

SPRING 2017
NEW YORK UNIVERSITY
SCHOOL OF LAW

“International tax post-BEPS: Is the corporate tax really all that bad?”

Ray Rees, University of Munich

Richard Vann, University of Sydney Law School

May 1, 2017
Vanderbilt Hall – 208
Time: 4:10 – 6:00 p.m.
Week 14

SCHEDULE FOR 2017 NYU TAX POLICY COLLOQUIUM

(All sessions meet from 4:10-6:00 pm in Vanderbilt 208, NYU Law School)

1. Monday, January 23 – Lily Batchelder, NYU Law School. “Accounting for Behavioral Biases in Business Tax Reform: The Case of Expensing.”
2. Monday, January 30 – Mark Gergen, Berkeley Law School. “How to Tax Global Capital.”
3. Monday, February 6 – Alan Auerbach, Berkeley Economics Department. “U.S. Inequality, Fiscal Progressivity, and Work Disincentives: An Intragenerational Accounting.”
4. Monday, February 13 – Allison Christians, McGill Law School. “Human Rights at the Borders of Tax Sovereignty”
5. Tuesday, February 21 – Jason Oh, UCLA Law School. "Are the Rich Responsible for Progressive Marginal Rates?"
6. Monday, February 27 – Stephen Shay, Harvard Law School. “‘A Better Way’ Tax Reform: Theory and Practice.”
7. Monday, March 6 – Scott Dyreng, Duke Business School. “Trade-offs in the Repatriation of Foreign Earnings.”
8. Monday, March 20 – Daniel Hemel, University of Chicago Law School. "Federalism Safeguards of Progressive Taxation."
9. Monday, March 27 – Leonard Burman, Urban Institute. “Is U.S. Corporate Income Double-Taxed?”
10. Monday, April 3 – Kathleen Delaney Thomas, University of North Carolina Law School. “Taxing the Gig Economy.”
11. Monday, April 10 – Julie Cullen, UC San Diego Department of Economics. “Political Alignment and Tax Evasion.”
12. Monday, April 17 – Miranda Perry Fleischer, University of San Diego Law School. “The Libertarian Case for a Universal Basic Income.”
13. Monday, April 24 – Joel Slemrod, University of Michigan Business School. “Taxing Hidden Wealth: The Consequences of U.S. Enforcement Initiatives on Evasive Foreign Accounts.”
14. Monday, May 1 – **Richard Vann, University of Sydney Law School. "International tax post-BEPS: Is the corporate tax really all that bad?"**

International tax post-BEPS: Is the corporate tax really all that bad?

Draft not for quotation

Ray Rees¹ and Richard Vann²

Abstract

The corporate income tax has been getting a particularly bad press from academic economists for over three decades, as one of the most inefficient tax instruments currently used by governments. The criticism of the corporate income tax has been matched by a similar bad press for taxation of capital income generally. More recently these views have come to be accepted both at the national and international levels by government policy makers, who indeed have become strong advocates of such changes.

At the same time as this criticism has become more insistent in several countries based around international distortions produced by the corporate income tax, there has been public outrage against tax avoidance by multinational enterprises to which the response was the launching of the OECD/G20 Base Erosion and Profit Shifting (BEPS) project designed to shore up the corporate income tax. Perhaps to defend against claims that this is just politics to secure re-election, two of the BEPS 15 Action items have involved policy examination of the corporate income tax and seem to represent a reconsideration of the view that it is particularly inefficient.

¹ Professor of Economics (emeritus), Faculty of Economics, University of Munich, Adjunct Professor, University of Oslo, Research Affiliate, University of Sydney Law School.

² Challis Professor of Law, University of Sydney Law School, Global Professor of Law, New York University Law School.

1. Introduction

The corporate income tax has been getting a particularly bad press from academic economists for over three decades, as one of the most inefficient tax instruments currently used by governments. The criticism of the corporate income tax has been matched by a similar bad press for taxation of capital income generally. The reform prescription generally flowing has been a switch away from the corporate income tax and/or capital income tax to somewhat exotic (and more or less incomprehensible to the general public) alternative tax forms for corporations such as the ACE and cash flow taxes with the recently added destination twist, a general consumption tax, labour income taxes or (in the Australian case) taxes on land. More recently these views have come to be accepted both at the national and international levels by government policy makers, who indeed have become strong advocates of such changes.

At the same time as this criticism has become more insistent in several countries based around international distortions produced by the corporate income tax, there has been public outrage against tax avoidance by multinational enterprises to which the response was the launching of the OECD/G20 Base Erosion and Profit Shifting (BEPS) project designed to shore up the corporate income tax (OECD 2013). Perhaps to defend against claims that this is just politics to secure re-election, two of the BEPS 15 Action items have involved policy examination of the corporate income tax and seem to represent a reconsideration of the view that it is particularly inefficient.

In this paper we briefly trace the development of the critique of the corporate income tax and its influence on government policy makers in section 2. Then in section 3 we examine two recent Australian Treasury studies specifically designed to lay the groundwork for a cut in the corporate income tax rate, which in our view demonstrate both the flaws of much of the modelling behind the view that the corporate income tax is highly inefficient and that government policy makers seem to be crossing the border from technical advisers to advocates. In section 4 we look at the BEPS analysis of the policy of the corporate income tax, which points to some of the same flaws in the modelling, and ask whether it represents a redirection of the view of the corporate income tax for government policy makers. Section 5 concludes.

There is obviously an Australian bias in the paper, which, apart from one of us being Australian, is explained by the fact that this debate matters more in Australia than in most other countries. The Australian corporate income tax is levied at the rate of 30% which is

roughly the average rate that applies internationally among developed/large countries (the unweighted average being somewhat below 30% and the weighted average somewhat above). It raises around 15-20% of total Australian tax revenue, the third highest in the OECD after Chile and Norway (OECD 2016 page 109). Australia is resource rich like those countries but also has a full imputation system which refunds Australian corporate income tax paid by resident companies to resident shareholders on distribution and generally is seen as a significant curb on tax planning by Australian companies. Because of other structural features of the Australian income tax system the corporate income tax rate also represents the de facto rate of tax on capital income for resident high wealth families who no doubt have been quite happy for the corporate tax debate in Australia to focus on the international arguments.

If nothing else the Australian case may question the use of a one model fits all countries style of argument, which has been a feature of the debate about the corporate income tax. This paper is, however, part of a larger project which looks at capital income taxation involving also Professors Patricia Apps, and Graeme Cooper of University of Sydney Law School. That projects analyses the economic models that are prevalent in the capital income space generally and raises similar issues about them. It also looks at cross country comparisons and suggests that the kind of analysis in this paper is not necessarily Australian specific.

2. Critique of the corporate income tax and its influence on government policy makers

In this section we first discuss the traditional academic approach to tax reform generally, especially but not only in the legal academy, the shift in the academic economic approach since the 1970s and the penetration of this new thinking into official and political discourse. Then we turn specifically to the corporate tax, setting out the traditional approach to the corporate income tax, the implications of the general shift that was first felt significantly in relation to the corporate tax in the 1980s, and the penetration of these specific ideas into official and political thinking.

2.1 Shift in general approach to tax reform

Traditionally tax reform in Australia, as elsewhere, has been based on the idea that a comprehensive tax system is best—tax everything of the same kind (such as income or

consumption) in the same way, and this will inevitably enhance economic efficiency as it brings about the famous “level playing field” and to some degree equity as it treats like taxpayers equally. Hence, in the broad, the two most recent comprehensive tax reforms in Australia fit this pattern: the Labor Government 1985 reform can be characterized as the application of this idea to the income tax (including the introduction of capital gains tax, fringe benefits tax, the foreign tax credit and the imputation system of company-shareholder taxation), and the Liberal National Government 1998 reform can be characterized as the application of this idea to consumption tax and further application to income tax (the introduction of a value added tax called the Goods and Services Tax (or “GST”) in place of a narrow based wholesale sales tax on goods, more or less complete abolition of accelerated depreciation and fairly full accruals taxation of financial instruments. During much of this period the tax rate was essentially seen as a value judgment independent of the definition of the tax base stemming from society’s preferences for the size of government and for redistribution of wealth through the tax and transfer system, though there was an underlying theme of lower tax rates on a broader tax base to produce equivalent revenue.

Modern economic thought on taxation based on work in welfare economics starting in the 1970s differs in a number of critical ways from this traditional approach. First, the idea that it is possible to tax all income or all expenditure (which the “comprehensive” tax base idea suggests) is rejected. Household production (work in the household by the members of the household) and much household consumption (leisure such as lying on the beach at least in warm and sunny countries) cannot be taxed for a variety of reasons, notably because they cannot be reliably observed or measured by the government as they are outside the market economy. Hence individuals have important untaxed production and consumption (leisure) choices available to them, and all real world taxes inevitably lead to economic distortions. The level playing field is not possible, and tax rates matter to efficiency due to the untaxed alternatives available through an individual’s choices.

Another assumption underlying the comprehensive tax base, that the size of the economic response to taxes is the same across different kinds of income or consumption, is nowadays also rejected. Economic distortions depend on how sensitive demand or supply is to taxation. Because the demand for necessities is typically found to be unresponsive to price changes, taxing them produces less economic distortion than taxing luxury goods. Our demand for food is less sensitive to tax than our demand for French perfume. While taxing food under the

GST was ultimately rejected in Australia for equity (fairness) reasons, there are many other areas where this style of argument is critical to tax reform.

One important feature of the analysis is the rejection of another important underlying assumption of the comprehensive tax base – that the burden of particular taxes generally landed on the intended target. Ultimately all taxes are borne by individuals, even though most taxes are collected in the first instance from business entities. The traditional approach was that sales taxes ended up being borne by the firm’s customers, taxes on payroll (including income tax withholding on wages) by the firm’s employees, and the corporate tax by the firm’s shareholders.

Finally, the approach also means that taxation cannot be analysed in isolation from the rest of the economic system. Most notably, the tax and transfer (social security) systems need to be viewed as a whole, and indeed it is often necessary to take into account other economic policies in evaluating the economic impacts of the system on individual choices (housing being one example which is the subject of much debate and contention in Australia).

The welfare economics approach to taxation means that there are no longer any accepted absolutes in tax policy analysis like the comprehensive tax base. Analysis of tax reform thus requires sophisticated theoretical and empirical studies to substantiate claims made in relation to the economic efficiency and distributional consequences of proposed tax measures. This shift in thinking has significant implications for the lobbying that always accompanies tax reform. On one side, it means that proposals that would be characterized as “concessions” under the comprehensive tax base and likely to be rejected in the past for that reason may receive fuller consideration (the tax treatment of research and development being an important example). On the other, lobbyists will be expected to provide supporting economic and empirical analysis for their proposals. This is not to say that the comprehensive tax base idea is now entirely discounted, rather it is no longer the gospel that it was, in the Australian case as recently as the 1998 tax reform.

This new approach was first felt officially in Australia in a major way in a general tax reform exercise in the period 2007-2009 in a committee largely composed of bureaucrats titled Australia’s Future Tax System Review, which produced its Report in 2009. The same influence was evident in the US in the Report of President’s Advisory Panel on Tax Reform

(2005).³ In the UK with typical eccentricity, major tax review seems now to be left to the private sector supported by government money, and the new approach was evident earlier, with the latest effort being the report of the Mirrlees' Review (2011).⁴ In the event the proposals of these exercises suffered a similar fate – they influence debate, both in the academy and in official discourse though not so much political discourse, but to date have not produced any significant change in enacted tax policy (except in Australia for the short-lived Minerals Resource Rent Tax and in some tax-mix shift in Australia and the UK away from the income tax towards indirect consumption taxes).

Now that we have moved beyond the comprehensive tax base in official policy terms in Australia and elsewhere, not surprisingly the new thinking gets converted to slogans such as capital is mobile, labour is immobile (with the implication of taxing income from capital at lower rates or not at all, while applying full progressive rates to labour income or – to judge by real tax systems – an inverted U-shape pattern of rates with the highest tax rates on middle income earners). The very thinking underlying the modern approach means, however, that such slogans can never be trusted. As circumstances change so does the analysis of tax changes needed to achieve desired economic efficiency and distributional outcomes, even if the desired outcomes remain the same. The lack of absolutes in the new approach means that conflicting slogans will be everywhere, yet the “proof” may be a long time coming and not comprehensible to the public or the politicians—which may be one reason why the comprehensive tax base idea has remained influential in official policy rhetoric to this day, alongside the new economic thinking on taxation.

The discussion below suggests that caution is required in basing significant policy changes on the new slogans. Indeed there have been sceptical voices both in the economics profession and in (semi-)official reports⁵ yet the slogans are increasingly influential politically and promoted officially.

³ Glimmerings of the modern approach appeared much earlier in US Treasury (1977), but the 1986 tax reform follows the comprehensive tax base approach, US Treasury 1984, President's Tax Proposals 1985.

⁴ This review was intended as a 30th anniversary revisit of the similar exercise in the Meade Report (1978).

⁵ In the context of the Mirrlees' Review, compare Chapters 6, 9 and 10 in Adam et al 2010.

2.2 Shift in approach to corporate income tax

The traditional view of the corporate income tax was simply an extension of the comprehensive income idea. Assuming that the economic incidence of the tax was on shareholders, the corporate tax was justified in a realisation based income tax as necessary to prevent deferral of tax by shareholders on income realised and retained at the corporate level and as a convenient tax-treaty-consistent method of collecting taxes on non-resident shareholders. The main debate initially was about the “double taxation” of dividends that generally prevailed after World War II and produced various distortions: between retention and distribution, between debt and equity and for choice of business structure. With regard to setting the corporate tax rate, the dilemma was between a rate that matched the top individual income tax rate for residents (relevant to resident shareholders) and a lower rate relevant to non-resident shareholders not particularly for tax competition reasons but because the redistributive function of the higher rates of individual income tax was concerned with redistribution from residents to residents.

The new thinking about taxation produced a wave of criticisms of the corporate tax, including debates about distortions in the business tax base, the different tax treatments of various ways of financing business investment, as well as views that there was no need to be concerned about the double taxation of dividends (the new view of dividends).⁶ One increasingly influential strand of the criticism focused on the international aspects of the corporate income tax. Because of public debates about various policy issues raised by globalisation including for the corporate income tax and the widespread cutting of corporate tax rates internationally from mid-40% to mid-30% driven largely by the US 1986 tax reform, tax competition and its implications for the corporate income tax became an important policy issue.

The economic models deployed in these debates assumed perfect capital markets, perfectly mobile capital flows, and a world of small open economies. Various consequences flowed from the analysis along with policy prescriptions such as:

- it is not possible to tax the normal return to capital (one of the variety of arguments for an allowance for corporate equity);
- it is not possible to tax mobile factors and the corporate tax is shifted to immobile factors (so the corporate tax should be replaced in part by taxes on immobile factors and rents to the extent they are recognised in the models);

⁶ For surveys of the first 25 years of this literature see Head and Kreyer (2009), OECD (2007).

- the marginal investor in a local company is a non-resident (so an imputation system giving credits only to resident shareholders is a waste of time since the marginal investor does not benefit from imputation).

Other propositions in the literature include: if the marginal investor is tax exempt in the home country shareholder taxes can be ignored and the corporate tax is all that matters, which is a convenient of dismissing shareholder taxes from the analysis; countries do not have different costs of capital as there is a single global rate; the corporate income tax is often borne by labour, particularly if capital is a complement of labour; the corporate income tax involves high marginal excess burdens. In short at the extreme the corporate income tax is doomed to extinction.

The messages from the new economic literature in relation to the corporate income tax seem to have penetrated into official and political discourse earlier than the broader tax reform prescriptions, as international competitiveness has been often used to justify tax changes in recent decades. The OECD published a large study in 1991 entitled *Taxing Profits in the Global Economy*, which seemed to endorse many of the conclusions in the literature, though even 15 years later there was still some hesitation in accepting some of the conclusions (OECD 2007, compare OECD 2010 where the hesitation seems to have disappeared).

Over time the analysis has been influential in convincing countries to keep cutting corporate income tax rates. One awkward problem for the analysis is that corporate income tax revenues remained fairly consistent over the period of the criticism after taking into account the ups and downs of the international economy, OECD 2016 pages 108-109. One explanation that has developed is that as corporate income tax rates have been lowered internationally, this has created an incentive to use the corporate form particularly for resident high wealth owners of capital. This incentive has obvious redistributive implications, but as the focus of most of this literature is on efficiency effects those effects seem to be little noticed.

3. Selling Tax Policy: Recent Tax Reform Modelling by the Australian Treasury

It seems to us fair to say that a goal of the Australian Treasury over the last couple of decades has been that of reducing income tax rates while replacing the lost revenue by raising the

Goods and Services Tax (GST), which is a VAT with a significant range of exemptions, and more recently to fund a cut in the corporate tax rate by raising the GST tax rate. The stated aim of that policy is “to increase productivity and growth in the Australian economy”. It is perhaps a tribute to the perceived sophistication of the Australian electorate that the case for this “reform” has been put forward not only in the conventional rhetoric of political speechwriters, but also by a series of Treasury Working Papers (TWPs) setting out the economic modelling that claims to support the policy, indifference curves and all. The culmination of all this was an announcement in the 2016 budget of a cut in the rate of company income tax from 30% to 25% over a 10 year period (Australia Budget 2016 Page 41), though nothing specific was said about how the resulting revenue shortfall would be recouped. In all likelihood this will be through increases in labour income taxation, disguised by bracket-creep. In the result the Parliamentary process for the time being has produced a staged reduction in the rate over the next three years to 27.5% for SMEs with a turnover up to AUD 50 million (~USD 37.5 million), Australia 2017.

In this section we give a critical account of the work presented in these white papers.⁷

3.1. TWP2015-01: main results

Essentially the same model underlies both the TWPs discussed here. The differences in the assumptions and results reported in them reflect, we would claim, the dynamics of the political debate that took place over the period 2015/16, rather than any serious updating of data and methodology. This first TWP is titled “*Understanding the Economy-Wide Efficiency and Incidence of Major Australian Taxes*”, though, as we will argue, this title claims a lot more than the paper in fact delivers.

It uses a static Computable General Equilibrium (CGE) model of the Australian economy to estimate the marginal excess burdens⁸ (MEBs) of five major taxes:

- the company income tax;
- the tax on labour income;
- the GST;

⁷ In particular TWP2015-01 and TWP2016-02. We also draw upon a number of consultancy reports that were important inputs into the work reported in these papers.

⁸ AUD-value of the deadweight welfare loss associated with raising a marginal AUD1 of revenue from the tax in question. It is based on the equivalent variation measure of welfare loss.

- a tax on land;
- stamp duty, a tax on transactions involving real property.

The MEBs are estimated not only at the existing levels of the taxes, but also as *ceteris paribus* functions of a wide range of values of each of the taxes in question. Moreover, the paper provides the results of sensitivity tests on the MEB estimates based on variations in the main assumptions made in calibrating the model.

The central estimates of the MEBs of each tax at existing tax rates are as follows⁹:

Tax:	Company Tax	Labour income tax	GST	Stamp Duty	Land Tax
MEB (AUD)	0.50	0.21	0.19	0.70	-0.10

A set of taxes comprising a tax system is *efficient* in economic terms if, ignoring issues of fairness in the distribution of the tax burden across households, it minimises the aggregate deadweight welfare loss it generates. This in turn requires that the MEB's of each tax are equalised: if tax A has a higher MEB than tax B, then we can reduce aggregate deadweight loss, while keeping tax revenue constant, by raising an extra \$1 from B and reducing the revenue of Tax A by a corresponding \$1. On this criterion, the figures in the above table suggest that the Australian tax system is highly inefficient. The household could be made better off by reducing stamp duty and company tax and increasing land tax, GST and the tax on labour income until the figures in the table are roughly equal.

Thus, it is argued, these figures surely provide support for a policy of cutting company taxes and recouping the revenue with an increase in the GST. Of course, the overall effects of changing several taxes simultaneously will not be given simply by the sum of the individual effects, because of the complex interactions between taxes that take place in a real economy. However, the CGE model used in the study does take these interactions into account to some extent at least, though we argue below that the model is seriously deficient in its ability to take account of some of the most important forms of interaction. We now turn to a more detailed discussion of the structure of the model.

⁹ Ibid. Chart 33, Page 53. The values show the cost to the consumer of raising a marginal \$1 of tax revenue by the tax in question, over and above the loss of the \$1 of tax revenue, which is assumed to be returned to the consumer as a lump sum.

3.2. Critique of the model

The model contains quite a sophisticated representation of the Australian production sector. There are 111 representative firms, each corresponding to a different good or service. Firms can employ up to twelve different primary factors - labour, eight types of capital and three fixed factors - and are owned by the domestic household or by foreign households. However, its model of the household sector is the Achilles heel of the analysis. It assumes a single representative taxpayer, who supplies all labour, consumes all goods and pays all taxes, except for capital income taxes paid by foreign owners of firms. This failure to take account of how *heterogeneous* households really are is a crucial limitation in a model that purports to derive realistic recommendations for tax policy.¹⁰

In a theoretical analysis a representative household model can sometimes be used to give useful insights into some aspects of tax analysis concerned purely with economic efficiency, but when the policy proposal is to reduce company income taxation and replace the lost revenue by higher taxes on labour income and/or consumption,¹¹ such a model is seriously deficient, even when attention is limited to pure efficiency effects.

First, it allows an important issue, that of exactly how the rate structure of the existing piecewise linear tax system would be changed, to be kept out of the discussion. This is a significant omission if, as has turned out to be the case, this is the measure chosen to maintain revenue neutrality. In the past three decades, reforms to the Australian tax system have led to a significant redistribution of the tax burden away from the top and towards a wide range of the middle deciles of the income distribution.¹² This was achieved largely by cutting top tax rates and substantially raising the bracket limits at which they cut in, which is equivalent to giving a lump sum income increase to the individuals in the top brackets, while introducing a tax offset to widen the zero-rated threshold for low income earners.

¹⁰ The authors of the working paper acknowledge that the representative household is a strong assumption but do not seem to fully appreciate its implications for their results. For example they claim that not taking account of the progressive tax rate scale will “likely *underestimate* the MEB of the personal income tax” (our italics) but no analytical or empirical basis is given for this remark. It is in fact contradicted by the evidence on the relationship between wage rates and labour supply elasticities - see Andrienko et al. (2016).

¹¹ Note that the GST is not a proportional tax on aggregate consumption expenditure as in an idealised VAT, because of the significant range of exemptions, on food, health services, education, childcare and water, sewerage and drainage services. In effect it is a system of differentiated commodity taxes.

¹² For detailed discussion of these reforms see Apps and Rees (2013).

Exactly how the rate structure of the labour income tax would be affected by the increase in labour income taxation is very relevant to the evaluation of the efficiency effects of the reform policy, as captured in the MEBs.

This is more important, the greater the degree of variation across the income distribution in the responses workers make¹³ to changes in tax rates on both consumption and labour income.¹⁴ In this respect, the failure of the analysis to take into account the fact that the majority of the working population lives in households with two earners, with a great deal of heterogeneity in the labour supplies of secondary earners, is a major weakness.¹⁵

The working paper replaces the entire piecewise linear income tax structure by a flat tax rate of 21.5%, based on a weighted average of actual marginal tax rates. There is no estimate given in the paper of the extent to which the variations in labour supplies, earnings and tax revenues generated in the model by varying this average marginal tax rate could approximate the results that would be obtained by variations in the underlying actual piecewise linear tax system, given some clearly articulated assumptions about exactly how this would be done.

Second, and closely related to this, it is the case that the considerable heterogeneity in the responses to increased labour and consumption taxes by different groups of workers cannot be taken into account in a representative household model. A meta-study on labour supply elasticity (LSE) estimates of five different groups of workers in Australia, cited in the working paper,¹⁶ gave the following results on LSEs averaged across the individual studies' estimates for the groups indicated:

Work Group	Married Men	Married Women	Single Men	Single Women	Single Parents
Mean LSE	0.00	0.30	0.28	0.34	0.52

This is reinforced by the fact that LSEs also vary significantly across the wage distribution.¹⁷ The representative household can have only a single elasticity value, and the methodology in the working paper resulted in an estimate of 0.15, which grossly overstates the elasticity of

¹³ Their *elasticities of labour supply* with respect to the after-tax return to work, which is reduced by increased taxes on both labour income and consumption.

¹⁴ See Andrienko et al (2016) for more on this.

¹⁵ See Apps and Rees (2009), (2016) for further discussion of the issues for tax policy raised by this.

¹⁶ Dandie and Mercanti (2007), reported in TWP2015-1 page10.

¹⁷ See Andrienko et al (2016).

married men and understates that of everyone else. This was then used to derive the deadweight losses that underlie the MEB calculations.

Clearly, the aggregate effects of tax changes in the light of such heterogeneity in elasticity estimates will be sensitive to which tax rates in a piecewise linear tax system are changed and how they affect each of the diverse groups of workers which account for the aggregate labour supply. For example, a change in the “standard” tax rate (currently 32.5%) would have only intra-marginal income effects on the labour supplies of taxpayers in the top bracket of the tax system (composed predominantly of high-earning prime age males), which therefore should not be reflected in MEBs.¹⁸ It is likely to have a disproportionately large effect on groups with higher elasticities and so the estimated MEB is likely to be an underestimate.

It is often suggested that the goal of modern tax analysis is to explore and to clarify the trade-off between equity and efficiency. A representative household model, as is well-known, can tell us nothing about the implications of the differential impacts of revenue neutral changes in company income tax, labour income tax and the GST for the wellbeing of households across the distribution of income and wealth, and so tells us nothing about the equity component of this trade-off. The view that the possibility of lump sum redistribution through the tax system allows for a separation between these two aspects of policy generally receives very limited support. Even if it were accepted, as we have just argued, there are serious question marks on the reliability of the estimates of the efficiency effects of the tax policy being advocated.

In addition to the firm and household sectors, the third component of the CGE model is the capital market, and contains the core analysis of the aggregate effects on the Australian economy of a change in the rate of company income tax. This is summarised in Figure 1.

Figure 1 about here

The aggregate Australian capital stock K is shown on the horizontal axis and the rate of interest on the vertical. The line D_K represents the aggregate demand for capital, which decreases with the interest rate. The portion of the capital stock owned and supplied by domestic residents/taxpayers is shown by the vertical line $K^I_D S_D$, and reflects the assumption that this supply is totally unresponsive to the interest rate.¹⁹ There is an exogenously given

¹⁸ For a thorough exposition of how this kind of analysis – essentially estimation of the marginal social cost of public expenditure – should be done in an economy with a piecewise linear tax system see Dahlby 2008.

¹⁹ Actually this assumption implies that as much of the required tax revenue as possible should, on efficiency grounds, be raised by a tax on domestic capital, but this is ignored in the working paper.

world interest rate r_W at which Australia can finance as much of its capital stock as it wants – the elasticity of the “supply curve” of foreign capital S_F is infinite at this interest rate. This is a standard characterisation of the capital supply curve for a small country in the world market.

In this model, if a tax is placed on interest income in Australia, the pre-tax interest rate must rise until foreign investors receive r_W net of tax, otherwise there will be a capital outflow of all foreign capital. Assume that initially this implies the before-tax interest rate r^1_{BT} . This gives an initial equilibrium at which aggregate Australian capital stock is K_I with the portion $K_I - K^1_D$ owned abroad.

An important feature of the Australian tax system is the imputation system. The owners of capital resident in Australia are given a credit for the Australian company tax paid by Australian resident companies. This credit is deducted from their tax liability after the personal income tax rate, which is the same for both labour and capital income, is applied. This has the interesting result that a cut in the tax rate on capital income with the personal income tax rate left unchanged actually reduces the after-tax income of Australian residents, to an extent determined by the resulting decrease in the pre-tax interest rate. The imputation system essentially implies that the company income tax is a tax on foreign and a withholding tax on domestic capital income. Given the size of the tax reduction and the resulting fall in the pre-tax rate,²⁰ the increase in the inflow of foreign capital is determined by the slope of D_K , the demand curve for capital.

In Figure 1, assume that the cut in capital income tax is such that the pre-tax interest rate falls to r^2_{BT} . Then, despite the fall in return to Australian residents, the inflow of foreign-owned capital $K_2 - K_I$ increases the capital stock. This is because the increase in demand for capital resulting from the lower pre-tax interest rate paid by firms calls forth an increase in supply at the post-tax world interest rate r_W .

Note the significance of the assumption of a perfectly inelastic supply of domestic capital. If the fall in the rate of return to domestic residents, possibly reinforced by an increase in the tax rate on labour income and/or consumption, causes a reduction in the supply of domestic capital, as indicated by the broken line in the figure, then this would increase the required inflow of foreign capital by the amount $K^1_D - K^2_D$. This matters because the inflow of foreign

²⁰ We have $r_{BT} = r_W / (1-t)$ where t is the tax rate and r_{BT} the required pre-tax rate.

capital is the sole source of the long-run benefits from the cut in company income tax, which are supposed to more than offset the resulting costs to domestic residents of a cut in the tax on foreign capital.

It is argued that the net increase in capital stock $K_2 - K_1$ will increase labour productivity and therefore result in an increase in real wage rates and employment. That the beneficial incidence of a cut in company income tax falls on labour as a fixed factor when capital is perfectly mobile is of course a standard proposition, and the caveats that can be placed on this result are also well-known.²¹ What receives less emphasis is that resource rents, which are high in Australia, can also be expected to rise. There is no discussion in the working paper of the possibility of using taxes on such rents as opposed to increases in labour income and consumption taxes to make up for the revenue shortfall arising from the cut in company income tax. This of course could be taken to be the reason that the MEB of the “land tax” in the above table is negative, but in the political debate the idea of significant increases in taxation of resource rents seems to have been dropped, as a result of the recent experience of enacting and then repealing the Minerals Resource Rent Tax.

A final aspect of the critique we wish to make of the modelling in this working paper is of the treatment of time and risk. The methodology of the CGE model is essentially that of comparative statics. A *ceteris paribus* change is made in one tax rate, and the model then calculates the new equilibrium of the economy and derives the estimates of an MEB from a comparison of the welfare level of the representative household at the initial and final equilibria, as if the move from one to the other was instantaneous. This implies that it tells us nothing about the path of the economy over time as it moves from one equilibrium to the other, and therefore nothing about the timing of the incidence of costs and benefits.

In fact, the costs associated with the cut in capital income tax, assuming that the tax increases required to replace the lost revenue take place immediately, begin to be felt as soon as the policy is implemented, whereas the real economic benefits²² arising from the inflow of foreign capital and resulting productivity gains are likely to accrue over a longer period of time, before they reach their final long run values. Since the estimates presented in the

²¹ Chief among them is the evidence that the supply of capital on the world market, even to a small country, is not infinitely elastic. The lower the elasticity of supply the smaller will be the inflow of foreign capital following the tax cut.

²² As opposed to the increases in resource rents, a pure transfer from taxpayers to resource companies.

working paper do not appear to be discounted present values, the benefits are likely to be overstated relative to the costs in present value terms.

The estimates of MEBs in the working paper are based on assumptions about future values and events, such as the rate of inflow of foreign capital (which of course will also depend on developments across the world that affect the international capital market), and the corresponding effects on productivity and real wages, and so cannot be regarded as if they were certain. The paper tries to deal with this fact by estimating ranges of predicted values based on variations in underlying assumptions about key model parameters and input variables. These are done one at a time: we do not know what the implications of simultaneous variations in various subsets of the main parameters would be, for example, and there are no probabilities attached to any possible scenarios defined on simultaneous variations of these parameters.²³ We are essentially being asked to accept the central estimates of MEBs presented earlier as certain, robust and reliable inputs into the policy discussion.

3.3. TWP 2016-02

In the period between April 2015 and May 2016, the dates of publication of TWP 2015-01 and TWP 2016-02 respectively, following a heated public debate the possibility of replacing the lost revenue from a company tax reduction by an increase in the GST was dropped.²⁴ TWP-2016-02 titled “*Analysis of the Long Term Effects of a Company Tax Cut*” therefore has the objective of making the case for a “tax reform” that combines a company income tax cut with one of a more restricted set of measures for the replacement of lost revenue. Three alternative possibilities, treated as mutually exclusive, were considered: a lump sum, non-distortionary tax, the precise incidence of which was left unspecified; an increase in the average rate of personal income tax, which, given the assumption of a perfectly inelastic supply of domestic capital, has distortionary effects only on labour supply; and a cut in public expenditure. In the case of the last, a quite remarkable assumption was made: public

²³ With each of the more plausible variations the MEB of the corporate income tax declines but as the declines are not additive it is not possible to extrapolate from these individual declines. One suspects that simultaneous variations may reduce the MEB to the point where its use as an argument for the tax switch ceases to be convincing.

²⁴ Concerns about possible changes to the tax system triggered by a tax reform discussion paper (Australia 2015) contributed to the political demise of the then Prime Minister and Treasurer in September 2015; the new regime made clear that the company tax-GST switch was off the table.

expenditure is assumed to have no social value and therefore cutting it represents a costless way of recouping the tax loss!²⁵

The structure of the model used to evaluate these policies is in almost all essential respects the same as that underlying TWP 2015-01, and so the critique just set out continues to apply in full. However, as we detail below, some important assumptions were changed and the results of the model calculations take a different form. Instead of presenting estimates of MEBs, the paper gives estimates of the net welfare gains from a policy of cutting company income tax from 30% to 25%, in combination with each of the alternative measures just described, expressed as the proportionate increase in the representative household's welfare (again using the equivalent variation measure) in each future year that would follow respectively from each policy combination. The central estimates of gains were reported to be: 0.2% p.a. if lump sum taxes were increased; 0.1% p.a. if the personal income tax were raised; and 0.7% p.a. if public expenditure were cut. All alternatives yield positive welfare gains therefore.

The story underlying the net welfare gains is essentially the same as before. Company income tax cuts increase the inflow of foreign investment which increases labour productivity, real wages and employment in the long run. Variations in the net benefit measures reflect the differing welfare costs of recouping the lost tax revenue. However, the presentation of the derivation of results is much skimpier and more compressed than in TWP 2015-01, and the change in form of presentation of the results as well as the alternatives considered (apart from that of raising the flat rate personal income tax) makes comparison between the two working papers difficult.

Some important insights can however be gained from a report, "Company Tax Scenario" (CTS) prepared for the Australian Treasury Department by Independent Economics (2016), a consultancy firm with a long history of working for the Treasury, and headed by a former Treasury economist, which seems to have provided most of the input into TWP 2015-01 and TWP 2016-02. The report gives a detailed account of the derivation of the MEB associated with the cut in company income tax from 30% to 25%, which is comparable therefore with the corresponding figure given in TWP 2015-01. There, this MEB was given as \$0.50,

²⁵ Remarkable, because one of the major responsibilities of a national treasury department is normally taken to be to ensure that public expenditure yields positive social benefits. This assumption strikes us therefore as an admission of abject failure. In the consultancy reports underlying the working paper the costless nature of public expenditure cuts was rationalised as being due to "efficiency gains", ie, staff cuts, but the working paper was clearly loath to risk the reaction from public service unions that this might have caused.

whereas the corresponding figure in CTS appears to be \$1.39!²⁶ This massive increase in the welfare gain from a marginal \$1 reduction in the company income tax seems to have been achieved by two changes in assumptions.

First, a significant proportion of the gains in economic rents, in particular excess profits accruing to oligopolistic firms such as banks and other financial institutions, as well as to land-owning, resource and mineral companies, are now assumed, by some process left unspecified, to be passed on to Australian workers rather than to foreign shareholders.

Second, the paper assumes that the elasticity of profit shifting between Australia and foreign tax havens is much higher than was assumed in TWP2015-01. There, it was assumed that a 1% reduction in the Australian capital income tax results in a 0.5% reduction in Australian capital income shifted abroad. In CTS this is increased to 0.73%. This is in the absence of any empirical work on Australian data that would support this revision of the base case assumption. Support for it is claimed from a UK Treasury report based on British data.

Thus we would argue that as well as containing all the weaknesses of the research methodology embodied in the CGE model underlying TWP 2015-01, its successor exhibits one of the features of large-scale CGE modelling which can bring it so easily into disrepute. The devil is in the detail, and if the detail is insufficiently reported there is no way to counter the suspicion that the numbers that come out of the model are simply fabricated to support whatever policy change is being advocated. Selling the policy is all.

4. BEPS and corporate income tax policy

The G20/OECD BEPS project is very much a political exercise driven by the revenue needs of countries arising out of the global financial crisis and the relatively slow recovery that followed, and the public discontent caused by tax avoidance by multinational enterprises (MNEs). It seeks to defend the corporate income tax against tax avoidance and as part of doing so necessarily considers the literature on the economic analysis of the corporate tax. The major discussion occurs in relation to BEPS Action 1 on the digital economy (OECD 2015a) and Action 11 on measuring and monitoring BEPS (OECD 2015b). The analysis is very much in the tradition of the literature that has been so critical of the corporate income

²⁶ See Table 4.1, page 19 of CTS.

tax but in different ways it moves the analysis forward, though whether it will have long-term impact remains to be seen.

4.1 BEPS two steps forward

One of the broad messages of the BEPS project is that the tax system has to be viewed as a whole. The fact that MNEs engage in tax avoidance is not a matter to be considered just in the context of the corporate income tax but in its effects on the tax behaviour of other groups, ie, voluntary compliance of domestic firms and individuals (OECD 2013, page 8). In this and several other respects the BEPS project is a continuation in a political and institutional sense of the G20/OECD transparency exercise directed at tax evasion by individuals through concealed foreign bank accounts and other financial assets, which in the same period that the BEPS project was underway has given rise to the system of global automatic exchange of financial account data between tax administrations which is now in the implementation stage (FATCA and the Common Reporting Standard). In each project a major concern is that if one group is obviously able to avoid/evade taxes, then that will undermine compliance. While this aspect of BEPS is a tax administration story, it is a more general message that needs to be kept constantly in mind in modelling tax systems.

Corporate tax unfortunately is modelled in isolation in much of the literature that concludes that the tax is inefficient. We have shown above in relation to the TWPs that the primitive way in which the household is treated in the CGE model used in those studies significantly distorts the results. The same is true of much of the literature on income from capital generally, which ignores that taxation distorts the taxation of labour so that neutrality in the taxation of capital is not necessarily optimal: we may be better off with two sets of distortions.²⁷

Nonetheless while BEPS recognises the compliance issues of viewing parts of the tax system in isolation, its analysis of the corporate tax continues largely in that mould. So where do the shifts in approach occur?

So far as (implicit) modelling is concerned there is greater recognition in OECD 2013a of the importance of economic rents in real world analysis than usually occurs (note that in the

²⁷ A conspicuous example of this failure is the Mirrlees Review, see Apps and Rees (2012).

TWEs, the level of rents is by assumption). Moreover, it is recognised that MNEs typically earn significant rents (and particularly so in the digital sector), that the level of returns to rent and returns to risk are likely to vary over time, and that the corporate income tax captures returns to risk and returns to rents without requiring any line-drawing between them. The discussion occurs in the context of considering three options for new taxing regimes in the context of the digital economy (virtual permanent establishment, an excise tax on recipients of digital services and a withholding on payments by customers to providers of digital services). The object of the analysis is to determine the economic incidence of such taxes and the general conclusion is that it depends on the level of rents and elasticities without any strong view of the result and with a caveat about distributional effects (OECD 2015a page 283):

the expected economic incidence of the three tax options for taxing the activities related to the sales of digital goods and services by foreign suppliers without a PE would be the same.

- In the case of a perfectly competitive market for digital goods and services, the incidence of the corporate income tax increase is likely to be borne by labour in the affected foreign suppliers' production country and consumers in market countries, depending on the importance of the affected suppliers in the particular market and the availability of replacement suppliers with similar cost structures and the availability of alternative goods and services.
- If the market is imperfectly competitive, the corporate income tax increase is likely to be borne principally by the equity owners of the affected foreign suppliers. ...

further analysis of the economic characteristics of the affected remote producers and the market for particular digital goods and services would need to be analysed to determine whether perfect competition or imperfect competition, in the short and medium term is the most accurate to use in the incidence analysis. The analysis also does not provide any insights into the distribution of tax burdens by household income levels. In addition, the incidence results for the three tax policy options depend heavily upon the key assumptions about the responsiveness of foreign suppliers of digital goods and services without a PE that will become subject to the alternative tax options.

In terms of the efficiency effects of the corporate tax, the other BEPS report (OECD 2015b page 182) while mirroring some of the discussion about economic rents still follows what has been the recent OECD line (OECD 2010) that, “Corporate income taxes entail distortions and have been found to be more harmful for economic growth compared to other taxes at least at their observed level.” What this report mainly highlights is how frail is the data available to support the application of various models to the real world. Its main recommendation is to improve the available data and the OECD is now pursuing that objective with promise of more and better data about the corporate income tax (OECD 2015b page 16):

Along with new empirical analysis of the fiscal and economic effects of BEPS and hundreds of existing empirical studies that find the existence of profit shifting through transfer mispricing, strategic location of intangibles and debt, as well as treaty abuse, these BEPS indicators confirm that profit shifting is occurring, is significant in scale and likely to be increasing, and creates adverse economic distortions. Furthermore, empirical analysis indicates that BEPS adversely affects competition between businesses, levels and location of debt, the location of intangible investments, and causes fiscal spillovers between countries and wasteful and inefficient expenditure of resources on tax engineering. The empirical analysis in this report, along with several academic studies, confirms that strong anti-avoidance rules reduce profit shifting in countries that have implemented them.

However, these indicators and all analyses of BEPS are severely constrained by the limitations of the currently available data. The available data is not comprehensive across countries or companies, and often does not include actual taxes paid. In addition to this, the analyses of profit shifting to date have found it difficult to separate the effects of BEPS from real economic factors and the effects of deliberate government tax policy choices. Improving the tools and data available to measure BEPS will be critical for measuring and monitoring BEPS in the future, as well as evaluating the impact of the countermeasures developed under the BEPS Action Plan.

While this passage relates specifically to data about BEPS, the general implication of the analysis is that data limitations affect the analysis of international corporate income tax in a realistic way more generally.

4.2 BEPS one step back?

So while there is the possibility of more thorough analysis of the corporate income tax as part of the overall tax system and better data to support it, the signs to date suggest that the views of the corporate income tax being inefficient, which have taken hold among official policy makers, will persist. The OECD in its latest country Economic Surveys regularly encourages countries to cut their corporate tax rates (like Australia and the US) or endorses recent corporate tax rate cuts in countries (like Canada, France, Japan and the UK). It seems that the more realistic assessment of the corporate income tax among tax officials and economists working within the BEPS project under the auspices of the Centre for Tax Policy and Administration has not reached the Economics Department of the OECD, which is primarily responsible for these surveys, in conjunction with national officials.

In Australia as noted above the Treasury modelling in TWP 2015-01 and TWP 2016-02 was published in tandem with political proposals to cut the corporate tax rate. In our view that modelling crosses the line from technical advice to political advocacy and raises questions about politicisation of the bureaucracy in Australia. When a significantly smaller tax cut was passed by the Parliament that limited the tax cut for now to businesses with revenue up to AUD 50 million, the Australian Treasurer continued to quote the claims in these papers even though they all depend on foreign investment and the legislated tax cuts will have minimal impact in that area (Australian Treasurer 2017).

On the other hand the G20 Finance Ministers in March 2017 has brought forward the 2020 date for revisiting the tax options considered in the BEPS digital economy work to 2018, no doubt due to the impatience of developing countries for more action in this space as the corporate tax is generally more important to them than OECD countries in percentage of revenue terms, G20 Finance Ministers 2017. There will continue to be wrestling over the future of the corporate income tax for some time yet. It also remains to be seen if the improvement in data promised in the BEPS Action 11 report will come to pass and how it is used for future modelling of the corporate tax.

5. Conclusion

The critique of the corporate income tax is a many-headed hydra.²⁸ In this paper we have cut off two of the heads represented by TWP 2015-01 and TWP 2016-02, but fully expect more to grow in their place. While our focus has been on the two Australian Treasury papers in suggesting that officials have passed from advice to advocacy, it is difficult not to get the impression that the literature generally is more about advocacy than analysis. A lot of expectations meanwhile have built up around the G20/OECD BEPS project and at the moment this seems to us the best hope of changing direction.

²⁸ The hydra is a mythical creature with many heads; in a common version of the myth for every head that was cut off, another head grew back.

References

- Adam, S, et al, *Dimensions of Tax Design* (2010) (background papers for Mirrlees Review), available at https://www.ifs.org.uk/docs/mirrlees_dimensions.pdf.
- Andrienko, Y, P Apps and R Rees. “Optimal Taxation and Top Incomes” (2016), *International Tax and Public Finance*, 23, 981-1003.
- Apps, P “The Central Role of a Well-Designed Income Tax in the Modern Economy” (2015) *Australian Tax Forum*, 30 (4), 847-863.
- Apps, P and R Rees, *Public Economics and the Household*, Cambridge, CUP (2009).
- Apps, P and R Rees, “Capital Income Taxation and the Mirrlees Review” (2012) IZA Discussion Paper No 6615 available at www.ssrn.com.
- Australia’s Future Tax System Review, *Report* (2009), available at <https://taxreview.treasury.gov.au/Content/Content.aspx?doc=html/home.htm>.
- Australian Government, *Re:Think Tax Discussion Paper* (2015), available at <http://bettertax.gov.au/publications/discussion-paper/>.
- Australia Budget 2016-17, *Paper No 2* (2016) available at <http://www.budget.gov.au/2016-17/content/bp2/html/>.
- Australia 2017, Prime Minister Turnbull, “Tax cuts to boost wages and jobs” Press Release 31 March 2017, available at <http://www.pm.gov.au/media/2017-03-31/tax-cuts-boost-jobs-and-wages>.
- Dahlby, BG, *The Marginal Cost of Public Funds: Theory and Applications*, Cambridge Mass, MIT Press (2008).
- G20 Finance Ministers, Communique (2017), available at <http://www.g20.utoronto.ca/2017/170318-finance-en.html>.
- Head, J and R Krever, “Australian business income tax reform in retrospect: An analytical perspective” in *Australian Business Tax Reform in Retrospect and Prospect*. Evans, C & R Krever eds, (2009), 17-38.
- Independent Economics, “Company tax scenario” (2016), available at http://www.treasury.gov.au/PublicationsAndMedia/Publications/2016/~/_media/ACCEB9F5E157439AAE854A9702D1136C.ashx (underlying modelling for TWP 2016-02)
- Meade Report, *The Structure and Reform of Direct Taxation* (1978), available at <https://www.ifs.org.uk/docs/meade.pdf>.
- Mirrlees Review, *Tax by Design* (2011) available at <https://www.ifs.org.uk/publications/mirrleesreview/>.

OECD, *Taxing Profits in a Global Economy: Domestic and International Issues* (1991).

OECD, *Fundamental Reform of Corporate Income Tax* (2007).

OECD, *Tax Policy Reform and Economic Growth* (2010).

OECD, *Base Erosion and Profit Shifting Action Plan* (2013).

OECD, *Addressing the Tax Challenges of the Digital Economy, Action 1 - 2015 Final Report* (2015a).

OECD, *Measuring and Monitoring BEPS, Action 11 – 2015 Final Report* (2015b).

OECD, *Revenue Statistics 2016* (2016).

OECD, *Economic Surveys* (various countries, various years)

President’s Advisory Panel on Tax Reform, *Report* (2005), available at <http://govinfo.library.unt.edu/taxreformpanel/index-2.html>.

The President’s Tax Proposals to Congress for Fairness, Growth and Simplicity (1985), available at <https://www.treasury.gov/resource-center/tax-policy/Documents/Report-Reform-Proposal-1985.pdf>.

Australian Treasurer, Joint Door Stop Interview (2017) available at <http://sjm.ministers.treasury.gov.au/transcript/060-2017/>.

Treasury Working Paper 2015-01, *Understanding the Economy-Wide Efficiency and Incidence of Major Australian Taxes* (2015), available at <http://www.treasury.gov.au/PublicationsAndMedia/Publications/2015/working-paper-2015-01>.

Treasury Working Paper 2016-02, *Analysis of the Long Term Effects of a Company Tax Cut* (2016), available at <http://www.treasury.gov.au/PublicationsAndMedia/Publications/2016/working-paper-2016-02>.

US Treasury, *Blueprints for Basic Tax Reform* (1977), available at <https://www.treasury.gov/resource-center/tax-policy/Documents/Report-Blueprints-1977.pdf>.

US Treasury, *Tax Reform for Simplicity, Fairness and Economic Growth* (1984) available at <https://www.treasury.gov/resource-center/tax-policy/Documents/Report-Tax-Reform-v1-1984.pdf> and <https://www.treasury.gov/resource-center/tax-policy/Documents/Report-Tax-Reform-v2-1984.pdf>.

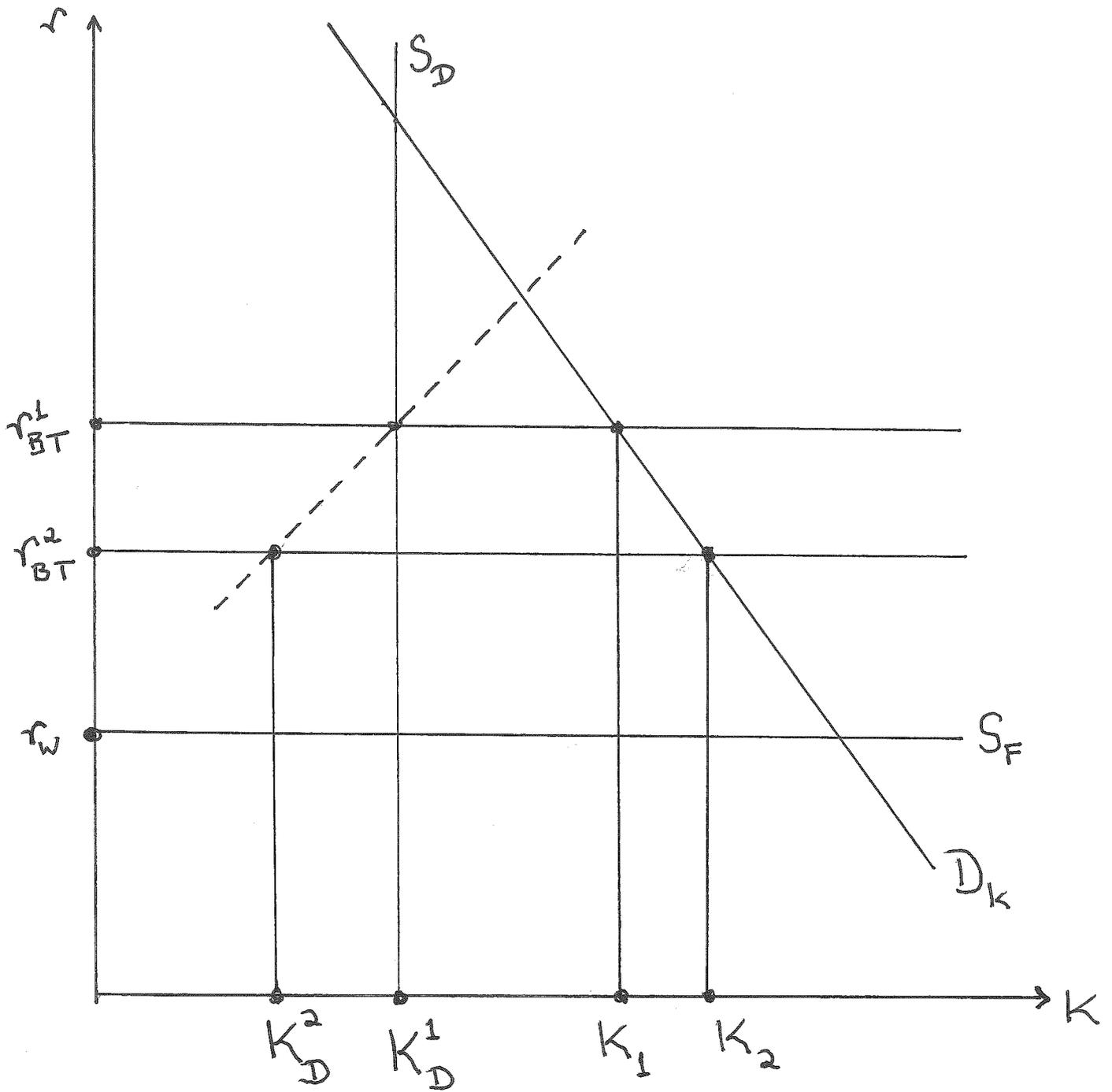


FIGURE 1: EFFECTS OF A CUT IN
COMPANY INCOME TAX