia and the United States (Minnesota); and a resource levy without any recognition of costs, unlike Canada, Chile and Peru.

Unlike iron ore, Australia's tax burden on new investments in coal is roughly 38 per cent, which is about average amongst 12 other major producing jurisdictions. Australia is less competitive than Canada and Russia due to higher mining levies in Australia (Canadian provinces provide cost deductions under their mining taxes and Russia has a low royalty rate). Compared to other countries besides Canada and Russia, Australia has a lower tax burden on coal due to a more favourable treatment of exploration expenses (Colombia, China,

Indonesia and United States); a lower company income tax rate (Colombia and the United States); and lower royalty rates (Virginia and Wyoming).

Australia needs to do better

Australia has been disappointed with its recent economic growth, which has been endemic in most industrialised countries since the 2008 financial crisis but particularly challenging for resource-based economies since 2014. Several countries, including Denmark, Finland, Italy, Japan and the United Kingdom, have reduced company taxes in recent years with the aim of improving economic growth.

Now the United States is looking at major company tax reform. While the ultimate package is uncertain, it is expected that some sort of major reform will take place. A US reform reducing the federal company income tax from 35 to 15 or 20 per cent with new levies on US multinational foreign profits or other base-broadening measures and with expensing of capital would be dramatic. It would result in Australia having a much higher tax burden on investment compared to the United States, a reversal of the past.

Regardless of tax reform in other parts of the world, Australia should reduce its tax burden on investment to help spur economic growth. Not only would it improve adoption rates for innovation, but also workers would benefit from higher incomes as a result of company tax reforms.

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Introduction

When a business makes multi-million dollar investments (or multi-billion in the case of mining), it is expecting to run the business for many years. Thus, when a country attracts more capital, it generates years of income for workers and suppliers, as well as revenues for governments.

Without strong investment performance, businesses will not acquire the latest technologies embodied in capital goods. Nor, will they be in position to offer higher salaries and wages to their employees via a more competitive tax system.

It is therefore no surprise that countries have reformed their company taxes in order to generate more investment, jobs and revenues in the past two decades. However in recent years, the pace of company tax reform has slowed down, even though many – but not all – have continued a path to reduce company tax burdens to some degree.¹

With the 2016 United Kingdom Brexit referendum and the election of Donald Trump in the United States, discussion has now tilted towards major company tax reform. The United Kingdom promises to reduce its company income tax rate a further 3 points from 2017 to a low rate of 17 per cent by 2020², concerned about its status as a global financial centre in the face of its withdrawal from the European Union. The new Republican President and Congress in the United States are looking at a major cut to company income taxes to spur economic growth and job creation.

Whether reform pressures mounting in North America and Europe will stir other countries to respond, we shall wait and see since many countries have already sharply reduced tax burdens relative to the United States and other major countries in previous years. Unlike most medium-sized industrialised countries, Australia has sat back since its last major tax reform without any significant change to its company tax system since 1999.³

Despite yawning fiscal deficits, almost half of the industrialised countries reduced company income tax rates since the 2008 global financial crisis. They have done so for good reason. The rate reductions, accompanied with some base broadening initiatives, have encouraged investment while reducing the disparity in tax burdens across business activities to encourage a more productive use of resources in pursuit of economic profits rather than tax relief. The rate-reduction-cum-base-broadening tax reforms have also made it more attractive to keep profits in their own countries, thereby shoring up tax revenues.

Australia's statutory company income tax rate of 30 per cent is 9th highest of 33 industrialised economies and 5 points higher than the average statutory company income tax rate among OECD countries.

Taking into account any accelerated tax deductions and credits as well as other taxes related to investment such as stamp duties, Australia's company tax burden on new investments in manufacturing and service industries is 28.7 per cent.⁴ This is over nine percentage points more than the OECD average. New investments in manufacturing in Australia are taxed at a rate close to 30 per cent, which is 11 percentage points more than the OECD average.

In other words, Australia's current tax burden on manufacturing and service companies is uncompetitive for investment. And this is confirmed by 2010 to 2015 investment data. Australian private investments in manufacturing and service industries are less than 10 per cent of GDP, significantly below many European countries and North America except Canada.

This analysis also focuses on mining, which is a critical sector in resource-rich Australia. Mining companies not only pay company income taxes and stamp duties as other companies, but also resource levies such as royalties. Both taxes and royalties discourage new investments that must earn a sufficient rate of return on capital to attract funding from investors. Iron ore mining is generally the most heavily taxed among eight other major iron-producing economies.⁵ If the royalty rate in Western Australia were raised by a proposed \$5 per tonne of production, the Australian tax burden on capital investment in iron ore production would make Australian investments in iron ore even less competitive.

With respect to thermal and metallurgical coal, Australia's effective tax rate is in the middle of the pack amongst world leading producers. Australian coal investments bear a much higher tax burden than in Canada and Russia, roughly on par with China and South Africa and less than in Colombia, Indonesia and the United States.

This report is divided into four sections. We begin with a general discussion of Australia's investment performance and the tax cost of investment. We then turn to company tax burdens on investments in manufacturing and services for 43 countries highlighted in the report. This is followed by an analysis of iron ore and coal mining. The final part focuses on company and resource tax reform and the benefits arising from it with respect to investment and worker incomes.

Australia's statutory company income tax rate of 30 per cent is 9th highest of 33 industrialised economies and 5 points higher than the average statutory company income tax rate among OECD countries.

1 Investment and tax

Since 2010, Australia has had a relatively weak investment performance in manufacturing and service sectors. It has fared better with respect to mining (includes oil and gas, metal and mineral mining, and quarrying) but with the decline in prices, mining companies face new competitiveness concerns.

Australia's spotty investment record

Australia's attractiveness for foreign direct investment has been somewhat better than other industrialised economies, although this is in large part due to the past growth in the mining sector that has relied on funding from foreign investors.

As shown in Chart 1, for the period 2010-15, Australia's domestic private investment is about 16.7 per cent of GDP, but almost two-fifths of that investment is in the capital-intensive mining sector. Only 9.9 per cent of domestic private investment takes place in manufacturing and service industries.

Many reasons explain these differences in investment rates. Countries with access to large markets tend to have higher investment rates.⁶ Those with abundant resources will likely have high investment rates in a sector like mining. Political stability, quality of the labour force and infrastructure result in better investment performance. Public policies, including regulations and taxes, can impede businesses investing in capital.⁷ Australia is an advanced country with many advantages for investment but it is not capitalising on its strengths.

While this study does not try to delve into which factors influence most investment, it does focus on one factor – company taxation. As the OECD pointed out (and discussed further in this report), tax

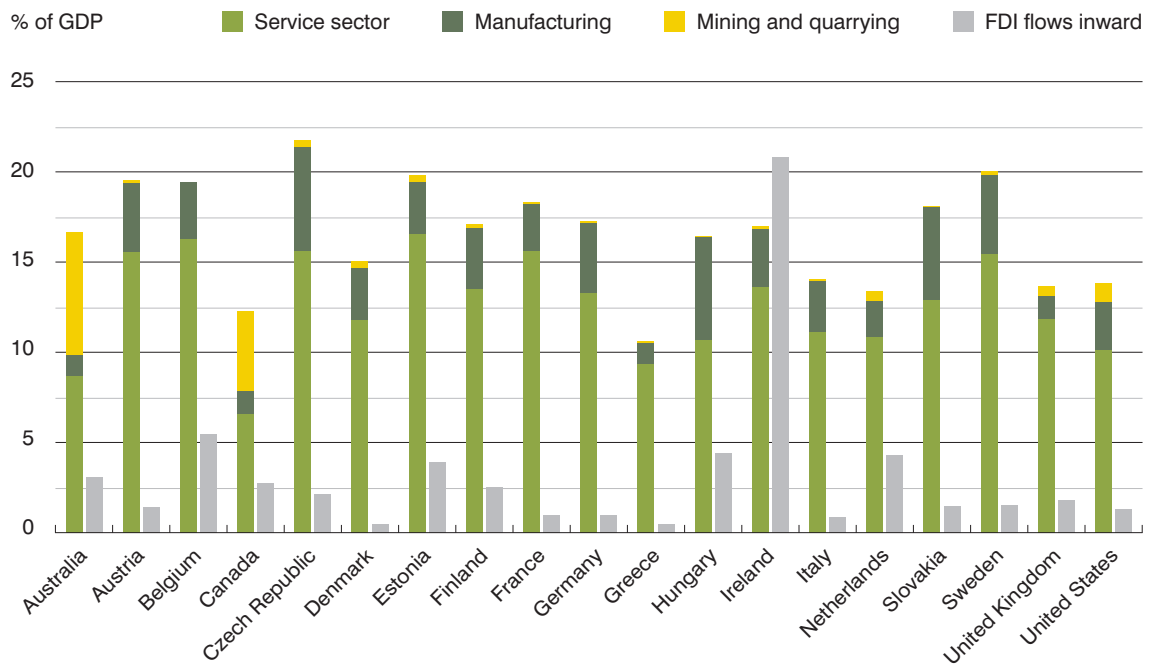
costs are one variable that can influence investment. As we show below, Australia does particularly poorly with respect to tax burdens on manufacturing and service sectors as well as iron ore investments.

Tax cost on investment

We focus on the tax cost to investments made by countries because these are the levies directly affecting capital allocation and hence economic growth and living standards in a country. In Australia, and industrialised economies, capital investment can move in and out freely with open markets. As a result, multinational companies decide whether to invest in a country by gauging the tax cost compared to those in other countries where the non-tax investment conditions are similar to one or the other.

Further, companies do not bear the taxes they pay but people do. Any taxes on business in an open economy will be significantly borne by the less mobile factors domestically through higher prices on consumer goods and/or lower real wages paid to workers. Therefore lower company tax costs means higher compensation to workers and lower prices for consumer goods, both of which directly contribute to higher living standards. Tackling the tax cost to business will help increase the nation's well-being in the long run.

Chart 1 Investment as a share of GDP
Averaged for 2010-2015



Source: School of Public Policy, University of Calgary

Notes: FDI flows are taken from the United Nations UNCTAD statistics. Domestic investment is derived from OECD data on gross fixed capital formation by ISIC activity. Service sector here includes: accommodation and food service activities; administrative and support service activities; arts, entertainment and recreation; construction; electricity, gas, steam and air conditioning supply; financial and insurance activities; information and communication; other service activities; professional, scientific and technical activities; real estate activities; transportation and storage; water supply, sewerage, waste management and remediation activities; wholesale and retail trade; repair of motor vehicles and motorcycles. All results represent the average of input values over the period 2010-2015. This is the period for which the latest data is available.

We rank Australia with other countries estimating the effective tax rate on new investment or the marginal effective tax rate on capital (METR), which is explained in Box 1. This summary measure takes into account company income taxes, sales taxes on capital purchases, capital or asset-based taxes and taxes on financial and capital good transfers.

Tackling the tax cost to business will help increase the nation's well-being in the long run.

Measuring tax competitiveness for capital

To evaluate tax competitiveness, a summary measure is provided that takes into the various taxes that directly impact on profitability. The METR on company investments is commonly used in public policy analysis to understand how the tax structure affects capital investment.

A business invests in capital until the return on capital net of taxes and risk costs is equal to the cost of holding capital. At the margin, the investment decision will be affected by taxes paid on capital investments. If taxes increase, the business will earn after-tax returns that are lower than financing costs. The business will then cut back investment, accepting only those projects with a sufficiently high rate of return to cover both financing costs and taxes. Thus, the marginal effective tax rate or the tax wedge is a good indicator of how investment is affected by taxation – the higher the tax wedge, the lower will be investment and vice versa.

For example, suppose companies must pay out in after-tax profits a return (net of risk and taxes) equal to 5 per cent to attract financing from equity and bondholders for a new investment project. If the tax wedge is 50 per cent, it means that the company must earn a 10 per cent net-of-risk rate of return to cover taxes and cost of financing. If the project earns less than 10 per cent as a pre-tax rate of return, the project will not go ahead. Of course, some projects might earn more than 10 per cent rate of return on capital but as long as minimal rate of return is earned, a project will be profitable to undertake. Obviously, if the tax wedge

goes down, more investment projects become profitable since a lower rate or return is acceptable to cover both tax and financing costs.

Briefly, the METR or tax wedge is the portion of capital-related taxes paid as a share of the pre-tax rate of return on capital for marginal investments (on the assumption that businesses invest in capital until the after-tax return on capital is equal to the cost of financing capital). Included are company income taxes, sales taxes on capital purchases and other capital-related taxes such as taxes on capital and financial transfers and asset-based taxes. Municipal property taxes are excluded since effective property tax rates are not observable by industry or across countries. To measure municipal tax effects on investment exactly, the cost of municipal services that are directly funded by property levies should also be subtracted to arrive at the effective property tax rate.

To compare across 43 countries, we include manufacturing and service industries (services include construction, utilities, transportation, communications, trade and other business and household services). Companies invest in structures, machinery, inventory and land to develop their various projects. They use retained earnings, new share issues and debt to fund their projects. Capital structures and financial ratios are the same across countries to isolate tax effects. Inflation rates vary across countries to take into account their interaction with tax system with some such as Chile and Mexico indexing taxable profits for inflation.

2 Where does Australia stand today?

Although we are just at the beginning of 2017, several countries have already revised their company tax policies. Statutory company income taxes have been reduced in some countries.

Base-broadening measures scaling back some cost deductions have also been initiated especially with respect to international income. In other cases, countries have used other business and non-business taxes to make up for the loss in company tax revenues resulting from rate reductions. Overall, a policy of rate-reduction-cum-base-broadening or relying on other measures has been a reaction to globalisation – governments seek to encourage investment and to ensure a reasonable level of tax revenues to fund public services.

Company income tax rates continue to fall elsewhere – except Australia

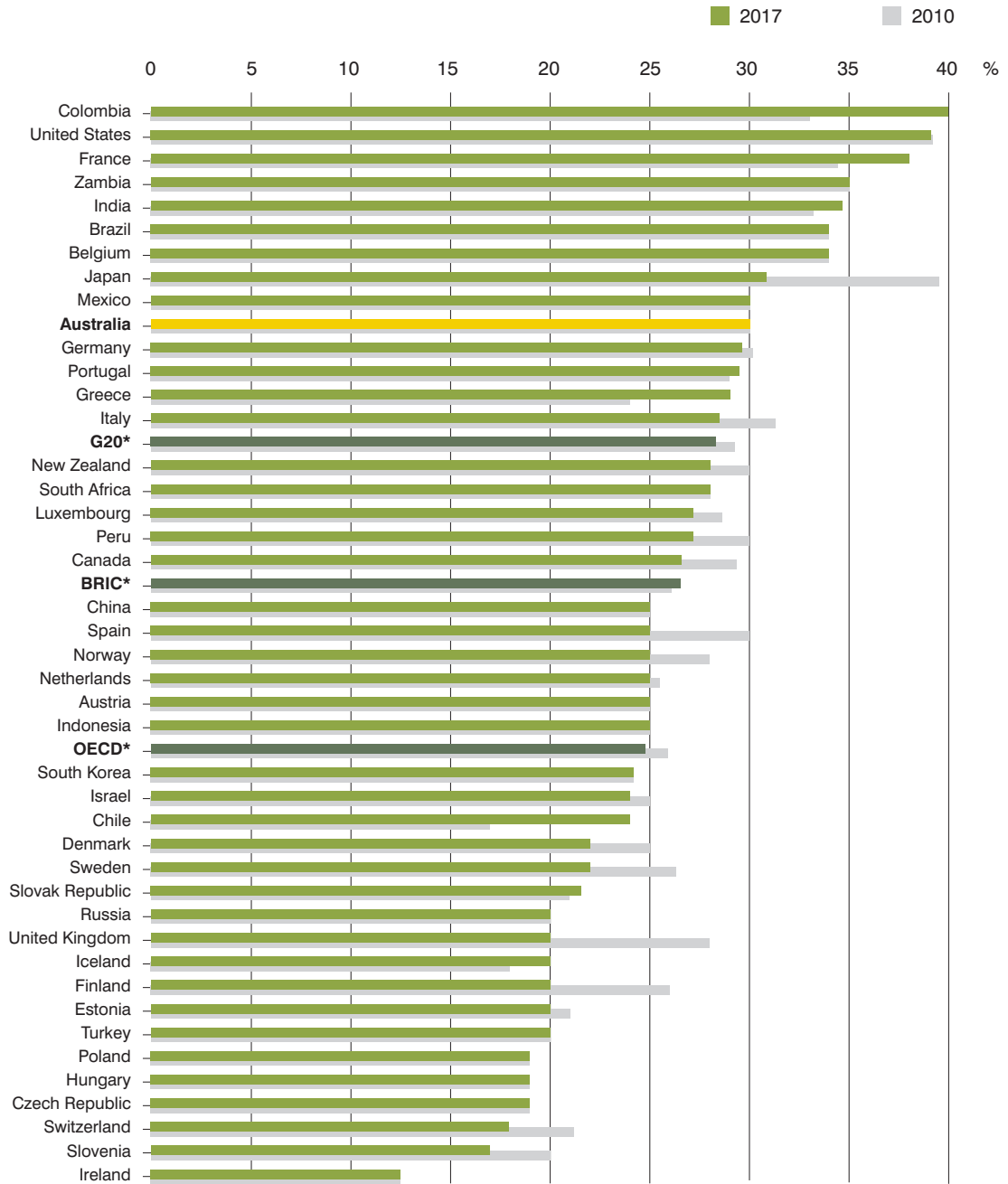
As shown in Chart 2, Australia's 30 per cent rate is the 10th highest rate of 43 countries, above the simple-averaged statutory company income tax rates in the G20 (28.3 per cent) and OECD (24.8 per cent). While Australia has not changed its company tax rate, the average G20 and OECD tax rates dropped 1 and 1.1 percentage points respectively from 2010 to 2017 (see Appendix for details).

Since 2010, company income tax rates have fallen in **Canada** by about 2.5 points to 26.6 per cent and **New Zealand** 2 points to 28 per cent while the United States has changed little (only some reduction at the state level). Several European countries have reduced company income tax rates as well: **Denmark** by 3 points to 22 per cent;

Finland 6 points to 20 per cent; **Italy** by 2.8 points to 28.5 per cent; **Luxembourg** from 29.22 to 27.08 per cent (and a further reduction to 26.01 per cent in 2018); **Slovenia** by 3 points to 17 per cent; **Spain** 5 points to 25 per cent; **Sweden** 4.3 points to 22 per cent; **Switzerland** about 3.25 points to 17.92 per cent, and the **United Kingdom** from 28 to 20 per cent. Other tax rate reductions have included **Israel** by 1 point to 24 per cent (and a further point in 2018) and **Japan** by about 8.5 points to 30.86 per cent.

Some countries have raised their company income tax rates since 2010. Of the G7 industrialised nations, only **France** has raised its company income tax rate from 34.4 per cent in 2010 to 38 per cent in 2017. However it has recently enacted legislation that it will reduce its general company income tax rate by 5.33 percentage points in 2019 for smaller firms and in 2020 for all firms. In Latin America, **Chile** has raised its company income tax rate from 17 to 24 per cent and **Colombia** from 33 to 40 per cent (Colombia eliminated the CREE and a net wealth tax and plans to reduce the company tax rate to 32 per cent by 2019). In Europe, deficit-challenged **Greece** has raised its company tax rate by 5 points to 29 per cent, and **Iceland** by 2 points to 20 per cent, which remains less than the world average. In other countries, including Australia, company income tax rates have changed little or none at all.

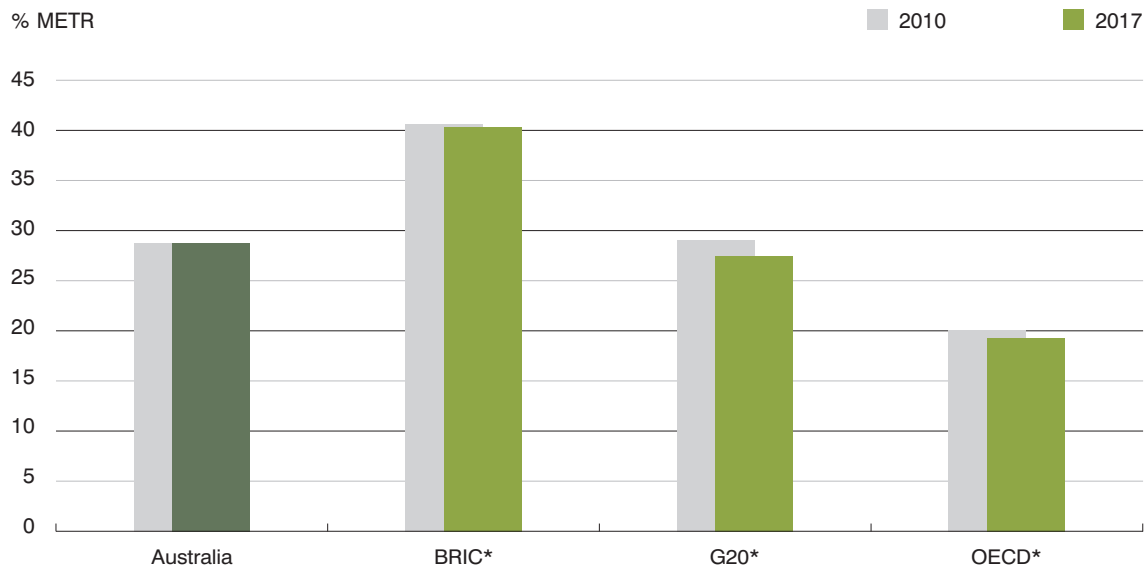
Chart 2 **Statutory company income tax rates**
By country, 2010 and 2017 (%)



* Simple average

Source: Ernst & Young LLP. Note that tax rates include national and sub-national company income tax rates as well as surtaxes of various types.

Chart 3 Australia's METR compared to groupings of countries



Source: School of Public Policy, University of Calgary

* Simple average

The overall tax burden on investments has declined globally

Company income tax rates are only one variable relevant to the tax burden on new investments. As mentioned above, tax depreciation, investment tax credits and inventory cost deductions affect the tax cost on investments. Further, many countries impose other taxes on investments such as stamp duties in Australia. When accounting for all tax provisions related to investment decisions, Australia is the 36th least tax competitive country (7th highest tax burden) with a METR of 28.7 per cent (Chart 3). Compared to the G20, this is 1.4 percentage points above the simple-averaged G20 METR of 27.4 per cent and the simple-averaged OECD METR of 19.2 per cent. On the other hand, Australia's overall tax system is quite competitive relative

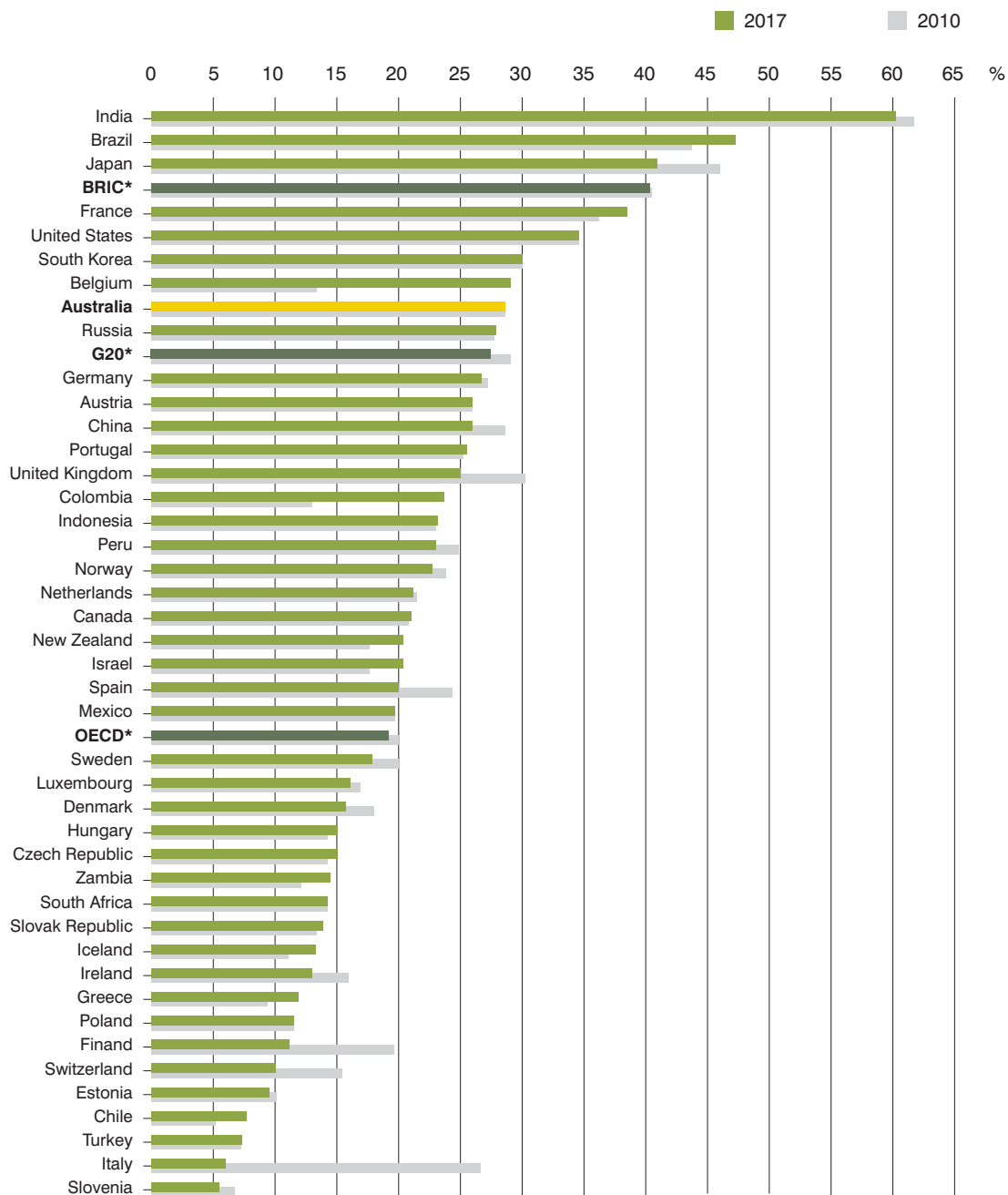
to the BRIC (Brazil, Russia, India and China) with a simple-averaged METR of 40.3 per cent.

Similar to Australia, the four BRIC countries have changed little their overall METR since 2010. However the G20 countries (which includes BRIC) have reduced their METR by 1.6 per centage points since 2010. The OECD simple-average METR has also declined by 0.8 per centage points since 2010. Chart 4 provides the individual rankings of countries based on their METR.

The opportunities to broaden the tax base to reduce distortions in the tax system vary by country. Some countries, including Australia, have generally tried to match tax deductions with economic costs, thereby leading to a

Chart 4

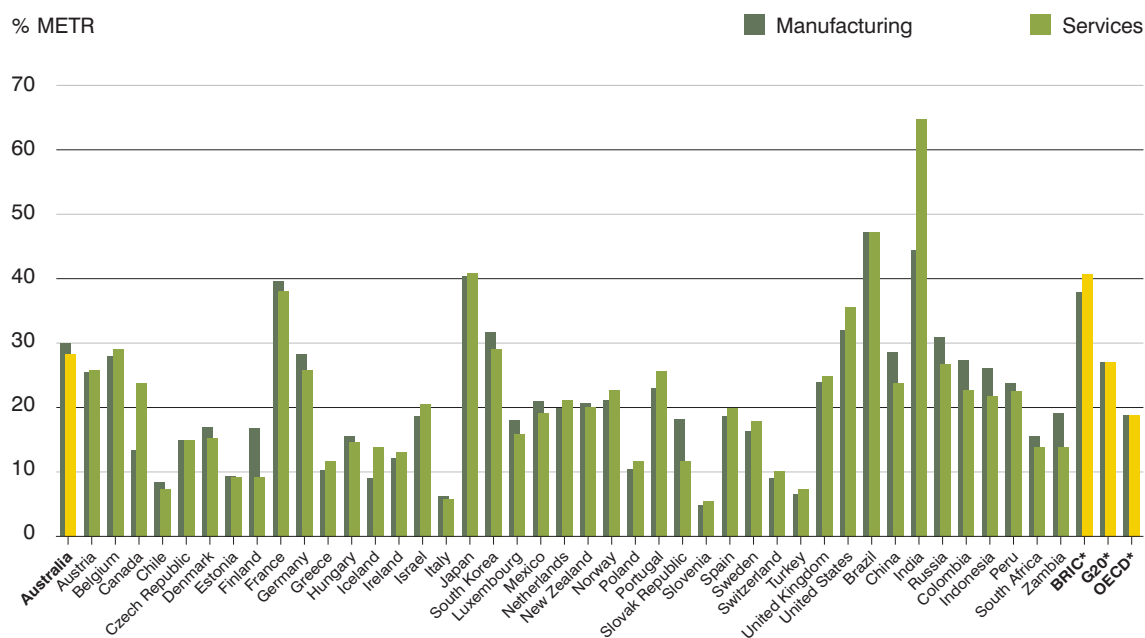
METR
By country, 2010 and 2017 (%)



* Simple average

Source: School of Public Policy, University of Calgary.

Chart 5 **Manufacturing and Services METRs**
By country, 2017 (%)



* Simple average

Source: School of Public Policy, University of Calgary.

better level-playing field for investment across business activities. Others have room to reduce tax incentives in favour of reducing company tax rates. As shown in Chart 5, the disparity in METRs across manufacturing and service industries is only significant in some countries. Those countries that favour manufacturing industries include **India** (20.4 percentage points due to company tax preferences and the VAT); **Canada** (10.5 per centage points due to accelerated depreciation); **Iceland** (4.9 per centage points), and the **United States** (3.9 points in favour of manufacturing due to a corporate rate reduction). Services are favoured over manufacturing in China, Columbia, Indonesia, Russia and Zambia ranging from about 4 to 6.5 percentage points.

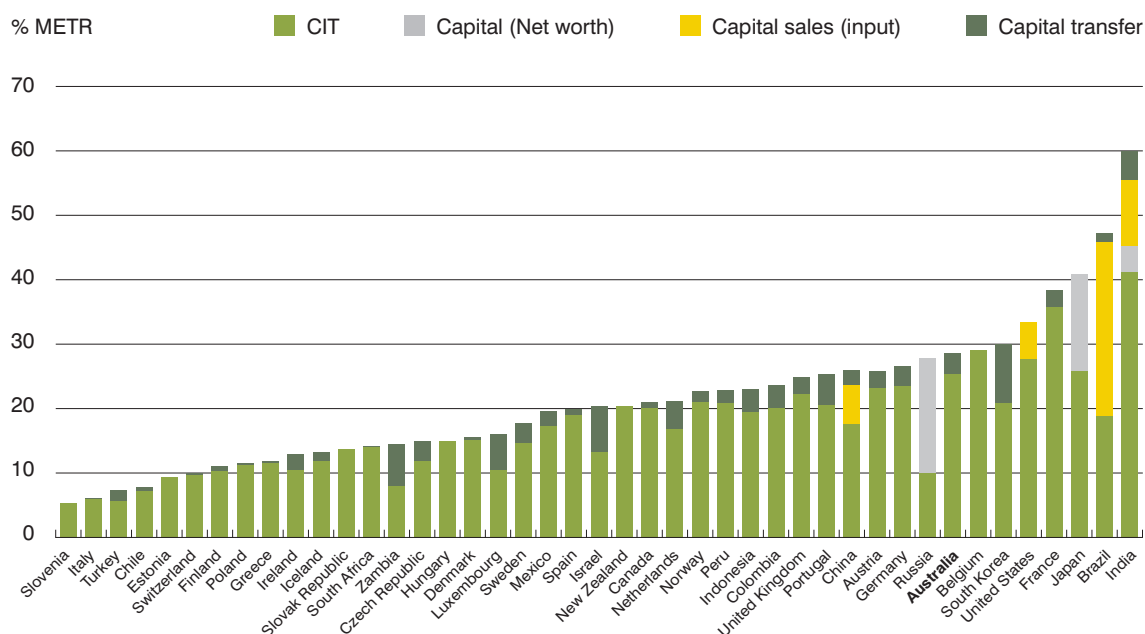
Besides adjusting company income tax rates, several significant reforms have taken place

in individual countries since 2010. **Belgium** has reduced its allowance for company equity financing since 2013, resulting in an upward adjustment in their METR while **Italy** has revised its equity financing allowance upwards since 2012.

China has eliminated one of its transfer taxes, the Business Tax, reducing transfer taxes on real estate from 9 to 5 per cent. So has **Ireland** – it reduced its real estate transfer tax from 6 to 2 per cent. **Spain** also reduced its real estate transfer tax from 1.38 to 1.13 per cent and **Switzerland** eliminated a capital tax of 0.16 per cent on assets in 2015.

Along with a company income tax hike, **Colombia** has eliminated its initial allowance of 30 per cent for machinery and equipment as of 2011. **New Zealand** has scaled back tax depreciation allowances for machinery

Chart 6 Breakdown of METR according to tax type



Source: School of Public Policy, University of Calgary.

and equipment although it has lowered its company income tax rate by 2 points, as mentioned above.

While there is a correlation between the statutory company income tax rate and the overall tax burden on investment (the METR), the relationship is not one-to-one. Some countries such as Brazil, India, Japan, Korea and Russia have high tax burdens on investment because they resort to other taxes that impede capital formation (see Chart 6). Australia's stamp duty, for example, increases the METR on new investments from 25.4 to 28.7 per cent. Some other countries have low METRs but high company income tax rates since they provide accelerated cost deductions or tax credits. In the case of Belgium and Italy, for example, an allowance is provided for the cost of equity financing substantially reducing the METR even though the company income tax rates are 34 and 28.5 per cent respectively.

In summary

On average, countries have been reducing tax burdens on investment including company income tax rates. Australia has changed little since 2010 – its company income tax rate is now 10th highest among 43 countries surveyed in this study (9th highest among OECD countries). Australia taxes more heavily investments in manufacturing and services compared to most other countries. Thus, in terms of tax competitiveness for business investment, it is 33rd highest among 43 countries. This high company tax burden on investment in manufacturing and services is primarily due to Australia's relatively high company tax rate, as well as its stamp duties.

Given Australia's relatively poor investment performance in manufacturing and services, its company taxes may serve as one impediment and worthy to consider for reform.

3 Mining tax competitiveness

Australia's mining sector is a key part of its economy. The two largest mining products are iron ore and coal, which account for approximately 70 per cent of 2014-15 value-added of metal, coal and non-metallic minerals and quarrying in Australia.⁸

In this section, we shall compare the taxation of iron ore and coal with 11 major producing economies including Brazil (iron ore only), Canada, Chile (iron ore only), China (coal only), Colombia, Indonesia (coal only), Peru (iron ore only), Russia (coal only), South Africa, the United States and Zambia (iron ore only).

Mining differs from manufacturing and services in that mining companies must explore for and develop reserves before making them available for extraction.⁹ Thus, unlike our previous analysis, we consider exploration and development as investments in addition to the capital expenditures that arise once the mining firm extracts the resource to be sold in markets.

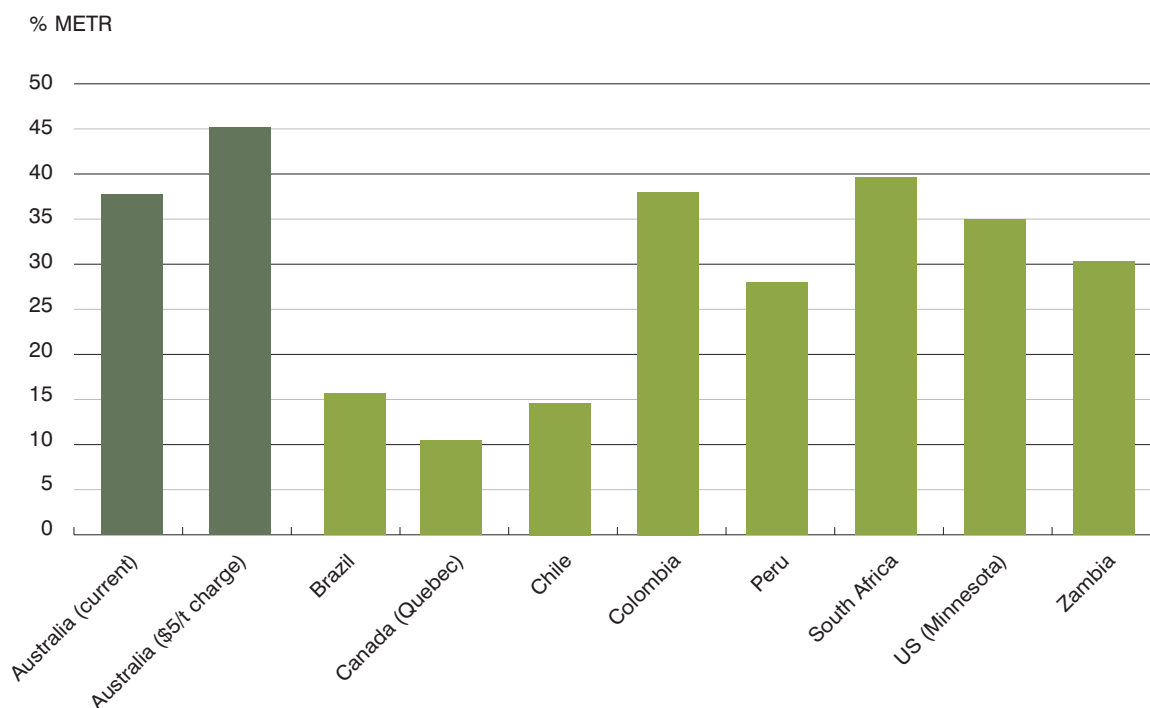
Resource levies on mining not only include company income taxes, sales taxes on capital purchases and other capital-related levies, but also resource taxes or royalties. Resource taxes or royalties are payments by private producers who are invited by governments to extract resources that are often publicly owned. Governments will maximise their payments by assessing a levy on the rents earned by the industry;

rents being defined as the difference between revenues and economic costs of production.¹⁰ They do less well in capturing rents by using levies that distort investment and production decisions.

In the absence of taxes and royalties, the producer will invest in projects until the return on exploration, development and extraction activities is equal to the economic cost of using labour and capital resources (when such returns are below costs, the producer will not take on additional investment or production).

At the margin where returns are equal to costs, the mining firm earns no rents and therefore should in principle pay no resource taxes or royalties if only rents are being taxed. However, this is not the typical case – royalties, for example, based on production volumes or value will create a wedge between pre- and post-tax rates of returns for marginal investments. We therefore calculate marginal effective tax and royalty rates (METRR) on capital that takes into account both general and mining-specific levies that impede investment (detailed tables are provided in the Appendix).

Chart 7 METRRs on iron ore investments – low margin case
By jurisdiction, 2017 (%)



Source: School of Public Policy, University of Calgary

Iron ore

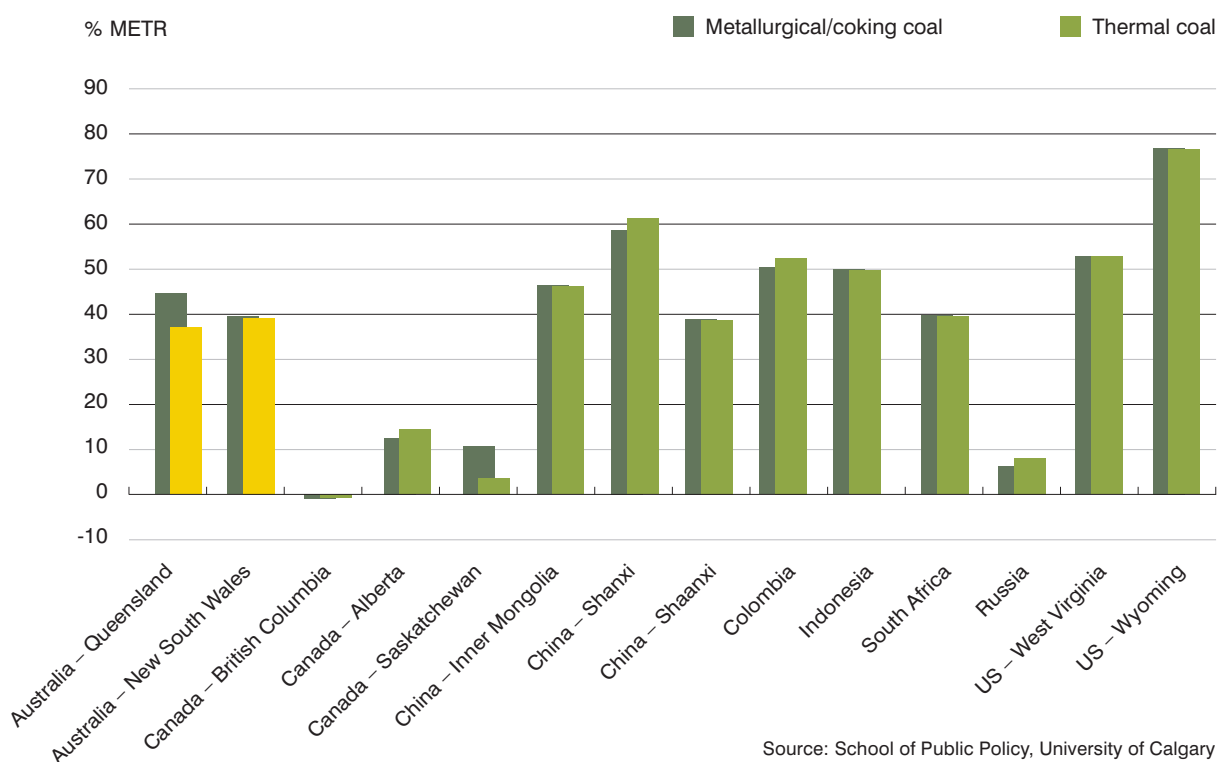
In Chart 7, we compare the METRR on iron ore in Australia with eight other countries.¹¹ Currently, Australia levies the highest METRR on capital at 37.8 per cent, except for South Africa, which is at 39.7 per cent. The Australian tax burden on mining is more than double that in Brazil (15.6 per cent) and Chile (14.6 per cent). It is more than triple in Canada (Quebec) at 10.5 per cent.

As we show in Chart 7, a proposed \$5 per tonne royalty charge in Western Australia would increase Australia's METRR to 45.2 per cent from 37.8 per cent, making Australia the least tax competitive jurisdiction for iron ore investments among the 10 countries.

Overall, the key reasons for Australia having a relatively high METRR are the following:

- A higher company income tax rate than most countries except Colombia, the United States and Zambia
- A higher royalty rate (rising up to 7.5 per cent) compared to Brazil at 2 per cent, Colombia at 5 per cent and the United States (roughly 2.5 per cent in Minnesota)
- Unlike Australia, several countries have resource levies that apply to production value net of cost deductions as in the cases of Canada, Chile and Peru
- Australia also has a stamp duty although many other countries have transfer taxes, sales taxes on capital purchases or asset-based taxes.

Chart 8 METRRs on coal investments
By jurisdiction, 2017 (%)



Source: School of Public Policy, University of Calgary

Coal

Australia produces both metallurgical and thermal coal for domestic consumption and export. In Chart 8, we compare Australia's Queensland and New South Wales METRRs on investments with 12 other jurisdictions (four countries plus three Canadian provinces, three Chinese provinces and two US states) for both metallurgical and thermal coal sectors).¹²

The METRRs on metallurgical coal investments in Queensland and New South Wales are equal to 44.4 and 39.3 respectively. Thermal coal production faces METRRs in Queensland and New South Wales of 37.1 and 39.3 respectively. The tax burden on coal investments in Australia is in the middle of the pack – less than Colombia, Indonesia and the US producing regions, more than in Canada and Russia, and roughly on par with China and South Africa.

Unlike iron ore which is less favourably taxed in Australia compared to most jurisdictions, coal levies are about average among the 12 other jurisdictions. Australia is less competitive than Canada and Russia due to higher mining levies in Australia (Canadian provinces provide deductions for costs under their mining taxes and Russia has a low royalty rate). Higher METRRs found in other countries compared to Australia are primarily due to a less favourable treatment of exploration expenses (Colombia, China, Indonesia and United States), a much higher company income tax rate (Colombia and the United States) and higher royalty rates (Virginia and Wyoming).

4 Time for company tax reform?

Important benefits are realised from reform of the business tax structure: more investment and higher incomes for workers.

1. The investment benefit

Tax reform that reduces the tax wedge between pre- and post tax rates of return on capital encourages more capital investment and ultimately, job creation and higher incomes for incomes.

Some common myths

At times, some have argued that company taxes do not affect investment decisions even though most companies today decide on investment plans according to their after-tax profitability.

- An erroneous and poorly done methodology is to conclude that tax reductions are unrelated or negatively related to investment since investment was robust in the 1950s when company income tax rates were close to 60 per cent and not as strong when company taxes were reduced in later years.¹³ Two flaws are common in this type of analysis:

1. Statutory corporate income tax rates are not the correct measure of effective tax rates on investment. Instead the marginal effective tax rate as measured in this study and elsewhere is appropriate to use since it accounts for tax base adjustments (such as depreciation, inventory and financing costs), tax credits and other taxes affecting capital investment.
2. Further, other variables affect investment, not just taxes. It is not that taxes have no effect but it is important to delineate between different factors that influence investment. No doubt,

the global financial crisis led to a sharp fall in investment due to less aggregate demand even if taxes were being reduced after 2008 in many countries. The question is whether the decline in investment would have been greater in those countries that did not reduce company taxes. Economic studies tend to support that this would be the case as discussed below.

- Another argument against reducing company tax rates is that the tax reductions are not effective due to tax crediting by foreign investors against home liabilities. This argument, however, is not as significant as it would seem. Most countries now exempt foreign profits accruing to their resident multinationals – any reduction in company taxes in Australia would be effective in encouraging investment there. The United States is one major capital-exporting country that continues to tax profits remitted to US parent companies with a credit for foreign taxes paid on global income. However, US parents avoid paying tax on remitted earnings either by leaving a majority of profits in foreign jurisdictions or by tax planning (so-called ‘tax rate averaging’) by remitting simultaneously high and low tax income from foreign sources so that no US tax is paid on remitted income (foreign tax credits are more than US tax liabilities). For example, it has been estimated for Canada that less than 10 per cent of company income taxes are creditable against US taxes even though Canada is highly reliant on US foreign direct investment (more so than Australia).¹⁴

Tax reform that reduces the tax wedge between pre- and post tax rates of return on capital encourages more capital investment and ultimately, job creation and higher incomes for incomes.

- It is claimed that the Australian dividend tax credit (dividend imputation) would be reduced if the company tax were cut, thereby undoing its impact on investment for domestic investors. The tax credit is used to avoid double taxation of dividends at company and personal levels by enabling Australians to reduce personal tax payments on dividends by a tax credit equal to company taxes paid per share. While this policy ensures a level playing field amongst different sources of finance, two effects blunt its impact on investment decisions. First, retentions are a major source of equity finance for business investment – the dividend tax is not relevant since reinvested profits increase the value of firm, resulting in personal income subject to capital gains tax on share disposals (therefore, only the capital gains tax rate is relevant). Second, the Australian dividend tax credit is not provided for foreign investors who are relied upon by Australian multinationals to provide equity finance when domestic sources are exhausted. Taking into account both of these factors, the dividend tax credit is largely irrelevant to business investment decisions at least for large companies.
- Another criticism of company tax reductions is that it will simply increase profits of oligopolists rather than be spent on investment and employment.¹⁵ This argument is also fallacious since the incidence of company taxes on consumer prices and profits is not known – it is highly dependent on the characteristics of markets and firm strategies.¹⁶ What is known is that oligopolists would restrict supply leading to a distortion between consumer prices and incremental costs of production. The

policy aim should therefore be to increase production, which is best dealt with by competition policy. Company taxes only aggravate the distortion.

What we do know

With reduced investment, economies grow less quickly since machines, structures and intangible assets (such as research and exploration) are needed to produce goods and services in later years. A conservative estimate is that each 10 per cent increase in the cost of capital (adjusted for the METR, which adds to the cost of capital) causes a long-run decline of 7 per cent in a country's capital stock. Studies focusing on foreign direct investment show an even bigger impact, with foreign direct investment flows growing as much as 2.5 per cent for each one point reduction in the corporate income tax rate.¹⁷

Some taxes particularly harm economic growth by distorting work, investment and risk-taking decisions resulting in the economy's resources not being put their most profitable use. This economic cost is the 'deadweight loss' of taxation – the loss of consumption or production caused by tax distortions.¹⁸ Adding this deadweight loss to the cost of raising a dollar of taxes is known as the 'marginal cost of taxation'. As discussed in our previous report, an Australian Treasury study found that company income tax and stamp duties impose the highest marginal cost of taxation: \$1.50 (in the base case) and \$1.72 for the company income tax and stamp duties respectively.¹⁹ On the other hand, the marginal cost of taxation for the GST is \$1.19 and for land and municipal taxes, the marginal cost is less than \$1.00, which would be better taxes to rely upon from an economic cost perspective.

2. The income benefit

While the legal incidence of the company tax falls on the corporation, its economic incidence is another matter. People ultimately pay company taxes through higher consumer prices, lower wages or returns paid to owners. While the public may view that taxing corporations improves fairness by making the rich pay more, recent economic analysis confirms that this is unlikely the case.²⁰

In a small open economy, company taxes cannot be easily shifted back to domestic or non-resident owners by reducing returns since investors shift their funds to other opportunities in international markets where returns are higher. The tax tends to be recovered by raising prices on consumers or by reducing wage payments to labour, including layoffs, or rents paid to landowners.

The world is much more complicated than suggested by the assumption of a 'small open economy'. Studies have shown that investors have a 'home bias' to invest in domestic securities resulting from institutional or informational barriers to trade. Smaller companies have little or no access to international markets so that home bias is most important in these cases. Further, when company taxes are increased, they can impact on the old capital values leading to windfall losses to owners (and vice versa for company tax reductions). However, the windfall loss (gain) will be blunted by profits being shifted to (from) other jurisdictions in response.

Estimates of the incidence of company taxes vary but most show a large share of the company income tax is ultimately paid by labour. Harberger shows that labour bears almost 96 per cent of the burden of company tax.²¹ In a similar vein, Randolph shows that labour bears 70 per cent of the company tax in the United States.²² Hassett and Mathur find that company tax rates affect wage levels across countries with a 1 per cent **increase** in company tax rates leading to nearly a

0.5 per cent fall in wage rates."²³ Arulampalam et al. estimate that a \$1.00 increase in the tax liability leads to a \$0.64 reduction in total compensation in the short run, and a 49 cents reduction in the long run for the United Kingdom.²⁴ Liu and Altshuler estimate that a \$1.00 increase in company tax revenue decreases wages by approximately \$0.60 in the United States.²⁵ An Australian Treasury paper estimates that two-thirds of the company tax falls on workers in the long run for Australia.²⁶

Thus, a large share of company income tax is shifted onto labour through higher consumer prices (thereby reducing the purchasing power of money), wage cuts or layoffs. When this occurs, the effect of the company income tax is to make the company tax regressive, hitting more heavily low income Australians compared to upper income Australians.

Company tax reform discussions heat up

Governments have been disappointed with economic growth and investment, which has been endemic in most industrialised countries since the 2008 financial crisis. Some countries have been growing more quickly these days such as Ireland, exemplifying the impact of their unique company taxes on prospects for growth. The recent victory by Donald Trump in the United States who promises deregulation and tax reform has led to a sharp increase in stock values of American companies, reflecting the expectations of investors, rightly or wrongly, with respect to growth prospects.

US tax reform is uncertain, requiring passage through the House of Representatives and the Senate as well as sign off by the President. However it would be useful to consider its implications for Australia's competitiveness.

To model the impact of a dramatic reform, we look at two simple reforms. The first is a modified 'Trump Plan' assuming a 15 per cent federal company tax rate (about 20.6 per cent combined federal-state company income tax),

US tax reform would dramatically result in Australia having a much higher tax burden investment compared to the United States, a reversal of the past two decades.

Table 1 METRs for Australia and the United States: Impact of US reform

	Australia (%)	Current US (%)	Trump plan (%)	Ryan plan (%)
Manufacturing	29.9	32.1	10.8	10.8
Services	28.6	36.0	24.9	17.7
Total	28.7	34.6	19.8	15.5

Source: School of Public Policy, University of Calgary

expensing of capital in manufacturing only (no net interest deductibility), higher levies on foreign profits and some other marginal base broadening. The second is the 'Ryan Plan', proposed by Speaker Paul Ryan of the House of Representatives with the expensing of capital (no net interest deductibility) at the federal level (state company income, sales and franchise fees remain). From Table 1, it is clear that this US tax reform would dramatically result in Australia having a much higher tax burden investment compared to the United States, a reversal of the past two decades. It will be a policy development of significant importance to those countries that are trading partners with the United States.

Regardless there are good reasons, as discussed above, for Australia to proceed with a reduction to the company income tax rate that has remained unchanged for over a decade and a half.

- A 5 point reduction as proposed by the Henry Report would encourage more

investment as well as provide higher incomes for workers.

- The reform of stamp duties such as by shifting taxes to a property tax would encourage companies to shift resources from low to high productive uses since fewer obstacles to readjustments of capital allocations.
- Resource levies meant to tax rents earned by companies should be reformed to provide cost deductions to remove burdens on marginal investments similar to Canada, Chile and Peru. This would make Australia's resource tax system more attractive, similar to other countries such as Canada and Chile.

While Australia could reduce the revenue loss by scaling back tax preferences for small business and some accelerated cost recoveries in a few cases, its company tax system provides few opportunities for base broadening. Any budgetary consequences will likely require some adjustments in other taxes or expenditure programs.

Conclusion

Almost half of the industrialised countries have reduced company income tax rates since the 2010. They have done so for good reason.

The rate reductions, accompanied with some base broadening initiatives, encourage investment, reduce differences in tax burdens across business activities and have made it more attractive to keep profits, thereby helping shore up tax revenues.

Australia has stood pat. Australia's statutory company income tax rate of 30 per cent is 9th highest of 33 industrialised economies and 5 points higher than the average statutory company income tax rate among OECD countries.

Taking into account other features of company income taxes and other capital-related taxes, Australia's tax burden on new investments in manufacturing and service industries is 28.7 per cent. This is over 9 percentage points more than the OECD average of 19.2 per cent. New investments in manufacturing in Australia are taxed at a rate at 29.9 per cent, which is 11 percentage points more than the OECD average of 18.9 per cent.

With respect to mining, iron ore mining is heavily taxed at 37.8 per cent, second highest next to South Africa (39.7 per cent) and more than 7 other major iron-producing economies (Quebec at 10.5 per cent is the lowest). If the royalty rate in Western Australia were raised by a proposed \$5 per tonne of production, the Australian tax burden on capital investment in iron ore production would make Australian investments in iron ore the least competitive at 45.2 per cent. Australia's effective tax rates on coal investments are in the middle of the pack amongst world leading producers.

Australia should consider company tax reform. This would include a 5 point reduction in the company income tax rate, the elimination of stamp duties (in favour of other real estate taxes) and more profit-sensitive and internationally competitive state and territory mining royalty regimes. Other countries have followed this path with United States looking to join the pack. Australia should do the same.

Appendix

Data and parameters used in the model

Table A1 **METRs and country data**
By sector and country (%)

	2017				2010				Effective CIT rate		Inflation	Tax depreciation range	Inventory accounting
	Overall	Manufacturing	Service	Difference	Overall	Manufacturing	Service	Difference	2017	2010			
Australia	28.7	29.9	28.6	1.3	28.7	29.9	28.6	1.3	30.0	30.0	2.3	2.6 - 22.1	Optional
Austria	26.0	25.7	26.1	0.4	26.0	25.7	26.0	0.3	25.0	25.0	2.1	3.1 - 10.6	Optional
Belgium	29.1	28.1	29.3	1.2	13.4	12.8	13.5	0.7	34.0	34.0	1.7	7.0 - 32.9	LIFO
Canada	21.0	13.5	24.0	10.5	20.8	9.8	24.9	15.1	26.6	29.4	2.0	**	FIFO
Chile	7.8	8.5	7.6	0.9	5.2	5.7	5.1	0.6	24.0	17.0	3.4	7.5 - 39.7	LIFO
Czech Rep.	15.0	14.9	15.1	0.2	14.3	14.2	14.3	0.1	19.0	19.0	1.5	3.1 - 20.8	Optional
Denmark	15.7	17.1	15.5	1.6	18.0	19.5	17.7	1.8	22.0	25.0	1.4	5.1 - 22.7	FIFO
Estonia	9.5	9.5	9.5	0.0	10.1	10.1	10.1	0.0	20.0	21.0	2.2	9.9 - 21.6	LIFO
Finland	11.2	16.9	9.5	7.4	19.6	21.0	19.2	1.8	20.0	26.0	1.7	8.2 - 28.7	FIFO
France	38.5	39.8	38.3	1.5	36.2	37.4	36.0	1.4	38.0	34.0	1.1	3.1 - 26.5	Optional
Germany	26.7	28.5	26.2	2.3	27.2	29.0	26.6	2.4	29.7	30.2	1.3	3.1 - 14.4	LIFO
Greece	11.9	10.4	12.1	1.6	9.5	8.3	9.6	1.3	29.0	24.0	0.2	5.3 - 39.2	LIFO
Hungary	15.0	15.7	14.8	0.9	14.3	14.9	14.1	0.8	19.0	19.0	2.2	3.3 - 48.1	Optional
Iceland	13.3	9.2	14.0	4.8	11.1	7.4	11.7	4.3	20.0	18.0	3.1	3.3 - 30.5	FIFO
Ireland	13.0	12.2	13.3	1.1	16.0	15.1	16.3	1.2	12.5	12.5	0.9	2.0 - 12.4	FIFO
Israel	20.4	18.7	20.7	2.0	17.7	15.9	18.0	2.1	24.0	25.0	1.3	4.2 - 29.8	Optional
Italy	6.0	6.3	6.0	0.3	26.7	24.7	27.1	2.4	28.5	31.3	1.5	5.1 - 15.3	LIFO
Japan	40.9	40.3	41.1	0.8	46.0	45.6	46.1	0.5	30.9	39.5	0.7	2.2 - 21.3	Optional
South Korea	30.1	31.7	29.2	2.5	30.0	31.7	29.2	2.5	24.2	24.2	1.9	2.6 - 20.1	LIFO
Luxembourg	16.1	18.0	16.0	2.0	17.0	17.5	17.0	0.5	27.2	28.6	1.8	4.1 - 21.0	Optional
Mexico	19.7	21.0	19.4	1.6	19.8	21.1	19.4	1.7	30.0	30.0	3.6	5.1 - 15.4	LIFO
Netherlands	21.1	19.9	21.3	1.4	21.5	20.2	21.7	1.5	25.0	25.0	1.8	2.9 - 20.9	Optional
New Zealand	20.5	20.9	20.4	0.5	17.7	15.5	18.0	2.5	28.0	30.0	1.5	6.5 - 22.1	Optional
Norway	22.8	21.3	23.0	1.7	23.8	22.4	24.0	1.6	25.0	28.0	1.7	3.6 - 24.5	FIFO
Poland	11.6	10.4	12.2	1.6	11.6	10.4	12.0	1.6	19.0	19.0	1.6	2.6 - 25.8	LIFO
Portugal	25.5	23.1	25.9	2.8	25.2	22.8	25.6	2.8	29.5	29.0	1.4	2.2 - 19.8	Optional
Slovak Rep.	13.9	18.3	11.9	6.4	13.4	16.6	11.9	4.7	21.6	21.0	1.7	5.0 - 17.3	Optional
Slovenia	5.5	5.1	5.6	0.5	6.7	6.3	6.9	0.6	17.0	20.0	1.2	3.5 - 21.6	Optional
Spain	20.0	18.8	20.2	1.4	24.3	23.0	24.6	1.6	25.0	30.0	1.3	2.1 - 29.2	Optional
Sweden	17.9	16.4	18.2	1.8	20.1	18.5	20.5	2.2	22.0	26.3	0.7	3.2 - 19.5	FIFO
Switzerland	10.0	9.2	10.3	1.1	15.4	14.5	15.7	1.2	17.9	21.2	-0.4	5.7 - 31.9	LIFO
Turkey	7.4	6.6	7.6	1.0	7.3	6.4	7.5	1.1	20.0	20.0	7.9	12.5 - 48.8	Optional
UK	25.0	24.0	25.1	1.1	30.2	27.9	30.4	2.5	20.2	28.0	2.3	1.4 - 17.7	FIFO
US	34.6	32.1	36.0	3.9	34.6	32.1	36.0	3.9	39.1	39.2	2.0	**	Optional
Brazil	47.3	47.3	47.3	0.0	43.7	22.2	48.2	26.0	34.0	34.0	6.7	4.1 - 11.7	Optional
China	26.0	28.7	24.0	4.7	28.6	31.1	26.8	4.3	25.0	25.0	2.8	7.0 - 14.6	Optional
India	60.2	44.6	65.0	20.4	61.7	51.0	65.1	14.1	34.6	33.2	8.3	5.1 - 35.0	Optional
Russia	27.9	31.2	27.0	4.2	27.8	31.1	27.0	4.1	20.0	20.0	8.7	3.1 - 20.8	Optional
Colombia	23.7	27.4	23.0	4.4	13.0	15.9	12.4	3.5	40.0	43.0	3.3	5.0 - 19.4	LIFO
Indonesia	23.1	26.2	22.0	4.2	23.0	26.1	21.8	4.3	25.0	25.0	5.8	5.1 - 14.0	Optional
Peru	23.0	24.0	22.7	1.3	24.8	31.6	23.2	8.4	27.2	30.0	3.3	4.6 - 20.0	Optional
South Africa	14.3	15.6	14.0	1.6	14.3	15.6	14.1	1.5	28.0	28.0	5.4	5.0 - 25.0	Optional
Zambia	14.5	19.1	13.9	5.2	12.2	16.9	11.6	5.3	35.0	35.0	7.6	5.1 - 47.3	Optional
BRIC*	40.3	37.9	40.9	3.0	40.5	33.8	41.8	8.0	26.5	26.1			
G20*	27.4	27.0	27.3	0.3	29.0	27.1	29.2	2.1	28.3	29.3			
OECD*	19.2	18.9	19.2	0.3	20.0	19.2	20.2	1.0	24.8	25.9			

* Simple average

**Detailed asset classes used for depreciation

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Table A2

METRR on investment for iron ore
Price-cost margin of 15 per cent (%)

	Depreciable capital	Land	Inventory	Non-E&D	Exploration	Development	Aggregate
Iron ore							
Australia (current)	25.6	11.2	21.2	24.9	49.5	58.1	37.8
Australia (\$5/t charge)	26.5	11.2	21.2	24.9	68.2	73.6	45.2
Brazil	7.0	-95.8	2.8	5.6	26.9	29.9	15.6
Canada (Quebec)	27.7	17.2	17.7	24.9	-20.6	2.3	10.5
Chile	21.5	15.6	15.6	19.8	7.9	8.0	14.6
Colombia	44.3	19.9	23.9	39.4	32.3	39.3	38.0
Peru	43.3	6.0	20.2	37.8	15.8	15.2	28.0
South Africa	40.2	-4.7	21.6	35.6	44.5	45.6	39.7
US (Minnesota)	48.5	16.1	26.4	43.3	23.9	25.2	35.1
Zambia	21.9	-11.7	24.6	22.6	36.7	43.2	30.3

Table A3

METRs on investments for coal
(%)

	Capital	Land	Inventory	Non-E&D	Exploration	Development	Aggregate
Metallurgical/coking coal							
Australia – Queensland	26.5	11.2	21.2	24.9	16.3	72.0	44.4
Australia – New South Wales	26.5	11.2	21.2	24.9	53.4	61.3	39.3
Canada – British Columbia	5.4	13.8	14.3	8.3	-32.9	4.2	-0.9
Canada – Alberta	20.8	14.4	14.9	19.1	0.1	6.8	12.4
Canada – Saskatchewan	29.1	15.6	16.2	25.6	-12.9	-5.1	10.6
China – Inner Mongolia	30.8	7.1	17.6	27.3	70.4	70.8	46.3
China – Shanxi	30.8	7.1	17.6	27.3	64.5	65.0	43.7
China – Shaanxi	30.8	7.1	17.6	27.3	53.3	53.9	38.8
Colombia	40.0	18.0	22.6	35.6	68.6	69.2	50.2
Indonesia	52.0	-8.8	25.5	46.2	53.8	54.9	49.8
South Africa	40.2	-4.7	21.6	35.6	44.5	45.6	39.7
Russia	-4.5	-18.0	16.5	2.8	2.2	17.6	6.2
US – West Virginia	48.9	17.7	28.6	44.1	63.3	64.0	52.6
US – Wyoming	44.5	15.2	25.0	39.8	124.4	124.1	76.8

	Capital	Land	Inventory	Non-E&D	Exploration	Development	Aggregate
Thermal coal							
Australia – Queensland	26.5	11.2	21.2	24.9	47.8	56.7	37.1
Australia – New South Wales	26.5	11.2	21.2	24.9	53.4	61.3	39.3
Canada – British Columbia	5.4	13.8	14.3	8.3	-32.9	4.2	-0.9
Canada – Alberta	23.0	11.0	18.7	21.7	1.6	7.6	14.3
Canada – Saskatchewan	12.0	15.6	16.2	13.3	-12.9	-5.1	3.7
China – Inner Mongolia	30.8	7.1	17.6	27.3	70.4	70.8	46.3
China – Shanxi	30.8	7.1	17.6	27.3	64.5	65.0	43.7
China – Shaanxi	30.8	7.1	17.6	27.3	53.3	53.9	38.8
Colombia	44.3	19.9	23.9	39.4	69.0	69.7	52.5
Indonesia	52.0	-8.8	25.5	46.2	53.8	54.9	49.8
South Africa	40.2	-4.7	21.6	35.6	44.5	45.6	39.7
Russia	-4.5	-18.0	16.5	2.8	6.8	21.5	8.1
US – West Virginia	48.9	17.7	28.6	44.1	64.0	64.6	52.9
US – Wyoming	44.5	15.2	25.0	39.8	124.4	124.1	76.8

Table A4 Mining parameters

Country	Type of resource levy**	Effective royalty or resource tax rate – coal*	Effective royalty rate – iron ore•	Company income tax – exploration deduction	Company income tax – development deduction
Australia – Western Australia	Production value	n/a	2.5-7.5%	Expensed	Amortised (25 years)
Australia – New South Wales	Production value	6.2% deep underground; 7.2% underground; 8.2% open-cut	n/a	Expensed	Amortised (25 years)
Australia – Queensland	Production value	7% on first \$100; 12.5% on next \$50 and 15% on balance	n/a	Expensed	Amortised (25 years)
Canada – British Columbia	Cash flow	13%	n/a	Expensed with 20% credit	30% D.B.
Canada – Alberta	Operating income or volume	13% metallurgical; 55 cent per tonne thermal	n/a	Expensed	30% D.B.
Canada – Saskatchewan	Production value	17%	n/a	Expensed	30% D.B.
Canada – Quebec	Operating income	n/a	16-22%	Expensed with 12% credit	Federal 30% D.B. Quebec – expensed
Brazil	Production value	n/a	2%	Amortized over mine life	Amortised over mine life
Chile	Operating income	n/a	0.5-14%	Expensed	Depreciated similar to fixed assets
China – Inner Mongolia	Production volume or value	10%	n/a	Amortised over 25 years	Amortised over 25 years
China – Shanxi	Production volume or value	9%	n/a	Amortised over 25 years	Amortised over 25 years
China – Shaanxi	Production volume or value	7.1%	n/a	Amortised over 25 years	Amortised over 25 years
Colombia	Production value	10%	5%	Expensing (unsuccessful) Amortised (successful) at least in 5 years	Amortised at least within 5 years
Indonesia	Production value	7% open pit; 2-6% underground	n/a	Amortised over 16 years	Amortised over 16 years
Peru	Operating income	7%	Mining royalty – 1-12%; Special mining tax for metallic – 1-8.4%; Special mining levy – 4-13.2%	Amortised over 3 years	Amortised over 3 years
South Africa	Production value	n/a	0.5-7%	Expensed	Expensed

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Table A4 Mining parameters (continued)

Country	Type of resource levy**	Effective royalty or resource tax rate – coal*	Effective royalty rate – iron ore•	Company income tax – exploration deduction	Company income tax – development deduction
Russia	Production volume	R57 per tonne metallurgical; R24 per tonne- thermal	n/a	Expensed	Amortised over 25 years
US – Minnesota	Production volume	n/a	\$2.56 per tonne	70% expensed; 30% amortised in 5 years	70% expensed; 30% amortised in 5 years
US – Virginia	Production volume	9.55%	n/a	70% expensed; 30% amortised in 5 years	70% expensed; 30% amortised in 5 years
US – Wyoming	Value of production	18.63%	n/a	70% expensed; 30% amortised in 5 years	70% expensed; 30% amortised in 5 years
Zambia	Value of production	n/a	6% underground; 9% opencut	Expensed	4 years S.L.

* Includes both royalties and severance charges. Saskatchewan resource charge also included as 3 per cent of production value (a resource tax credit of 1 percent is subtracted). With progressive rates, the highest rates are used to evaluate marginal investments made by large producers.

** Note that cash flow or income-based royalties or resource taxes expense exploration and development expenditures unlike the company income tax. Price-cost margins (price net of non-capital operating costs) are 60 per cent for coking coal, 50 per cent for thermal coal and 15 per cent for iron ore (the latter is consistent with the 2015 analysis so we provide an alternative at 40 per cent taking an average of current and past price-cost margins for iron ore).

Notes: D.B. signifies declining balance and S.L. signifies straight-line amortisation.

Endnotes

- ¹ If there has been any focus at all for major reform, it has been limited to the G20 *Base Erosion and Profit Shifting* recommendations to tighten up the taxation of international income.
- ² The general statutory company income tax rate in the UK was as high as 30 per cent in 2008, the same rate as Australia at that time.
- ³ Last year, we published a report that came to a similar conclusion. See J Mintz, P Bazel and D Chen, *Growing the Australian economy with a competitive company tax*, Minerals Council of Australia, Mar 2016. A similar point is made by M Potter, *Fix it or fail: Why we must cut company tax now*, Centre for Independent Studies, Oct 2016.
- ⁴ As discussed below, we estimate the tax burden as the annualised value of taxes paid as share of the return to capital (capital financed by debt and equity), which is a lower number than taking taxes as a share of only the return to equity. Debt finance reduces the company income tax burden because interest is deductible from taxable profits, which results in effective tax rates on capital being less than on equity alone.
- ⁵ Although we have updated calculations in this paper, a similar conclusion was reached in D Chen and J Mintz, *A 2016 update of effective tax rates on Australia mining and an evaluation of proposed increases in taxation of iron ore*, Minerals Council of Australia, Sep 2016. <https://www.cmewa.com/policy-and-publications/annual-reports-special-publications/preview?path=Mintz-report.pdf>
- ⁶ See, for example, Organisation for Economic Cooperation and Development, *OECD Economic Outlook*, 'Lifting Investment for Higher Sustainable Growth', Chapter 3, 2015. <https://www.oecd.org/investment/Economic-Outlook-97-Lifting-investment-for-higher-sustainable-growth.pdf>
- ⁷ Australia scores 15th highest of 190 countries in terms of lower regulatory obstacles for business. It is weakest in terms of getting goods to the border and its relatively high profit tax rate. See World Bank, *Doing Business 2017*, p. 190. <http://www.doingbusiness.org/~media/WBG/DoingBusiness/Documents/Annual-Reports/English/DB17-Report.pdf>
- ⁸ Excluded are oil and gas value-added, which is part of mining as defined by the ABS. See Australian Bureau of Statistics, <http://www.abs.gov.au/ausstats/abs@.nsf/mf/8415.0>.
- ⁹ We account for these features by modeling a time-to-build process for resource exploration, development and extraction. See the Appendix for parameters used in the mining models for coal and iron ore. For details of the model, see J Mintz, 'Taxes, Royalties and Cross-Border Investments', *International Taxation and Extractive Industries*, edited by P Daniel, M Keen, A S Wistak and V Thuronyi, Routledge and International Monetary Fund, 2016.
- ¹⁰ See J Mintz and D Chen, 'Capturing Economic Rents from Resources through Royalties and Taxes', *SPP Research Papers*, Vol. 5, Issue 30, Oct 2012.
- ¹¹ The analysis is based on a price-cost margin of 15 per cent (costs including non-capital and distribution costs) similar to our previous work. Given some recovery in iron prices in the past year, we also look at an alternative price-cost margin of 40 per cent. The Australian METRR drops from 37.8 to 24.7 per cent (the effect of royalties based on production value or volume is less onerous for marginal investments when margins are higher). Under this alternative assumption for profitability, the Australian METRR would remain one of the competitive among competing jurisdictions with the METRR in Colombia at 29.2 per cent and the lowest remaining in Quebec at 10.5 per cent. With the \$5 per tonne proposed royalty, Australia's METRR would be 27.5 per cent.
- ¹² We use an estimated price-cost margin of 15 per cent (costs exclude interest and depreciation and other capital costs) for both metallurgical and thermal coal. As in the case of iron ore, a higher price-cost margin would result in lower METRR estimates for coal. For example, at a price-cost margin of 40 per cent, the METRR falls to 27.2 and 25.3 per cent respectively for Queensland and New South Wales (metallurgical coal). For coal, Australia's tax burden remains in the middle of the pack even with higher price-cost margin estimates.
- ¹³ See, for example, D Richardson, *Company tax and foreign investment in Australia*, The Australia Institute, 2017.

<http://www.tai.org.au/sites/default/files/P314%20Company%20tax%20and%20foreign%20investment%20in%20Australia.pdf>.

- ¹⁴ See J Mintz, *An agenda for corporate tax reform*, Canadian Council of Chief Executives, 2015. <http://thebusinesscouncil.ca/wp-content/uploads/2015/09/An-Agenda-for-corporate-tax-reform-in-Canada-Report-September-20151.pdf>.
- ¹⁵ M Grudnoff and D Richardson, *Oligopoly money: How a company tax would be wasted on big business*, The Australian Institute, Feb 2016.
- ¹⁶ The company tax could be shifted forward by more than 100 per cent onto consumers so a company tax reduction would not increase profits. See S Anderson, A de Palma and B Kreider, 'Tax Incidence in a Differentiated Oligopoly', *Journal of Public Economics*, 81(2), 2001, p. 173-92.
- ¹⁷ A Canadian study examining the corporate tax reductions from 2001 to 2004 found that a 10 per cent reduction in the user cost of capital led to a 7 per cent increase in the capital stock. See M Parsons, *The effect of corporate taxes on Canadian investment: An empirical investigation*, Finance Canada, Working Paper 2008-01, Ottawa, 2008. A more recent survey on the relationship between effective tax rates and foreign direct investment estimated that a 1 point reduction in the corporate income tax rate results in an increase in foreign direct investment by 2.49 per cent (see L P Feld and J H Heckemeyer, 'FDI and Taxation: A Meta-Study', *Journal of Economic Surveys*, 25(2), 2011, p. 233-72).
- ¹⁸ For a derivation and discussion of the marginal cost of taxation (or public funds) see B Dahlby, *Marginal cost of public funds: Theory and applications*, MIT Press, Cambridge, Mass., 2008.
- ¹⁹ See L Cao, A Hosking, M Kouparitsas, D Mullaly, X Rimmer, Q Shi, W Stark and S Wende, *Understanding the economy-wide efficiency and incidence of major Australian taxes*, Treasury Working Paper, Apr 2015.
- ²⁰ See also B Dahlby and K Hassett, *Economic effects of the corporate tax: A review of the recent literature*, School of Public Policy, University of Calgary, manuscript, 2016.
- ²¹ A C Harberger, 'Corporate Tax Incidence: Reflections on what is Known, Unknown, and Unknowable', *Fundamental Tax Reform: Issues, Choices and Implications*, ed. J W Diamond and G R Zodrow, Cambridge: MIT Press, 2006.
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- ²³ K Hassett and A Mathur, 'A Spatial Model of Corporate Tax Incidence', *Applied Economics*, 47:13, 2006, p. 1350-1365, DOI: 10.1080/00036846.2014.995367.
- ²⁴ W Arulampalam, M Devereux and G Maffini, 'The Direct Incidence of Corporate Income Tax on Wages', *European Economic Review* 56(6), 2012, p. 1038-1054.
- ²⁵ L Liu and R Altshuler, 'Measuring The Burden Of The Corporate Income Tax Under Imperfect Competition', *National Tax Journal*, National Tax Association, 66(1), 2013, p. 215-37.
- ²⁶ R Xavier, R J Smith and S Wende, 'The Incidence of the Company Tax in Australia', *Economic Roundup*, Issue 1, Treasury, Canberra, Australia, 2014.



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