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Distinguishing between "normal" and "excess" returns for tax policy

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ABSTRACT

Distinguishing between “normal” and “excess” returns for tax policy

This paper explores the practical challenges tax policy analysts face when trying to apply differential taxation to “normal” and “excess” returns. The distinction between these two elements is being increasingly used in tax policy. The problem is that there is no clear definition for a “normal” return. While it is often equated to a risk-free return, or the return available on a ten-year government bond, many commentators agree that it should incorporate a risk element. The typical rationale for applying differential taxation stems from the desire to achieve neutral taxation, i.e. minimise the real economic responses of taxpayers due to the wedge taxation imposes between before-tax and after-tax returns. A set of important questions are raised for tax policy analysts to consider. Two crucial factors that make the distinction challenging are heterogeneity and uncertainty. Given the potential for unintended consequences, this is an important issue that warrants more discussion and thought.

RÉSUMÉ

Politique fiscale : distinguer entre rendements « normaux » et « excessifs »

Le présent document est consacré aux difficultés pratiques auxquelles les analystes de la politique fiscale sont confrontés lorsqu’ils essaient d’appliquer une imposition différenciée aux rendements selon qu’ils sont considérés comme « normaux » ou « excessifs ». Cette distinction est de plus en plus utilisée en politique fiscale. Le problème est qu’il n’existe pas de définition précise de ce qu’est un rendement « normal ». S’il est souvent assimilé à un rendement sur un actif sans risque, ou au rendement d’une obligation d’État à dix ans, nombre de commentateurs conviennent qu’il conviendrait d’y adjoindre un élément de risque. Le raisonnement ordinairement utilisé pour appliquer une imposition différenciée vient de la volonté d’assurer la neutralité de l’imposition, c’est-à-dire de minimiser les réponses économiques réelles des contribuables au coin fiscal qu’une imposition différenciée produit entre les rendements avant et après impôt. Ce point soulève plusieurs questions importantes que les analystes de la politique fiscale se doivent de prendre en compte. Ainsi, l’hétérogénéité et l’incertitude sont deux facteurs cruciaux qui rendent cette distinction difficile à manier. Étant donné les risques de conséquences non souhaitées, il s’agit là d’une question importante qui mérite que l’on en discute et que l’on y réfléchisse de manière plus approfondie.

DISTINGUISHING BETWEEN "NORMAL" AND "EXCESS" RETURNS FOR TAX POLICY

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DISTINGUISHING BETWEEN "NORMAL" AND "EXCESS" RETURNS FOR TAX POLICY[1]

1. Introduction

The distinction between "normal" and "excess" returns is being increasingly used in tax policy.[2] But do policy analysts have a good understanding of what constitutes a normal return, and is it a relevant concept for tax policy? There is lack of clarity on how to draw this distinction and, while much of the public finance literature points to taxing the two components differently, there is no specific definition for a normal return. Even so, there are multiple references to a normal return in the literature:

- The Mirrlees Review (Griffith et al., 2010) refers to the normal return as follows: "*For debt capital the normal return is the market rate of interest on debt, which will vary with the level of risk, and for equity it is the required market rate of return on stocks in the relevant risk class*."

- In order to tax the return on equity and debt-financed investment in a similar way for the purposes of an allowance for corporate equity (ACE), "*the imputed return should equal the interest rate that corporations would have to pay if they would finance marginal (new) investment with debt instead of equity*" (OECD, 2007). The reference to imputed return here and below is seen as synonymous with a normal return.

- Proposing an ACE for Australia, Sørensen and Johnson (2009) state: "*With imperfect loss offsets, rough neutrality could be achieved by setting the imputed return equal to the average corporate bond rate*".

- In the resource rent tax context, Daniel et al. (2010) define a compensatory return on capital as consisting of "*a basic return equivalent to the rate of interest on risk-free long-term borrowing plus a margin that the investor considers necessary to compensate for the technical, commercial and political risks associated with investment*." In this instance, a compensatory return is seen as equivalent to a normal return.

While there is no universally accepted meaning of the expressions normal and excess returns, a common thread in these references is the implicit agreement that a normal return should include a risk element. In the absence of a specific definition, the normal rate of return on equity is often linked to a risk-free rate of return or the interest an investor would receive from holding a long-term government bond. Investors are unlikely to consider this a fair measure for the opportunity cost of the next best alternative investment. Equally, a firm is not likely to consider this a fair return when returns are generated by active management and services provided.

The lack of a clear definition has not stopped policy analysts from using the concept. There are many examples of this in current tax legislation, tax policy proposals and analysis. There are three main tax policy areas where the debate on normal versus excess returns is relevant. The taxation of natural resources, including hard-rock mining and extraction of oil and gas, is an area that requires careful

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[1] This paper was prepared by Hayley Reynolds while a National Treasury, South African secondee to Centre for Tax policy and Administration (CTPA), OECD and Thomas Neubig former Deputy Head, Tax Policy and Statistics Division, CTPA, OECD.

[2] From this point forward, references to "normal" and "excess" returns will not use inverted commas, however, it should be noted that due to the significant variations in the definitions found in the literature, these expressions do not have a universally agreed meaning.

consideration for tax design. Natural resources are finite, there is an element of luck that can be influenced by the quality of ore deposits, and there is potential to earn 'abnormally' high returns. However, chances of high returns and risk are not isolated to extractive industries. Another important area is in relation to intellectual property (IP), which is an important driver of profits in the global economy and can also generate large profits. The OECD/G20 base erosion and profit shifting (BEPS) project considered how to tax excess profits generated in controlled foreign companies (CFCs), as the IP is often registered in a low- or zero-tax country. Lastly, determining the normal return on equity has become an important issue as countries explore how to reduce the bias towards debt financing that can result from the different tax treatment between interest payments to lenders and dividend payments to shareholders.

The issue is not limited to corporate income tax (CIT). It is also important to consider what an individual would consider to be a normal return. For example, if an inventor would be happy to earn one million euros in order to pursue an invention, would it be economically efficient to subject the profits in excess of one million euros to tax at a very high rate? Equally, what return would a saver be satisfied with, and would it be economically efficient to subject a higher return to a higher tax rate? This would require an understanding of individual inventors' and savers' expected returns.

The key issue is minimising the real economic responses of taxpayers due to the wedge taxation imposes between before-tax and after-tax returns, and weighing this against the revenue implications for government, fairness for taxpayers, and compliance / administrative costs. Optimal tax theory suggests that because investors will continue to invest as long as there are positive profits to be earned, imposing a tax on economic rents will in principle be non-distortionary in a closed economy. In an open economy setting, given that the level of capital mobility varies, it is assumed that a high tax on immobile capital will not distort investment decisions (Griffith et. al., 2010). This is easier said in theory than done in practice. In theory, if taxes are only imposed on returns in excess of the next best investment opportunity (economic rents), there would be no distortions of economic decisions. In practice, it is very challenging to determine what this next best alternative return is for different investors. This paper looks at the tension between the conceptual and practical issues of minimising tax distortions.

Attempting to define a normal return in the context of an international environment with diverse industries, heterogeneous firms, and varying preferences for risk is not easy, as recognised by Kleinbard (2015): "*I submit that this neat division of capital income into three conceptual pots, each with a potentially different tax rate associated with it, collapses in practice. The category of returns to risk is too simplistic an explanation of business behavior, and returns to rents are too difficult to tease apart from other returns to serve as the basis for differential taxation.*"[3]

The normal versus excess return notion is important for tax policy. If one of the principles of good tax policy design is to aim for neutral taxation (i.e. minimise tax-induced distortionary behaviour), then more clarity on the distinction between normal and excess returns, and whether it matters, is critical. It may not be easy, but it is certainly an important tax policy issue that warrants more thinking. Box 1 highlights several important questions/issues that are explored in the paper to evaluate the concept of normal versus excess returns, and how it is relevant for tax policy.

[3] The "three conceptual pots" referred to by Kleinbard (2015) are normal returns, risky returns and rents.

Box 1. Important questions for tax policy analysts

- Does the normal / excess return distinction matter?
- Is it possible to make the distinction?
- Is the distinction practical?
- What are the implications of an imperfect measure?
- Is an imperfect adjustment better than no adjustment?
- Does an imperfect measure still help reduce some of the distortion?
- Is the connection to a risk-free rate of return meaningful?
- Is defining normal returns possible in an international context?

Section 2 provides a brief overview of the economics of returns – what constitutes a return, how and why they arise, and whether they are uniform across firms and investors. Section 3 discusses the implications for tax policy given that one of the principles when designing taxes is neutrality, i.e. minimising economic distortions. This includes a section on the optimal tax theory approach to applying differential taxation to normal and excess returns. Section 4 highlights the difficulty of moving from theoretical solutions for neutral tax policy design to achieving neutrality in practice. It discusses tax policy areas where the distinction between normal and excess returns is important and requires more thinking, given the potential for distortionary behavioural responses. It includes both a theoretical and practical perspective, with examples of how tax policies have been implemented in different countries.

Section 5 raises a set of sequential questions that are important for policymakers to think through when designing a policy that seeks to tax normal and excess returns at different rates. These questions highlight the complexity involved in moving from theoretical concepts to well-designed and practically implementable tax policies that sufficiently reduce the distortion taxation can induce.

Section 6 concludes that more interrogation of the normal/excess returns distinction matters for good tax policy design. There are likely to be unintended economic consequences if tax policy design is based on theoretical justifications for efficiency, ignoring the rates of return that individuals and businesses require to commit to a particular investment. Negative economic consequences could translate into a reduction in tax revenue. Linking a normal return to the return on a government bond is unlikely to be appropriate given its irrelevance to the required rate of return investors demand. Some countries' tax design, for example Norway, seems to have reduced the potential for economic distortions arising from taxing rents in the oil industry. The Norwegian government generates considerable revenue without appearing to disincentivise investment or negatively impact the local oil industry.

There is general support for including a risk element in attempts to define a normal return. Constant reference to a normal rate of return with an opaque description is inappropriate. Even if governments are able to observe each unique rate of return, other tax policy principles are also important to account for. These include revenue buoyancy and stability, certainty, fairness and administrative simplicity.

2. The economics of returns

What constitutes a return?

A survey of the literature reveals that there are generally four elements that make up the return an investor would earn on a particular investment. A company would also earn a return and economic rent on its management and services. Economic rent is the difference between what a factor of production (land, labour, capital) is paid and the cost required to bring the factor into production. Table 1 identifies four elements – "risk-free" return, risk premium, economic rent, and luck – and includes terms that appear equivalent to each from the literature.[4]

Table 1: The composition of returns

	Investor / capital markets	Firms
"Risk-free" return	• Known knowns • Often equated to a government bond • Nominal return including embedded inflation expectation	• Passive investment, time value of money
Risk premium	• Net risky returns • Known unknowns • Expected returns to uncertainty • *Beta* in the capital asset pricing model[5] • Can insure against with diversification	• Active management • Return to non-financial capital
Economic rent	• Known unknowns • Expected returns to location- or firm-specific rents	• Economic rent
Luck	• Unexpected returns to uncertainty (can be positive / negative) • Unknown unknowns	

How or why do returns/rents arise?

Theory points to a few factors that explain the existence of economic rents, such as competitive markets not being in long-run equilibrium due to changes in consumers' preferences, changes in technology or imperfectly competitive markets. In addition, excess profits occur due to the presence of uncertainties in the market that arise from dynamic changes and which are not insurable.[6] These economic rents are expected to be eliminated in the long run by competition in the market as capital shifts to markets

[4] Luck and rent could be seen as equivalent, given the uncertainty on whether either of them will be realised. For the purposes of Figure 1, the unexpected returns an investor would earn on a portfolio are seen as distinct from the rent a firm can earn based on higher levels of effort (for example, management and research and development) involved.

[5] *Beta* measures the volatility, or systematic risk, of a security or a portfolio in comparison to the market as a whole.

[6] Insurance premiums on insurable risks, such as fire damage, are included in a firm's costs.

with "above-normal" rates of return. According to profit theory, excess profit or economic rent is not seen as a return to a factor of production, but rather a windfall associated with dynamic elements in the economy (Landreth and Colander, 2002). Excess profits or economic rents generally arise from location-specific (i.e. immobile) or firm-specific (i.e. mobile) factors. Location-specific rents could arise from the exploitation of natural resources, agglomeration forces, or by the presence of productivity-enhancing public infrastructure. In contrast, firm-specific factors may arise from superior management, intellectual property rights, the possession of a specific technology, or barriers to entry that may be due to monopoly power or shared with a few other firms in an oligopolistic market (Griffith et al., 2010; Daniel et al., 2010).

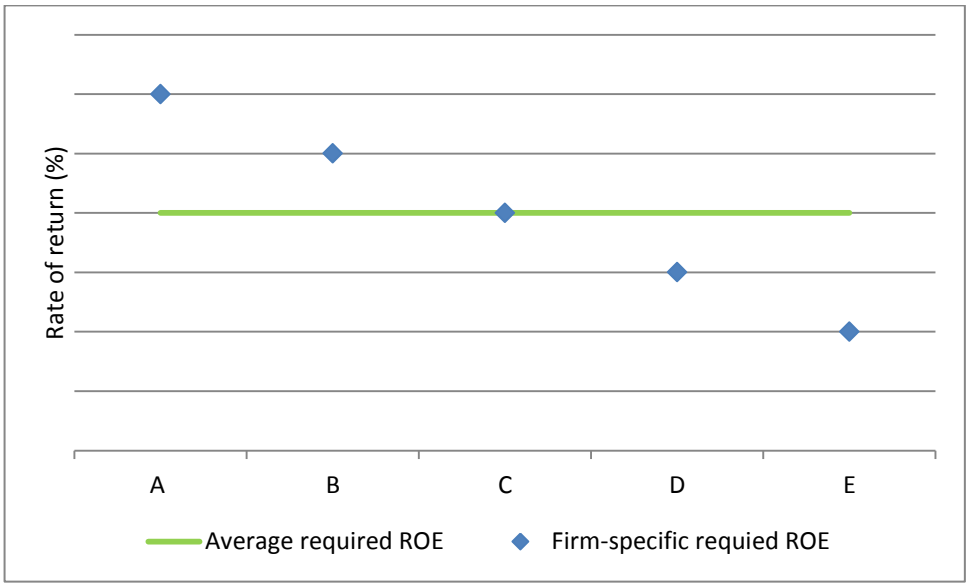
Governments can also be responsible for providing windfall gains to investors. Policymakers often provide tax incentives that seek to stimulate incremental activity or investment. Incentives are likely to be taken up by a business that would have carried out a qualifying activity or investment in the absence of the incentive. Doing so provides businesses with windfall gains. Attempts to improve the cost effectiveness of incentives have led to proposals for incremental incentives where the incentive is only provided for "incremental" or incentive-induced activity. If policymakers were able to appropriately define normal returns, policies that aim to tax "excessive" profits at high rates could negate any windfalls unintentionally provided by governments.

Are returns uniform across firms and individuals?

If the answer to this question was 'yes', there would be no need to pursue this topic further. However, firms are heterogeneous – they vary in terms of size, strategy, sector, sub-sector and risk profile. The latter is closely tied to the returns an investor would earn by investing in a particular firm. Individuals have different preferences and appetites for risk, which are both determining factors for the return an individual would seek when investing in a firm, and the return the decision makers in a firm would be looking for on a particular investment.

It is useful to consider a hypothetical example. Figure 1 shows the firm-specific required rate of return on equity for five different firms in one country: (A) a small technological start-up, (B) a small renewable energy start-up, (C) a medium-sized coal mining company, (D) a commercial wheat farmer, and (E) a large manufacturing firm.

Figure 1: Varying rates of return for five illustrative firms



It is evident that each of the hypothetical firms generate different rates of return given the differing levels of risk faced by each firm, which is largely determined by the size and nature of the business and its ability to access capital. There are additional influential factors to consider, including whether a firm is widely held or closely held (which could determine capital constraints), as well as how much direct influence shareholders have in investment decisions. Homogeneity of returns within industries is also not likely as a start-up in manufacturing will have a different risk/reward profile to a large established manufacturing group with affiliates in other sectors. Smaller firms or entrepreneurs may struggle to source capital and as a result rely more heavily on venture capital.

Climate risk is an issue that could have implications for thinking about returns in the longer term. Currently, risk-adjusted returns may not incorporate climate risk; however a recent UNEP (2015) study shows that the institutions responsible for financial sector policymaking are starting to consider how to account for climate risk. Firms will differ in their exposure, depending on how resource/pollution intensive their incumbent assets are, which is likely to influence risk/return profiles. This could add an additional element of heterogeneity.

What is a normal return?

Consulting a dictionary reveals that 'normal' means usual, ordinary, or conforming to the standard or common type. Figure 1 shows that heterogeneity is much more likely when comparing rates of return across firms and investment projects. This makes it clear that there is not likely to be an average rate in the economy that would represent a normal return to each investor. If this is the case, is it possible to determine a principle on which to calculate what a normal return would be for each investor? If possible, this could allow a government to observe a normal return for each investment:

- Is it equal to the return an investor would demand for an investment with the same systematic risk? i.e. based on a comparison of risk profiles attributable to particular investments.

- Is it the firm's required (hurdle) rate of return?

While there is no consensus definition for a normal return, there seems to be a general agreement that it includes the risk-free rate of return, which has become synonymous with the interest rate on a long-term government bond, plus a return for bearing risk.

Donald Rumsfeld (in Kleinbard (2015)), a former US Secretary of Defence, refers to the "known knowns" and perhaps this is the simplest explanation for linking normal returns to the return on a government bond, i.e. it can be observed. However, given that returns on investments generally include a risk element, some theorists and policymakers argue that the normal return on capital should reflect the additional risk and its expected resulting higher returns.[7]

3. Implications for tax policy – aiming for neutral taxation

Tax policy design is based on a set of principles that assist policymakers in decision-making. An important principle is neutrality, i.e. to encourage taxpayers to base their decisions on economic fundamentals and avoid economic distortions. Several authors have proposed the design of neutral tax bases, i.e. where the tax base is equivalent to the present value of economic profits over the full extent of the investment. These are discussed below. As tax policy debates have increasingly centred around

[7] For example, OECD (2007); Daniel et al. (2010); Neubig (2007); Griffith et al. (2010); Panteghini (2012); Zangari (2014); Kleinbard (2015).

applying differential taxation to normal and excess returns, and trying to understand what a normal return is, it is useful to follow the ideas sequentially.

The Brown (1948) tax is well-known in the resource taxation literature, and the method of taxation is equivalent to the R-based cash flow tax proposed by Meade (1978). The tax base is determined by deducting all cash payments for capital good inputs and current expenses from sales, while interest and other financial expenses are not deductible. The effect can be replicated by government acquiring equity in an investment project on commercial terms and acting as a silent partner by sharing in the profits and losses. However, governments' reluctance to provide immediate cash refunds meant that this form of tax has never been applied in its purest form (Baunsgaard, 2001).

Garnaut and Clunies-Ross (1975, 1983) proposed a resource rent tax (RRT), which attempts to solve the immediate refund dilemma.[8] Instead of providing refunds for negative cash flows, losses are carried forward at an appropriately chosen interest rate (Daniel et al., 2010). The policy issue becomes determining the appropriate interest rate and whether it should be a risk-free rate or a risk-adjusted rate, and what should this rate be?

Analysing the original purpose of the resource rent tax (RRT) proposed by Garnaut and Clunies-Ross, i.e. "*to balance the investment deterring effects of the tax against its investment promoting effects*", Smith (1999) builds a model to prove that this is not possible, titling his paper "*The Impossibility of a Neutral Resource Rent Tax"*. In the paper, he criticises the findings of Fraser (1993, 1998) who considered the case of a risk-neutral and risk-averse investor in two separate papers. For a risk-neutral investor, the results showed that the neutrality of the RRT is not dependent on the tax rate and there exists a range of parameter values (relating to expected profitability and levels of uncertainty) where the neutral threshold rate of return exists and where the government can expect to generate tax revenue. In the case of the risk-averse investor, Fraser's results suggest that neutrality depends on both the tax rate and the threshold rate of return. Accordingly, for any set of profitability and uncertainty parameters, he argues that there is a continuum of neutral combinations of tax and threshold rates in which a higher tax rate is linked to a higher value of the threshold rate of return.

Smith (1999) argues that these findings may hold for a particular investment project, but argues that in reality there is no standard investment project, and this is true for all industries. His point is that intentionally applying a "neutral" RRT to any given investment would require that the taxing authority is as well-informed about the profitability and uncertainty as the investors themselves. Daniel et al. (2010) state that, according to theory, the threshold rate of return at which a resource rent tax is imposed should be no lower than the minimum return necessary for capital to be deployed, but make the point that the literature has reached no consensus on exactly what the threshold rate of return should be. The prevailing cost of capital can be derived from international capital markets, but they also question whether this is relevant given location and investment-specific risks, and the type of business making the investment. This implies a normal return for one investor is not likely to be the same as a normal return for another investor.

Bond and Devereux (1995) argue that governments can achieve neutrality by imposing no tax on marginal investments, and raise revenue by taxing pure profits or economic rents earned on infra-marginal investments. Infra-marginal investments earn a higher rate of return than a marginal investment (McLure et al., 1990; Commission of the European Communities, 2001).

Ensuring neutrality in tax design is attractive as no distortions should arise and the incentive to engage in arbitrage to avoid paying taxes should be reduced. While this sounds appealing, the theoretical model

[8] For a nice comparison of the Brown Tax and RRT in practice, see Annex C1 of the Final Report on Australia's Future Tax System (Australian Treasury, 2009).

presented by Bond and Devereux (1995) is based on simplifying assumptions. The model shows that business taxation is neutral for investment decisions if:

- Deductions for economic depreciation are calculated using an arbitrary tax depreciation schedule and altering earnings by the difference between the asset's tax value and the price at which it was disposed.

- Deductions for the opportunity cost of finance are calculated by multiplying the tax value of depreciable assets by the nominal interest rate on default-free bonds (irrespective of risk and gearing).

- Profits and losses are treated symmetrically.

- The future tax rate is known and constant.

Governments are generally unwilling to reimburse firms in a tax loss position. The other problem, and one central to this paper, is that the opportunity cost of finance is considered to be uniform for all firms. Contributing to the 2009 Henry Review for Australia, Sørensen and Johnson (2009) proposed incorporating an ACE into the corporate income tax, and included suggestions for neutrality, including how to compensate for imperfect loss offsets. To ensure full neutrality, they suggest that the imputed (or normal) return be equal to the shareholders' discount rate. Assuming taxpayers can fully offset their losses, it is suggested that the imputed rate of return be the risk-free interest rate as the tax saving from the ACE is essentially a risk-free cash flow. Dealing with the practicality that no government is likely to allow a full loss offset, the presenters proposed that rough neutrality could be achieved by setting the imputed return equal to the average corporate bond rate. Furthermore, neutrality could be improved by allowing companies to offset tax losses against other taxes, such as pay-as-you-go income tax and goods and services tax.

Achieving perfect neutrality is unlikely in reality and it is not easy to avoid unintended consequences that arise from tax policy design, even if built on solid principles and 'good intentions'. Tax incentives that do not correct market failures are an example of a move away from neutral taxation. Before introducing such incentives, efforts can be made to show ex ante that the benefits of the incentive are likely to outweigh the costs, but deadweight losses are often inevitable. The key is to minimise such losses with an appropriate level of targeting and design.

Optimal tax theory – only tax excess returns?

The Mirrlees Review (2010) discusses optimal tax theory in the context of taxing international capital. The theory suggests that a tax on rents will be non-distortionary in a closed economy because, as long as there are positive profits to be earned, investors will continue to invest. It is aligned with minimising the real economic responses of taxpayers due to the wedge taxation imposes between before-tax and after-tax returns. It points to applying low tax rates on elastic factors and high tax rates on inelastic factors. Following this logic, a tax on economic rent should have no impact on domestic investment levels (Griffith et al., 2010). Based on the theoretical premise that an investor will stop investing additional capital into an existing project when economic profits reach zero, the common view is that if a government can pinpoint the level at which a firm starts earning infra-marginal profits (economic profits above zero) or profits in excess of those on a marginal investment, it could theoretically tax away all profits above that level without distorting the investment decision.

This poses a problem for policymakers who need to determine and legislate the acceptable rate of return on an investment above which taxation at a high (almost 100 per cent) tax rate would have no effect

on current and additional investment plans. Information asymmetry works against policymakers as it is impossible to observe what this rate is for each firm / individual. Adding to the complexity is heterogeneity across firms, investment projects and individuals stemming from varying aversions to risk; the ability to raise capital and in what form; size and risk profiles of firms; and specific project / investment risks that determine the level of reward or return an investor is willing to accept.

Devereux and Griffith (1998) showed that investment decisions are not so simple, i.e. it is not always about the marginal investment or investing an additional euro into an existing investment. There are investments that have the potential to generate infra-marginal returns. Furthermore, when a firm makes a significant investment and wants to decide where to build a new plant, the decision becomes determining not only the amount, but also where to invest. What matters is the after-tax rate of return available on the next best alternative, not the return available on a government bond.

How responsive firms and individuals – being either capital owners or employees or both – are to changes in taxation that affect their after-tax rate of return is key to understanding potential distortions that can arise. This degree of elasticity is what determines the slope of demand and supply curves. If policy analysts want to tax the inputs into production in the most efficient manner, understanding what the slope of the supply curves of the inputs look like is necessary. Perhaps the most efficient form of taxation could be thought of as one where government is able to observe the slopes of the demand and supply curves for each actor in the economy and fully tax away the consumer and producer surplus, although it is unlikely that this can be achieved in reality.

If the assumption is that a particular class of firms or capital owners have a perfectly inelastic supply curve, policymakers are likely to think that fully taxing the excess returns will yield no reductions in investment. This could be true in the short-run for mining projects where project-specific time horizons are long and some of the factors of production in the operation are geographically immobile. However, the same mining company may consider another location for a new project if the after-tax return is more favourable. This will depend on whether the business faces capital constraints and how government defines the normal return on which no tax is applied. Hence, the return on the next best alternative investment is something that is important for policymakers to understand if the desire is to apply differential taxation to normal and excess returns. Exploring the extent of each industry's rents would yield a normal-to-excess return ratio that is unique to each industry, but most likely differs within each industry too. This is not practically feasible for governments. If an "optimal" tax rate chosen by government results in a tax take that exceeds economic rents, new investments may not be made and an attempt to maximise tax collections in the short run could reduce corporate income and thus CIT in the long run. Personal income tax may be negatively affected if there is an increase in unemployment due to firms relocating.

It is important to understand investment decisions from the taxpayer perspective when attempting to distinguish between normal and excess returns. In the absence of doing so, tax policy design could lead to unintended distortions. The economic incidence or burden of taxes is an important determinant of how capital owners respond to increases in taxes. In many instances, the party who is legally liable for the payment of a tax does not actually bear the cost of the tax as the burden is shifted to other parties (OECD, 2015). For example, the burden of the corporate income tax is distributed among capital owners, workers and consumers. If the supply of capital is elastic across industries within a country and between countries, as would be the case in a small open economy, capital owners could shift an increase in the tax burden onto workers or consumers, who are less mobile.

Designing effective tax policy requires knowledge of the extent to which capital would be reallocated given a change in the after-tax rate of return. The OECD (2015) BEPS Action 11 Report includes a discussion on the expected incidence of CIT changes in response to BEPS countermeasures. While the analysis focuses on multilateral action, important issues are raised. The extent to which capital bears the

burden of an increase in the effective tax rate (ETR) depends on the market context and whether the market is competitive or not. In a perfectly competitive open economy, where firms are earning zero economic rent (i.e. income just satisfies the required rate of return on capital at the margin), an increase in CIT is likely to be shifted onto labour and/or consumers. In an imperfect market where unique intangibles generate abnormal returns, the shifting of capital will depend on whether the lower after-tax rate of return is still higher than that offered by the next-best alternative investment, as well as the ability of capital to move to other industries or countries. There is limited empirical evidence on how the adjustment evolves over time, i.e. how fast real capital and specialised labour can move between countries (OECD, 2015).

4. Moving from theory to practice

The distinction between normal and excess returns and its importance for tax policy design arose out of the desire to tax firms and individuals in a neutral manner. Some empirical work has attempted to establish the extent of normal returns in firms' taxable income. This is discussed below.

Is taxable income predominantly made up of normal returns?

Using stock market data, Gentry and Hubbard (1996) estimate the percentage of US corporate taxable income attributable to normal returns to be 40 percent and conclude that a substantial portion of the return to equity is "supernormal". This is done by comparing an average historical stock market rate of return of 16.5 percent to a riskless rate of return on bonds of 10 percent.[9] Toder and Rueben (2005) use estimates from 2004 aggregate US tax data to adjust the current law corporate tax base. The normal return to capital is attributed to the change in the tax base that results from removing all financial income, and converting the corporate tax base from one which includes depreciation (and capitalisation) of assets (and inventories) to one which includes expensing.[10] Using this methodology, the analysis finds that 32 per cent of (current law) corporate income is attributable to the normal return to capital. Examining the distributional incidence of CIT for the United States, Cronin et al. (2012) follow a similar methodology to Toder and Rueben (2005), but base their estimates on multiple years (2001-2007) of actual CIT micro-data. They estimate the percentage of corporate taxable income attributable to normal returns to be 37 percent.

Relevant tax policy areas

Distinguishing between normal and excess returns has become important for three tax policy areas in particular – highlighted below and discussed subsequently:

- How to tax profits earned from extractive activities in the most efficient manner, recognising that these activities involve the extraction of finite and geographically immobile mineral or natural resources.

- How the cost of finance should be treated for tax purposes and whether the taxation of payments to corporate shareholders and lenders should be treated in the same manner. As the norm is to treat them differently, can the corporate debt / equity bias be alleviated allowing firms to deduct a normal return on equity financing with an ACE?

- How to tax profits generated by geographically mobile and patent-protected intellectual property.

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9 The 16.5 percent is grossed up to 22 percent to reflect corporate taxes paid.

10 The change in the tax base that would arise from moving to full expensing without interest deductions (from the current system that includes depreciation and deducting of financial expenses) is viewed as a proxy for a normal return.

Resource taxation

Extractive industries are generally viewed as unique for tax policy purposes – mainly due to the exhaustible nature of the minerals, oil and gas that are extracted. Returns depend not only on the quantity of ore deposits, but on the quality of those deposits too, and generating high returns can result from unique specialised resources as well as luck. However, it is not the only industry that faces unique risks and the chance of high rewards. For example, firms engaged in research and development take on the risk that sunk costs are not guaranteed to result in intellectual property or a patented product that yields high returns or returns aligned with expectations. Furthermore, if the differential tax approach for resource taxation works so well, the question arises as to why it is not used more widely.

The general approach taken by many countries is to set a threshold that approximates the required investment returns given the host government's understanding of investor expectations on average. The threshold is normally a fixed percentage or a fixed margin over a specified reference rate (such as a bond rate or long-term debt rate), which changes annually. By adding one or more additional thresholds at higher levels, the design can assist in mitigating the possible distorting effect of applying a single rate threshold that is either too high or too low relative to the rate required by investors (Daniel et al., 2010). Angola is an example of a country using this approach. Based on production sharing contracts (PSCs), the profit split between the government and contractors is based on an earned project rate of return, which instils an element of flexibility. The share of profit that the government receives is based on the firm's internal rate of return. The typical case is presented in Table 2.

Table 2: Progressive tax structure typical to Angolan production sharing contracts

Rate of return (%)	Government share (%)	Contractor share (%)
Nominal		
Less than 15%	25	75
15-25	35	65
25-30	55	45
30-40	75	25
Over 40	85	15

For petroleum, Australia, Norway and the United Kingdom all apply a special resource tax ranging between 40 and 50 percent. The tax is based on deemed profitability after an allowance for a threshold rate of return that represents normal profits is deducted (Daniel et al., 2010). Australia has a petroleum resource rent tax (PRRT), which is a tax on the net cash flows of a mining project. The tax is applied at a rate of 40 percent to the cash flow once a project's internal rate of return (IRR) exceeds the return on the government's long-term borrowing rate plus 5 percentage points. Thus, a project subject to this regime would not pay any tax until capital owners had recovered their original investment with an interest rate equal to the threshold rate of return (Smith, 1999). In Norway, ordinary income for all companies is taxed at 25 percent, while resource rents are taxed at an additional rate of 53 percent (petroleum) and 33 percent (hydropower production). Companies extracting petroleum or producing hydropower can deduct an additional allowance for ordinary returns and negative resource rents are refundable. The additional allowance (uplift) is based on the risk-free rate for hydropower generation and the risk-free rate plus 0.5 percent in the case of petroleum. The available uplift is 22 percent (5.5 percent over 4 years), plus losses and unused uplift can be carried forward indefinitely with annual interest (Semmingsen, 2012; PWC, 2016).

In a critique of a Mineral Resource Rent Tax proposal in Australia, Neubig and Cline (2010) criticise the theoretical argument that normal profits can be distinguished from "super normal" profits, based on a risk-free rate of return, of which the government bond rate is a proxy. While theory suggests that the net present value of immediate capital expensing is equivalent to depreciation adjusted in the future by the government bond rate because depreciation deductions could be considered certain,[11] it is pointed out that businesses are unlikely to agree. Drawing on survey results from 95 large US corporations, Summers (1987) concludes: "*The fact that firms use widely varying and inappropriate discount rates for depreciation allowances suggests that patterns of investment may be very substantially distorted in ways not considered in standard analyses of the effects of tax incentives. Certainly the returns demanded on marginal projects vary by much more across firms than do conventional measures of the cost of capital*."

Better insights can be obtained by tax policy analysts through seeking to understand the taxpayer perspective with regard to assumptions used in net present value calculations that form the basis for investment decisions. This would need to be balanced against government objectives of raising sufficient revenue. If governments cannot fully observe taxpayers' required rates of return, perhaps a compromise is possible. To avoid the "cliff-edge" effect of applying a zero tax rate to one portion of returns and a very high tax rate to the other portion, a graduated rate structure can provide some flexibility given the uncertainty about where excess returns start. A variable income tax is applied to gold mining in South Africa (Daniel et al., 2010). However, its primary objective is to encourage marginal mining – a tax is only applied once a certain level of profitability is achieved and there is a ceiling rate of taxation (Otto et al., 2006).[12]

Corporate debt versus equity financing

There is much empirical literature showing evidence on the tax-induced tendency to favour corporate debt over equity financing.[13] Given that interest payments are generally deductible from the corporate income tax base, corporate income tax can be viewed as a tax on the return on equity (OECD, 2007).[14] With its theoretical underpinnings in Boadway and Bruce (1984), the ACE is a concept that aims to instil neutrality in corporate financing decisions so that tax does not influence the choice between debt and equity. The ACE attempts to provide corporations with notional deductions for the equivalent of the interest they would pay if using debt rather than equity. Based on this, the corporate tax rate would only be applied to returns in excess of the ACE.

The Mirrlees Review (2012) proposed an ACE for the United Kingdom, but acknowledged that the risk-free interest rate and the risk premium component are not easy to estimate. In a paper title "*The Fundamental Reform of Corporate Income Taxation*" (OECD, 2007), the normal suitable rate for the allowance is suggested as the interest rate that corporations would be required to pay if additional investment was to be financed with debt instead of equity. Such symmetrical tax treatment is posited to solve the problem stemming from hybrid capital instruments, where legal form and economic substance are often divergent (Klemm, 2006 and Kleinbard, 2015). However, it is acknowledged that choosing the 'correct' imputed return would be difficult as corporations are likely to differ with respect to the interest rate payable on newly issued debt and policymakers would require firm-specific information to have a targeted approach. This would require an understanding of corporation-specific risk premiums. Bond and

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11 Brealey and Myers (1988) argue that depreciation tax shields should be discounted at the firm's after-tax borrowing rate, given that depreciation tax shields are a safe nominal flow for businesses that do pay taxes (i.e. have a positive taxable income).

12 The threshold is reached when the profit-to-revenue ratio equals 5 per cent.

13 For example, Desai, Foley and Hines (2004); Huizinga, Laeven and Nicodème (2008); and De Mooij (2011).

14 This is based on the premise that no notional allowance is provided for the cost of equity finance.

Devereux's (2003) finding is that the imputed return should not include a risk premium if a corporation considers the ACE to be a 'safe' cash-flow in that its gain is not lost or reduced in present value terms.[15]

With respect to a capital account allowance, Bradford (in Kleinbard, 2015) suggests using the interest rate that would make the taxpayer indifferent between expensing and capitalisation, which would be a taxpayer's discount rate reflecting risk and attainable investment returns. This is likely to vary across businesses.

Focusing on the corporate income tax in the United States, Kleinbard (2015) argues for a Business Enterprise Income Tax (BEIT) to remove the debt bias in corporate financing decisions. In such a system, the normal (time value of money) returns are taxed only at the investor level, while profits above the normal rate are taxed at the business enterprise level. The BEIT operates with a Cost of Capital Allowance (COCA) that is calculated in the same manner irrespective of whether capital is financed with debt or equity. The COCA rate is used to calculate the tax deduction in respect of payments by the business to shareholders and creditors, as well as to measure (and tax) normal returns to investors. Kleinbard (2015) claims that the tax-induced debt bias would be removed and the profit tax base would be neutral, "*thereby restoring the overall system to an integrated firm-investor comprehensive tax on all capital income*". The normal return inclusion at the capital owner level and the COCA deduction at the corporate level effectively cancel each other out as they are calculated using the same base and rate of return.

The annual COCA deduction would be calculated as the statutory COCA rate multiplied by the issuer's total adjusted tax basis in its assets.[16] A potential downside is that no deduction would be possible if the firm's capital stock is completely depreciated, even though there may be interest payments (OECD, 2007). Kleinbard (2015) does not pinpoint what the COCA rate should be. Reference is made to a floating rate linked to a benchmark government bond rate of an appropriate term. He discusses whether the risk-free rate is suitable or whether it would be preferable to use a rate that better approximates an issuer's cost of funds by adding, for example, 200 basis points to the risk-free rate chosen. While setting a COCA rate individually for each business enterprise would not be feasible, he argues that a rate higher than the risk-free rate would be preferable. In addition, the potential for adding an additional few basis points for smaller businesses is raised.

The majority of countries with an ACE system prescribe the tax base as the book value of new equity, predominantly to avoid providing businesses with a "windfall" reduction in their tax liability by providing an allowance for the cost of their existing equity stock.[17] Belgium is an exception in that the ACE is granted to the entire stock of equity (Zangari, 2014).[18] Most have anti-avoidance measures to prevent, for example, the following being included in the book value of new equity: dividend distributions; investments in controlled companies; and certain intra-group merger and acquisition transactions. Table 3 provides an

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15 For neutrality purposes, this would require an NPV-adjusted loss carry-forward to compensate for the delay if the tax deduction exceeds taxable income, which raises the question central to this paper – what would inform this adjustment?

16 The rationale is that the base for determining normal returns would be closer to the economic ideal as it is based on investment assets held by individuals rather than non-inventory real assets held by businesses. In this system, all enterprises are treated the same with no distinction between corporations and unincorporated businesses.

17 The book value of new equity is the net increase in the equity employed in the entity.

18 A detailed account of the ACE system in Belgium, particularly the tax base, compared to that of Italy, can be found in Zangari (2014).

overview of the systems introduced in various countries, showing the tax base and rate of return used to calculate notional interest deductions for ACE.[19]

In an analysis of the ACE system employed in Italy, Panteghini (2012) states that "Ordinary return, approximating the opportunity cost of new equity capital, is exempt, while exceeding income is taxed at the corporate level." The "ordinary" return is compared to the cost of new equity, not debt, in Italy. When ACE was implemented in 2010, the imputation rate used to calculate "ordinary" return was initially set at 3 per cent, with an annual determination by the Minister of Economy and Finance. The rate is calculated in line with the average return of Italian Treasury bonds, and can be increased by three percentage points as a compensation for greater risk. If the notional value of the ACE return exceeds the total amount of income, it can be deductible against income in the subsequent tax periods.[20]

In Belgium, the ACE rate is based on the monthly reported indices of 10-year Belgian government bonds. For 2013, the rate was based on the average of monthly reported indices of linear bonds in the month of July, August and September of the previous year.[21] There is a series of specific rules – in each year the rate cannot exceed the rate applied in the previous year by more than 1 percentage point. In addition, the ACE rate had a ceiling of 6.5 per cent until 2011, which was reduced to 3 per cent in 2012. The rate is increased by 0.5 percentage points for SMEs (Zangari, 2014).

Relative to the ACE system in Italy, Zangari (2014) argues that the ACE in Belgium is more generous; however this is particularly in relation to the tax base. During the past years, the Belgian ACE regime has been progressively tightened at the legislative level, rendering it a partial ACE system. This is evident from the reduction of the ACE notional rate, the elimination of the carry-forward for unutilised ACE deductions, and the introduction of the fairness tax.[22]

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19 The Netherlands has a presumptive capital tax and Norway has an allowance for shareholder equity – both involve assignment of threshold rates of returns.

20 For more information on the ACE in Italy, as well as the previous dual income tax system (1997-2003), see Panteghini (2012) and Zangari (2014).

21 In Belgium, linear bonds, or OLOs (Obligations Linéaires Ordinaires) are medium, long-term and very long-term securities with a fixed or floating interest rate representing a State Loan, and are issued in tranches.

22 The Fairness Tax (introduced in 2013) applies to a company other than an SME if, within a given year, dividends are distributed and taxable profits are reduced by the ACE and/or by carried forward tax losses.

Table 3: Summary of the ACE systems in selected countries

Country	System	Applicable rate of return	Base
Italy (Introduced in 2011)	ACE	Determined annually by the Ministry of Finance: Average Treasury bonds' rates, plus up to 3% as compensation for greater risk: 3% (FY 2011-2013) 4% (FY 2014) 4.5% (FY 2015) 4.75% (FY 2016)	Book value of new equity
Belgium (Introduced in 2006)	ACE	Based on the monthly reported indices of 10-year government bonds issued in the previous year with a series of specific rules (cap of 3%; 6.5% until 2011); The rate is increased by half a percentage point for SMEs[23] 3.442% (2006) 3.781% (2007) 4.307% (2008) 4.473% (2009) 3.8% (2010) 3.425% (2011) 3% (2012) 2.742% (2013) 2.63% (2015)	Adjusted equity that equals accounting equity (composed of capital, share premiums, revaluation gains, reserves, carry-forward of profit and losses, and capital investment subsidies) with some adjustments
Turkey (Introduced in 2015)	Partial ACE	50% of the annual weighted average interest rate applied to Turkish-denominated loans provided by banks, which is announced annually by the Central Bank of Turkey	New equity
Cyprus[24] (Introduced in 2015)	ACE	"Reference interest rate'" is the interest rate of the 10 year government bond yield of the country in which the new equity is invested increased by 3% (having as a lower limit the 10 year government bond yield of the Republic of Cyprus increased by 3%). The bond yield is the one applicable as of 31 December of the tax year preceding the relevant tax year. Therefore, it guarantees that the normal rate of return is at least equal to a government bond rate in Cyprus plus 3%. The ACE is made equivalent to interest deductions as it is subject to the same limitation rules as interest. The ACE may not exceed 80% of taxable profit.	New equity

Sources: EY (2015a); EY (2015b); Panteghini (2012); Zangari (2014).

23 Kleinbard (2015) also suggests a higher COCA rate for smaller businesses.

24 Note by Turkey: The information in this document with reference to « Cyprus » relates to the southern part of the Island. There is no single authority representing both Turkish and Greek Cypriot people on the Island. Turkey recognizes the Turkish Republic of Northern Cyprus (TRNC). Until a lasting and equitable solution is found within the context of United Nations, Turkey shall preserve its position concerning the "Cyprus issue".

Note by all the European Union Member States of the OECD and the European Union: The Republic of Cyprus is recognised by all members of the United Nations with the exception of Turkey. The information in this document relates to the area under the effective control of the Government of the Republic of Cyprus.

Turkey introduced an ACE in 2015, and the reference rate used to calculate notional interest deduction (NID) is the annual weighted average interest rate applied to Turkish-denominated loans provided by banks, which is announced annually by the Central Bank of Turkey. The rate has been 7.5 percent since 24 February 2015. The NID is equal to 50 per cent of the interest amount calculated and can be deducted from the corporate tax base, but this threshold can be increased or reduced by the Council of Ministers. A NID equal to zero per cent is applicable for companies with 25 per cent or more of their income comprised of passive income (i.e., interest, dividends, royalties, capital gains on sale of shares). The finance, banking and insurance sectors are excluded. Both Turkey and Cyprus have included anti-avoidance measures to exclude merger and acquisition transactions, for example (EY, 2015a, 2015b).

Cyprus introduced an ACE, effective 1 January 2015. The NID is available to corporate entities, including permanent establishments and foreign companies. The rate applied to new equity diverges from the reference rate used by other governments in that it is not only tied to the government bond rate in Cyprus. For example, the costs of injecting equity into a Cypriot-owned subsidiary in another country would be deductible through a NID that is calculated using the higher of the 10-year foreign government bond rate in the host economy plus 3 per cent and the 10-year Cypriot government bond rate plus 3 per cent. If no such deduction is available in the host country, this may encourage investors to become resident for tax purposes in Cyprus (EY, 2015b).

Taxing intellectual property

More recent proposals for defining excess returns concern the potential for abnormally large returns generated on intellectual property. This is an issue that arose in discussions on controlled foreign company (CFC) rules during the OECD/G20 BEPS project. The OECD (2015) BEPS Report on Action 3 includes an excess profits approach as a potential method of taxing CFC income in the parent jurisdiction. The basic rationale is that some CFCs generate returns above those considered to be normal returns to equity in instances where mobile intellectual property (IP) is used to generate the income. Under these circumstances, the profits in excess of normal returns could be taxed in the parent jurisdiction where the IP is likely to have been developed. Normal returns are equated to income generated from simply purchasing and selling, and providing services or manufacturing. The proposed normal return would be calculated by multiplying eligible equity by a rate of return. Since investors would not accept a risk-free rate of return on an investment with an uncertain income stream, the report argues that the normal rate of return with respect to an equity investment should be a risk-inclusive rate of return (i.e. a risk-free rate of return plus a premium reflecting the risk associated with an equity investment).

The BEPS Report on Action 3 adds the following observations relevant to the distinction between normal and excess returns:

- The risk-free rate of return can generally be calculated by reference to an average of the government bond rate over several years;
- Risk-free rate of return varies by country and, in the CFC context, the rate of the country where the parent is located is most relevant given that the decisions are likely to be controlled by the parent;
- The equity premium represents the additional expected return an investor requires to be compensated for the uncertainty of the return from a particular investment;
- The equity premium varies across industries and depends on a company's leverage;
- The mechanical nature of this approach should be weighed against whether it could target shifted income with sufficient accuracy, as well as challenges with quantifying the normal return.

The United States had a similar proposal in its budget from fiscal years 2010 to 2015. The original proposal was to tax currently excessive returns earned on intangibles transferred to a low-taxed CFC, rather than allowing deferral of the returns. The view was that a more robust test was required to determine the amount of income that should be taxed in the U.S. as relying solely on a low effective tax rate threshold was not seen as a sufficient basis for targeting income shifting. A tax rate threshold does not distinguish between taxpayers that have made a substantial investment (property, plant, equipment) in local operations and those that have a minimal presence. An excessive return threshold was proposed as a means of making this distinction, and an excessive return could be determined by calculating the return in excess of a normal return on a CFC's measurable investment in a jurisdiction. The United States Joint Committee on Taxation questioned whether it was administratively feasible to apply a universal standard equally across all businesses and industries. Some of the measurement issues discussed are highlighted below:

- Since lead times between initial investment, commercialisation and profitability (which can be cyclical) vary by both industry and product, the time period over which the return on investment is measured would need to be determined.

- "Investment" would require a definition and two possibilities are highlighted: (i) a "balance sheet" approach that could leave out potentially relevant expenses, such as research and development, that a CFC incurs to earn the return on investment, and (ii) an "all monies expended" approach that could mitigate the potential for overstating an excessive return attributable to a transfer of intangible property from a related US entity by including expenses such as R&D.[25]

- An excessive return could either be measured broadly on a CFC's earnings in aggregate, or in a more targeted manner, i.e. based on earnings related to specific transfer of intangible property and the products generated from the use of the intangible.

- An excessive return could be defined by reference to risk, i.e. total return or total profit earned by the CFC comprises of a risk-free rate of return (yield on a US Treasury bond) plus a risk premium (return to compensate for undertaking risk on underlying investment). Linked to the arm's length principle and to address the mobile nature of risk, the proposal could be designed to target returns to risk as an excessive return. Two methods are suggested: (i) risk-adjusted transfer prices could be used as the threshold between a normal and an excessive return, and (ii) a residual profit split method where the excessive return is calculated by subtracting the CFC's residual profit split (determined with no regard to any assignment of risk to the CFC) from the actual CFC's return.

Perverse incentives could arise from using the return on investment as the basis for determining whether an excessive return exists. Making the product may yield a lower rate of return for the taxpayer in comparison to selling it after a contract manufacturer has produced it. This could result in a preference for making the product given the lower effective tax rate, even though a contract manufacturer could be a more economically efficient producer.

The latest version of the proposal in the fiscal year 2015 budget defined excess intangible income as the gross income from transactions connected with or benefitting from a covered intangible in excess of the costs (excluding interest and taxes) properly allocated and apportioned to this income increased by a

[25] An anti-stuffing rule was raised as being potentially necessary in this context. It would treat all foreign branches and disregarded entities as separate corporations, and was discussed as potentially mitigating the blending of high-return and low-return operations.

percentage mark-up.[26] By defining covered intangibles, the proposal sought to target the earnings generated from specific intangibles as opposed to an aggregate earnings approach. The exact percentage mark-up was not defined in the latest proposal, but the United States Joint Committee on Taxation (2013) points out that the Administration's legislative draft implied a mark-up of 50 per cent. Specifically, "income attributable to use or exploitation of intangibles may be considered excess returns only to the extent that such income exceeds 150 percent of costs attributable to such income, including research and development costs that are properly allocable to the line of business in which such income is earned".

5. Important questions for policymakers

The following section focuses on a set of questions that policymakers could consider when introducing tax policies that seek to apply differential taxation to normal and excess returns.

Does the normal/excess return distinction matter?

With theory supportive of applying different tax rates to normal and excess returns, the distinction is intended to lead to a more efficient tax system. If policymakers use differential taxation for the two types of returns, then interrogating what a normal return is and whether it is possible to distinguish it from excess returns is critical. Focusing on corporations, Kleinbard (2015) argues that the corporate income tax is essentially a tax on capital income that can, if not designed well, lead to a number of inefficiencies. With normal returns estimated to represent between 32-40 per cent of the corporate income tax base, applying a high CIT rate on the remaining 60-68 percent (excess profits) could have a big effect on CIT revenues and investment, particularly if the legislated threshold does not resemble the required rate of return. Distortions in investment behaviour are not only important for CIT revenues, but also for the potential macroeconomic consequences. It could be argued that positive effects may result from additional investment if governments overstate the normal rate of return and tax it at a zero CIT rate, thereby reducing effective tax rates on corporate equity. If the reverse is true, disinvestment could worsen unemployment and ultimately affect PIT revenues, as well as VAT revenues if retail sales are affected.

Is it possible to make the distinction?

Two key obstacles to defining a normal return are uncertainty and heterogeneity. Uncertainty arises from imperfect information and lack of predictability with respect to future returns. Policymakers are unable to observe the expected returns and opportunity costs faced by business and individuals. Summers (1987) showed that corporations use varying discount rates in their capital budgeting calculations.[27] Ninety-five respondents from the top 200 corporations listed in the Fortune 500 reported a range of 8 to 30 per cent.[28] Firms are also faced with the reality that returns on equity are unlikely to be constant over a particular time horizon. If a project is expected to earn a rate of return of 10 per cent over 20 years, even if the actual returns over the lifespan of the project turn out to be very similar to the expected return, it is unlikely that the rate of return remained constant for the entire period. Volatility in the rate of return earned on an annual basis is an additional reason why a fixed rate of return is likely to be an imperfect measure.

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[26] See the General Explanations of the US Administration's Fiscal Year 2015 Revenue Proposals for more details.

[27] The focus of the analysis was on discount rates used to calculate the present value of depreciation allowances. This is relevant given that such discount rates are what a business expects it will cost to raise capital and can be seen as equivalent to the required rate of return for an investment.

[28] With a mean of 17 per cent and median of 15 per cent, Summers (1985) noted that the reported discount rates were surprisingly high and far in excess of the prevailing after-tax nominal interest rate.

An additional layer is that investors' *ex ante* expectations rarely match *ex post* returns. As Knight (1921) puts it: "*It is not dynamic change, nor any change as such, which causes profit, but the divergence of actual conditions from those which have been expected and on the basis of which business arrangements have been made*".

Secondly, context is important and heterogeneity implies that equity owners are likely to have their own understanding of what a normal return constitutes. This would depend on the specific investment; how risk averse they are; the size of the firm; the industry and country / countries in which it operates; the ease with which capital can be raised; and what the next best investment opportunity is. The issue centres on how to measure the opportunity cost an investor faces. This requires understanding each investor, but that is not possible.

This may explain why the government bond rate is used as a basis for a normal return – it is relatively predictable and gives investors a certain return.

Is the distinction practical?

If it is possible to distinguish normal from excess returns in a uniform way across investors, firms, industries, countries and tax policy areas, the question becomes whether it is both desirable and practically feasible to incorporate it into tax policy. Tax policy design requires careful balancing between well-targeted and implementable policies that can be administered by a revenue authority without creating unnecessary compliance costs for taxpayers. This could lead to a scenario where government tries to determine an average rate to apply across the board. One argument for not including a risk premium component into a normal return is that, by including it, it would become administratively burdensome to determine a different rate for each business (OECD, 2007).

If the assumption is that flexibility is required due to heterogeneous individuals and firms, a simple practical solution (e.g. applying an average to all firms) may result in an imperfect measure.

Implications of an imperfect measure

Setting an economy-wide normal rate could entrench barriers to entry that already exist. For example, if all firms in a particular country are only taxed once returns exceed a legislated rate of return, the capital owners of a large firm with a relatively lower required rate of return could be incentivised to over-invest. This is because the difference between the legislated normal return and the rate of return required by investors is not taxed. The opposite is likely to be true for the capital owners of a small firm where the required rate of return is higher than the legislated normal return. Here, the capital owners may consider the tax burden on returns to equity too high, which may discourage investment. This raises another question – should the normal rate of return be linked to the required rate of return faced by each firm when making a decision to invest? If not, what would be a more appropriate rate?

Applying differential taxation to two distinct elements of returns separated by a standard threshold rate that applies to all businesses could result in a "cliff-edge effect". A potential means of reducing the distortionary effects could be to introduce a sliding scale based on return to equity, as is the case in Angola (Daniel et al., 2010). Kleinbard (2015) suggests using a higher normal return for smaller firms and Belgium applies this principle in its ACE (Zangari, 2014). This is not a perfect measure and could have other unintended consequences such as fragmentation, where businesses seek to be classified as a small business.

Getting the threshold rate of return for applying differential taxation to normal and excess returns wrong could have consequences. This could be in terms investment, competitive markets, the choice

between debt and equity financing, and a business' preference for expensing versus capitalising. These are important issues for policy analysts to consider.

Is an imperfect adjustment better than no adjustment?

This is where Figure 1 becomes important. It is assumed that the normal rate of return is defined for tax purposes as the average for the five hypothetical firms. If government taxes normal returns at a zero tax rate and returns above this level at 80 percent, a large manufacturing firm (E) may be encouraged to over-invest given that the firm-specific required rate of return is below the normal return assumed by the government. This is because the rates of return in excess of the firm's required rate and the average will not be taxed (assumes that there are no capital constraints). The opposite would be true for the start-up (A), where under-investment is likely given that the cost of investing is not fully compensated for by the tax system. Furthermore, the rate of return required to enable the payment to factors of production would be partially taxed. Such a firm may already be constrained by a lack of capital.

Daniel et. al. (2010) emphasise this point – the inherent problem with not incorporating company specific considerations is that it is unlikely that the threshold rate of return chosen will correspond exactly to an investor's own minimum required rate. As a result, the regime would subsidise those with a return on equity lower than the threshold rate, while the opposite would be true in instances where the return is higher.

A similar example could be used in the context of an ACE. However, instead of potential over-investment by firm E, the result may be over-capitalisation, which could be exacerbated by the international context where the firm may shift cash to finance new equity in the parent firm. Anti-avoidance rules are typically used to prevent this from happening, but some countries' rules are less onerous than others (Zangari, 2014). If an ACE is not commensurate in terms of risk for equity capital, the desired country-wide debt-to-equity ratio may not be achieved.

Does an imperfect measure still help reduce some of the distortion?

The choice of one uniform rate will result in winners and losers and it is unlikely that any measure will be perfect, so consideration is required of whether the distinction will at least reduce some of the distortion. This requires knowledge of what the current distortion is, i.e. what is the counterfactual? If it is assumed that the counterfactual is a tax on all corporate profits levied at a rate of 25 percent, there would be no variation in the tax rate based on the level of return. If all firms in Figure 1 are taxed fully on their return to equity, without compensation for the cost of equity, one distortion that would arise is the choice to place a heavier reliance on debt for capital. By introducing an ACE and setting the notional cost of equity finance at the average for the five hypothetical firms, there are likely to still be distortions as pointed out in the previous example. However, the provision of some relief for the cost of equity in comparison to no relief is likely to at least reduce some of the distortion. The degree to which the debt-to-equity ratio is reduced would need to be weighed up against the debt-to-equity ratio that government may deem to be optimal, as well as the revenue lost from the ACE. Hence, while not perfect, defining a normal rate of return may reduce some of the distortion, but create others. Lost revenue resulting from an ACE would require increasing taxes on other economic activity to make the policy change revenue neutral.

Is the connection to the return on a government bond meaningful?

While a government bond rate is close to being a riskless rate of return, why is the government bond rate often chosen as the dividing line between normal and excess profits? Perhaps the best explanation is because it can be observed. At the core of the problem is information asymmetry. Economic rents / excess profits cannot be observed by the government, which makes drawing a dividing line between normal and

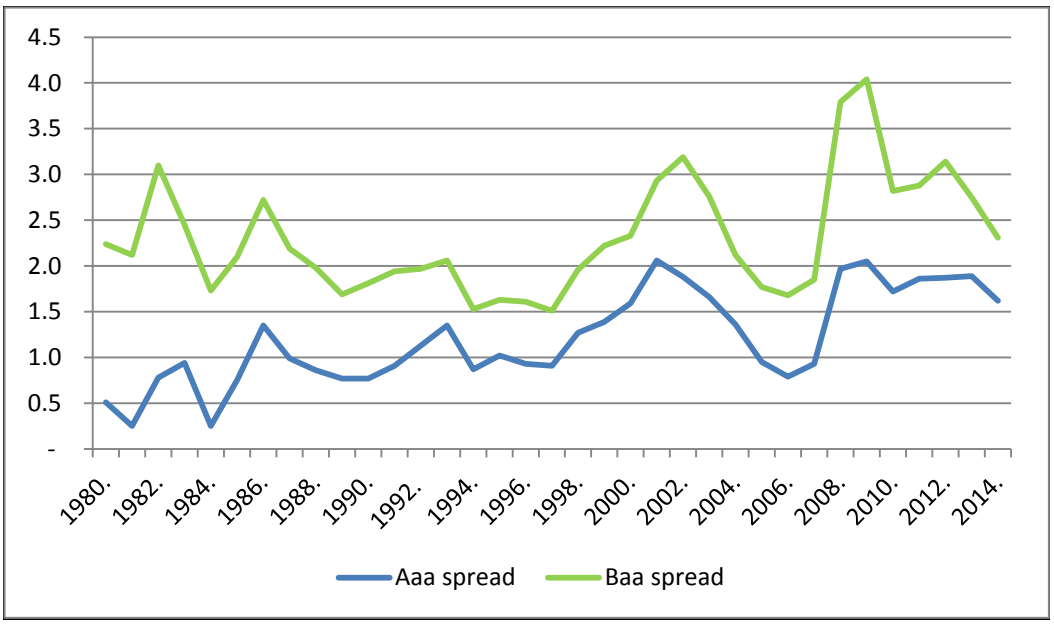
excess profits very difficult. The default definition that policymakers tend towards is the risk-free rate of return associated with a government bond, but taxpayers are unlikely to consider this appropriate, particularly as it bears no relation to a firm's required rate of return on equity, let alone on debt in many cases. Also, some government bond rates reflect significant sovereign risk. Some proponents of differential taxation suggest adding a few percentage points to reflect risk, which is applied in practice too. Even so, the direct link to a government bond rate is not ideal.[29]

Cooper (1998) states that the cost of debt is different from both the promised yield and the risk-free rate. Thus, if the cost of debt differs from the risk-free rate, it is unlikely to be adequate for equity investors, as equity is more risky than debt and thus demands higher returns. In the international context, the cost of debt and its relation to the return on long-term government bond rates was raised in discussions for Action 4 of the OECD/G20 BEPS Project. In many cases, there appears to be no relationship. If this is the case for debt, it is even less likely that there will be any relation between the return on a government bond and the return on equity for a particular firm. Highlighting changes in the Australian 10-year government bond rate to illustrate the point, Neubig and Cline (2010) show that indexing the normal rate of return to a government bond rate is not justified. While the Australian bond rate increased from 6.6 to 10.9 percent in just six months during 1994, it fell to 5.2 percent between 1994 and 1998. These changes have no bearing on the hurdle rate of return for a long-term committed investment.

The factors that determine the interest rate on a government bond are not closely tied to the factors that determine a firm's cost of borrowing. Figure 2 shows how the spread between US corporate bond rates and the US government long-term (10 year) bond rate have moved between 1980 and 2014. The spreads vary over time – in the period of strong global economic growth in the early 2000s, spreads dropped, but this trend was reversed sharply following the financial crisis in 2008. These are public firms and the costs of borrowing for private firms are likely to be quite different, particularly for smaller firms where risk is viewed as higher. This shows that the return on a government bond bears little relationship to a firm's cost of debt financing and is likely to be even further removed from the cost of equity financing.

[29] Suggestions to incorporate risk include Kleinbard's (2015) proposal for a business enterprise income tax and the Mirrlees (2010) definition of a normal return for both debt and equity, while in practice both Italy adds a few percentage points to the return on the government bond to calculate the ACE.

Figure 2: Average spreads between U.S. corporate and government bond rates for selected periods



Is defining normal returns possible in an international context?

The issue is further complicated by the international context businesses operate in. If a reference rate is determined as the government bond rate for instance, which government bond rate would be applicable for a (multinational enterprise) MNE – the country where the lender is located; where the borrower is located; or where the parent is located? If borrowing by a domestic subsidiary is guaranteed by the parent of a well-established MNE in a large economy, the cost of finance may be considerably lower and would not reflect the cost of borrowing of a similar-sized domestic competitor, let alone the return on domestic government bonds.

The prevailing cost of capital can be derived from international markets, but is this relevant given the location and investment-specific risks that are often quite unique to a particular business? In addition, a MNE may have operations spanning multiple continents. What is considered a normal return in a country where a subsidiary operates may be viewed differently in the country where the parent company is located. Local conditions, including the political and investment climate, as well as interest rates, can influence the risk/return profile of investment opportunities. This is potentially an additional reason why many policymakers settle on a government bond rate as it is generic in the sense that each country has a government bond, but also country-specific as it uses the domestic rate. The difficulty is when a firm has affiliates in more than one country – which rate should be chosen?

6. Conclusion

Theory tells us that applying differential taxation to normal and excess returns could lead to a more efficient allocation of capital. This normal versus excess return concept is increasingly used in tax policy analysis, proposals and practice. However there is no universally accepted definition for normal returns. More analysis and debate on what a normal return constitutes is important for principles-based tax policy design. If tax policy design is based on theoretical concepts of efficiency, but ignores the rates of return

that individuals and businesses require to commit their capital to an investment, there are likely to be unintended economic consequences.

Taxpayers react to the wedge that taxation drives between before-tax and after-tax returns. Taxpayers' ability to respond to changes in the after-tax rate of return depends on how easy it is to shift their tax burden onto another party; access alternate sources of capital; and/or use available capital for an alternate investment opportunity. Unintended negative economic consequences, such as a decline in investment, could lead to reduced tax revenues.

Theory is based on simplifying assumptions that are often removed from how individuals and businesses actually behave. Noting the difference between theoretical findings or recommendations and actual tax policy, Mankiw et al. (2009) point out that "*drawing policy conclusions from a model with a representative consumer can in some cases lead to trouble*". It is important that the taxpayer perspective is well integrated into tax policy analysis and design. While it may not be possible or desirable for governments to match the required rate of return for each business, an improved understanding of the potential distortions that could arise from setting a normal rate of return that bears no resemblance to required rates of return is likely to assist policy analysts in designing tax policy in a way that minimises possible distortions.

A survey of the literature and country practice shows wide support for including a risk element in the normal rate of return, which is typically achieved by adding a margin to the government bond rate. The change in the spread between US government and corporate bond rates over time shows the significant difference between the return on a government bond and a business' cost of debt. Hence, there is also likely to be a difference between a government bond rate and a firm's required return on equity, which includes a risk premium. This difference will also vary depending on whether the firm is a small private one or a large MNE.

The concept of normal versus excess returns is currently used interchangeably across tax policy areas, including resource taxation, CFCs and the corporate debt bias. These opaque terms should be clearly delineated and closely tied to the specific underlying policy objective. For a CFC generating very high returns on IP it did not create, but which is located in a small tropical paradise where the IP is looked after by two administrative staff members, the question of "how to determine what excess profits are?" is delinked from what the notional cost of equity finance should be in the ACE context.

Even though trying to define normal returns is difficult, some countries seem to have designed their tax systems in ways that do not appear to result in large economic distortions. For example, Norway has managed to tax rents and generate considerable government revenue, without appearing to negatively affect the local oil industry. Albeit specific to a particular industry, tax policy analysts could benefit from studying such cases and undertaking more analysis to better inform the tax policy debate. If policymakers opt for differential taxation (for normal and excess returns), designing the policy to minimise potential economic distortions will be critical.

A large part of the practical problem is uncertainty, information asymmetry and heterogeneity. Governments cannot observe business' and individuals' required or actual rates of return, and the returns that the businesses and individuals expect to make *ex ante* are in most cases very different from actual returns *ex post*. If it was possible and administratively feasible for government to observe the *ex ante* hurdle rate of return that each business and individual would be satisfied with earning, another unanswered question still remains. Policymakers have a responsibility to consider wider implications than striving for just economic efficiency. To fund public goods, such as transport systems, hospitals and education, government needs to raise a certain level of revenue through taxation. An objective in doing so, in addition to efficiency motives, is revenue buoyancy, fairness and stability.

Governments need to consider the effects of policy across different types of taxpayers. If the rate for an ACE's notional interest deductions is set lower than the required rates of return for the majority of businesses, the debt bias will remain. However, providing a higher rate may not be feasible given the associated loss in tax revenue. There will always be winners and losers when policies are designed based on the average firm or individual. What is important is for policy analysts to understand whether the benefits of trying to apply a standard to a group of taxpayers with the objective of removing a particular distortion outweigh the costs, so that at least some of the distortion is removed.

Given the potential consequences of applying a normal rate of return – regardless of whether it determines the level above which a higher tax rate applies; defines the notional cost of equity finance; or sets the level at which an individual would be indifferent between giving up on an exciting invention idea – more exploration of this concept is needed for its importance in tax policy design. Defining a normal return is beyond the scope of this paper. The intent is to generate more discussion and thought on a concept that is increasingly used in tax policy, but for which no universally accepted definition exists.

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