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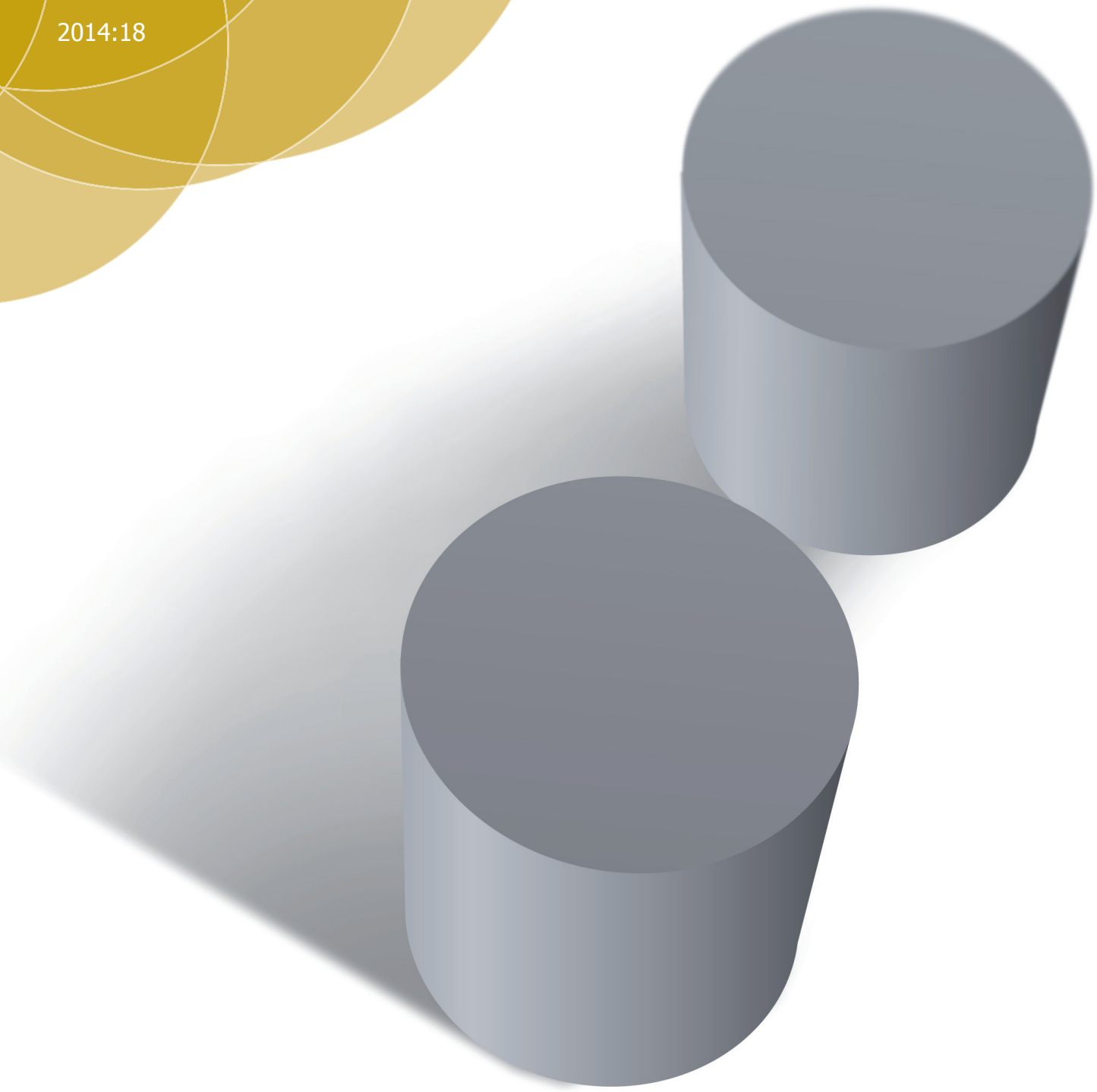

How taxation influences business location and investment decisions

Taxes play an important role when companies decide where they should locate their production and their investments. Trying to retain and attract businesses in multinational companies is something many countries aspire. What impact has the corporate tax on foreign direct investment, FDI, and where the corporate profits are reported? How is the FDI affected by the taxes on labour income and taxes on capital income at the shareholder level?

growth analysis

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Foreword

Taxes are a significant factor when businesses are determining where to locate their production facilities and make their investments. The aim of this report is to discuss and summarise what the economic literature has to say about the impact of taxes on business establishment and investment decisions, focusing specifically on multinational businesses and foreign direct investments.

The report's conclusions are that the corporate tax affects business localisation, where foreign direct investments are made, the size of these, and where profits are reported. Tax on labour income also influences the extent of foreign direct investments. Whilst corporate taxation rates plays a key role for already established and profitable businesses, taxation of personal capital income is, relatively-speaking, of greater significance for new and innovative companies.

The report represents an interim report of an assignment given by Growth Analysis to the Department of Economics at Lund University, to analyse the significance of various types of start-up costs for international business location. The authors of the report are Åsa Hansson and Karin Olofsdotter.

Östersund, September 2014

Björn Falkenhall
Acting Head of the Department of Entrepreneurship and Enterprise

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Sammanfattning

Arbetstillfällen och ekonomisk tillväxt skapas där det finns företag och investeringar. En rad faktorer påverkar var företag lokaliserar sig och var och hur stora investeringar som görs. Även om många av dessa faktorer är svåra att påverka på kort sikt ingår andra i den politiska verktygslådan och kan fungera som styrmedel. En politisk faktor som är betydelsefull för företagande och investeringar är skatter.

Denna rapport sammanfattar den ekonomiska litteraturen kring skatters effekt på företags etablerings- och investeringsbeslut. Även om fokus i rapporten ligger på bolagsskattens betydelse för företags lokaliserings- och investeringsbeslut diskuteras även betydelsen av arbetsinkomstskatt och skatt på kapitalinkomster på ägarnivå för investeringar och företagande.

Resultat från rapporten tyder på att skatter spelar roll för företags lokaliserings- och investeringsbeslut. Bolagsskatten påverkar var företag etablerar sig, var utländska investeringar görs och i vilken omfattning, och var vinster redovisas. Bolagsskatten är ett viktigt policyinstrument för i synnerhet EU:s nya medlemsländer som inte har samma konkurrensfördelar som de gamla medlemsländerna när det gäller andra viktiga faktorer såsom exempelvis agglomerationskrafter. För att vara konkurrenskraftiga bör därför bolagsskattesatserna ligga lägre i de nya medlemsländerna än i de gamla. Skatt på arbetsinkomst påverkar också mängden utländska investeringar som görs men framför allt i de gamla medlemsländerna.

Medan bolagsskatten är viktig för redan etablerade och vinstdrivande företag är skatten på kapitalinkomster på ägarnivå relativt sett av större betydelse för nya och innovativa företag.

För Sverige – ett litet land i periferin – innebär resultaten från rapporten att den svenska bolagsskattesatsen bör ligga under bolagsskattesatserna i de stora länderna i Väst- och Centraleuropa. Det kan även finnas anledning att se över de i ett internationellt perspektiv förhållandevis höga kapitalinkomstskatterna på ägarnivå i Sverige.

Summary

Jobs and economic growth are created where businesses are located and investments made. A number of factors affect where firms choose to locate and where and how much that is invested. Many of these factors are hard to influence in the short run while others are governed by politicians and can be designed in order to stimulate desirable business and investment behaviour. One such factor is taxation.

This report summarises the economic literature on the impact of taxation on business location and investment decisions. Even if the focus is on the impact the corporate income tax rate has on businesses' localisation and investment decisions, other taxes, such as taxation of labour income and personal capital income, are also discussed.

The results of the report suggest that taxes play an important role for enterprises' localisation and investment decisions. The corporate tax rate impacts where enterprises locate, where foreign direct investments take place, and where profits are reported. The corporate tax rate is an important policy instrument for especially new EU member states as they lack many of the other important factors, such as agglomeration effects, and can by having attractive corporate tax rates gain investments. Hence, the corporate tax rate should be lower in the new member states than in the old. Labour taxation is also an important factor influencing the amount of foreign direct investment that are invested in a country, but more so in the old member states.

While the corporate tax rate is important for already established and profit making enterprises, the personal capital income tax is relatively more important for the creation of new and innovative enterprises.

For Sweden – a small country located in the periphery – the implication of the results suggests that the corporate tax rate should be below the rate in the big countries located in the European core. In addition, it may be worthwhile to investigate whether the, in an international perspective, high tax rate on personal capital income hinders enterprise creation and should be lowered.

1 Introduction

Understanding what drives business location and investment decisions is important for many reasons. The presence of companies and investments creates job opportunities and the possibility of economic growth, which can further be strengthened by improvements in productivity through the focus of economic activity. In addition, a favourable business and investment climate has a positive influence on public finances.

There are a large number of factors which influence where businesses are located and where they choose to make investments. Besides the purely geographical aspects – such as access to natural resources and the geographical infrastructure – factors such as market size, access to a qualified workforce and proximity to other companies can all also play a role. In terms of political measures to attract companies and encourage investments, taxation is considered to have a crucial significance, and the corporate tax has been highlighted as particularly important for business location and investment decisions. In addition to the influence of taxation on where a business chooses to be located and the amount of investments it makes, taxes can also influence where profits are reported and whether new businesses are created.

In accordance with the basic model for capital flows and taxation, an increase in the tax rate would lead to an outflow of capital, which is expected to have a negative influence on a country's economy. The level of sensitivity in capital flows to changes in tax rates is an empirical issue that we will return to, but depends to some extent on capital mobility. In line with increased globalisation and liberalisation of world markets – where the integration of capital markets has been the most far-reaching – capital has become one of the most flexible tax bases. This in turn has led to a debate on potential negative consequences of international tax competition where countries attempt to attract capital by offering increasingly lower levels of capital tax. One voiced fear is the risk that tax competition will lead to increasingly low tax rates compared to what is desirable, thereby undermining the ability of individual countries to pursue independent tax policies.

This report summarises the economical literature dealing with the effect of taxes on corporate establishment and investment decisions. The report is structured in the following way. Section 2 provides an overview of the development of corporate taxation in Sweden and other developed countries since the mid-1990s. Section 3 then presents the literature on the impact of corporate taxation on investment and location decisions. Another type of tax that researchers are becoming more interested in is ownership tax – i.e. personal capital income taxation – and the effect of this on investments and enterprises is dealt with in section 4. Section 5 includes an economic-geographic perspective in the analysis and describes the research on the role of agglomeration forces on corporate location and investment decisions. Section 6 discusses how taxes influence where companies choose to report profits. The report ends with several conclusions in section 7.

2 Development of corporate tax since the mid-1990s

There is a clear international trend towards increasingly lower corporate tax. Figure 1 shows the development of formal tax rates in Sweden, the EU and the OECD since 1994. Sweden had long had a competitive corporate income tax rate, but in the mid-2000s the average rate in both the EU and the OECD overtook Sweden's and ended up under the Swedish tax rate. In 2009, the Swedish corporate tax rate was lowered from 28 to 26.3 per cent, but despite this reduction, it was still above the average for the EU and OECD countries. In 2012, the average corporate tax rate in the EU and the OECD was 23.4 and 25.5 per cent respectively. In 2013, the tax rate in Sweden dropped to 22 per cent which means that we are somewhere under the average, given that the other countries are still at unchanged levels.

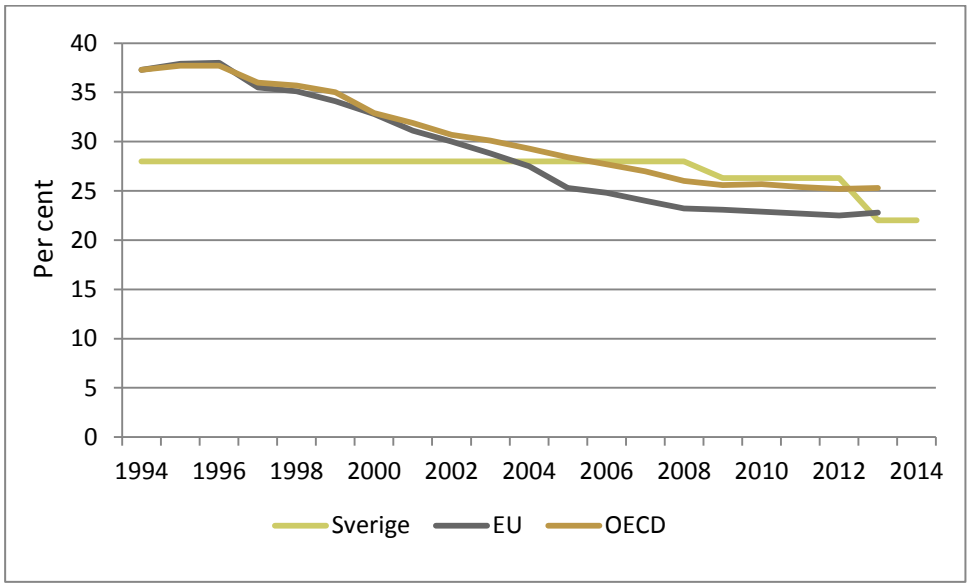

Figure 1 Corporate tax rates for Sweden, the EU and the OECD, 1994-2013

Source: Ekonomifakta (2014)

The dramatic reduction in corporate tax rates is often ascribed to tax competition. An increased internationalisation and integration process has enabled free flow of capital, whereby enabled countries to compete to be attractive investment options by lowering their corporate tax rates. When a country lowers its tax rate, other countries are forced to follow suit in order not to lose competitive advantages. There is currently strong empirical support for countries acting strategically, and that the corporate tax rate in a country is affected by the corporate tax rates in other countries.[1]

The financial crisis of 2008, and the fiscal issues arising from it, created increased interest from many countries of protecting their own tax base and strengthening domestic

[1] See Devereux et al. (2008) Davies & Voget (2008) and Redoano (2007) amongst others.

economic development. As a consequence, corporate tax rates were lowered in many places in order to protect the domestic tax base and to enable the country to remain competitive. A recently-submitted proposal in Sweden suggests a radical reduction in the corporate tax rate from 22 to 16.5 per cent (SOU 2014:40), with other countries also having recently lowered or are planning to lower the corporate tax rate.[2]

Despite significant reductions, tax revenues from the corporate sector as a proportion of GDP have dropped. Figure 2 shows the development of corporate tax revenues as a proportion of GDP for Sweden, the EU and the OECD since the mid-1990s. As shown in the image, tax revenues have not dropped as a proportion of GDP but have remained fairly constant and have, if anything, increased slightly since the mid-1990s. The cause for this is that the reductions in tax rate are often accompanied by a broadening of the tax base, plus the fact that a lower tax rate means more profitable investments, which also broadens the tax base as more investments become profitable. However, many believe that further rate cuts will erode tax revenues and that tax competition is a zero-sum game, that is, what one country wins with reduced rates, another will lose (Gemmell et al, 2011). As a reduction in corporate tax rates in a country affects the tax base and the opportunity for other countries to implement independent tax policies, there is a global aspect in not reducing corporate tax rates too aggressively. To counteract harmful tax competition, EU Member States have united through an unofficial "code of conduct" and "good governance in the tax area" to not allow harmful tax competition. The issue is whether this "soft law" will be followed.[3]

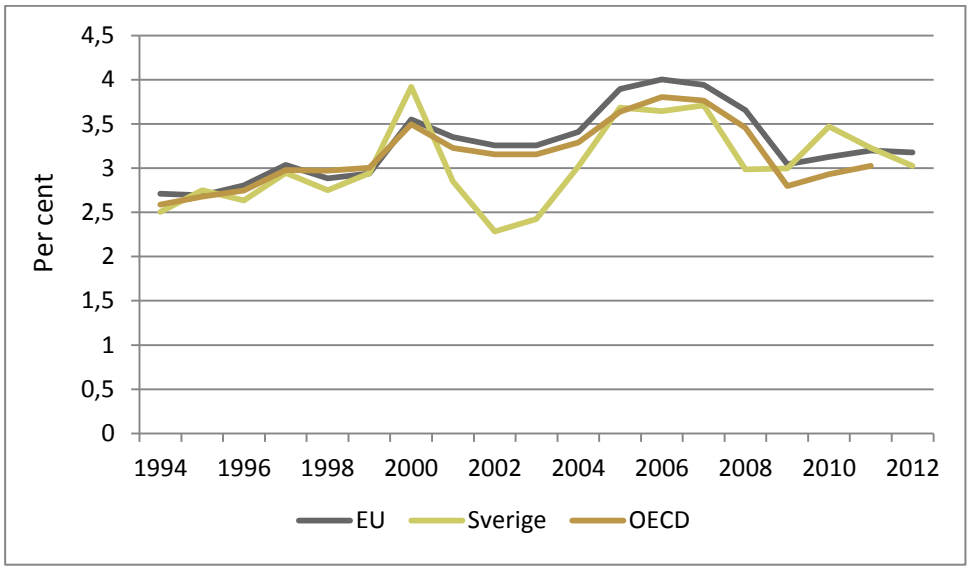

Figure 2 Tax revenues from corporate taxation as a proportion of GDP for Sweden, the EU and the OECD, 1994-2012

Source: OECD Tax Revenue Statistics

[2] In 2014, Finland reduced its tax rate to 20 per cent and Denmark to 24.5 per cent. Denmark intends to further reduce the rate to 22 per cent in 2016. The UK reduced its corporate tax rate to 23 per cent in 2013 and to 21 percent in April 2014. The rate is planned to be lowered even further to 20 per cent in 2015.

[3] The increased competition does not just concern the general tax rate, but has been extended to targeted relief for particularly mobile tax bases such as intellectual property rights. Several countries have introduced 'patent boxes', where revenues from patents are taxed at a much lower rate than other corporate income. There is much to suggest that this competition will continue.

3 Effect of corporate tax on business investment and location decisions

The implemented tax policy, with increasingly lower tax rates, strengthens the image of corporate taxation playing a role in business behaviour and constitutes a policy instrument in order to influence corporate decisions. Existing empirical research also indicates that this is the case. Much of the research has centred on multinational companies and how taxes affect foreign direct investments. As corporate tax rates are usually set at a national level, this focus is reasonable when studying how taxation affects a multinational company's choice of location and investments. Multinational companies are also of particular interest as they are characterised by being larger, more productive and carry out more capital and human capital intensive production, which is expected to have additional positive effects on a country's economy.

To illustrate the impact of taxes on business investment and location decisions, we can use Horstman's and Markusen's (1992) model to study how multinational companies expand horizontally.[4] Business investment can here be viewed in several stages. In the first stage the company determines whether it will serve a foreign market through exports from its own domestic markets, or through direct production in the foreign market. If the company chooses production abroad, i.e. becoming a multinational company, the next stage is determining where the production is to be located. When the company has determined where to locate, the third stage is to determine how much to invest. A fourth stage can be added to this, where the company determines where generated profits are to be located, something multinational companies have as an option to do through, for example, transfer pricing.

This framework can be used to understand what tax measures should be studied for the different decisions. A company's decision to become multinational and where it is to be located is based on maximising profit after tax. This means that primarily, it is not the formal corporate tax that is decisive to the company's decision, but what the company actually pays in tax after the options of various deductions and write-offs – which are measured by the effective corporate tax rate. Tax research differentiates between effective average and effective marginal tax rates. As the first two investment decisions are discrete choices, the effective average tax rate is considered to be of greatest significance. How much is invested when the business has chosen its location, however, is a decision of margins, and it is therefore considered that the effective marginal tax rate has a greater influence on this choice. The decision on where profit is located can be expected to depend on differences in formal corporate tax rates, as all options to use deductions are then considered to be exhausted.

[4] See also Devereux (2006).

There is a large number of empirical studied which investigate how corporate taxation influences a business' establishment and investment decisions. Slemrod (1990) finds that higher effective marginal tax rates in the recipient country leads to a lower inflow of direct investments. The study is also the first to account for taxes in the investing country and whether or not there is relief for double taxation. Such relief can be designed through one of two systems. A credit system taxes the investing country's parent company around the world and then credits the company for the tax it has paid abroad. An exception system only taxes profits generated in that country. This means that the host country's corporate tax rate plays a lesser role if the investing country applies a credit system. A study by Wijeweera et al. (2007) showed that investors from exception systems are more sensitive to the host countries' tax rates. Devereux and Griffith (1998, 2003) investigated the significance of taxation on a company's discrete choice of location. They therefore used effective average tax rates and found empirical support that these are important factors. In newer studies, effective taxation that captures tax regulations across borders has also shown to be important.[5]

Stöwhase (2002) researched how different taxes affect investments in various sectors. His study showed that whilst the effective average corporate tax rate is of significance to the manufacturing industry, it is the formal corporate tax rate that is key to the service industry, the financial services sector and R&D-based industry. As the formal tax rate is considered to play a greater role in respect of where profits are located, it can also point to a stronger tendency to move income to low-tax countries within the relevant sector. Figures from the OECD also point to tax bases within the pharmaceutical and R&D-intensive industries as being more sensitive to corporate tax rates than other industries.

Mutti and Grubert (2004) looked at differences between export-focused production and production for the recipient country's own market, and found that the former is more sensitive to the recipient country's tax levels. One explanation may be that when localisation does not generally depend on proximity to the foreign market, then other factors such as taxation will play a greater role. This result is in agreement with Helpman's (1984, 1985) model for vertical direct investments. The fact that cost-based vertical direct investments are more sensitive to taxation than horizontal direct investments has empirical support from Overesch and Wamser (2009).

A number of studies have estimated how sensitive foreign direct investments are to changes in corporate tax rates. Feld and Heckemayer (2011) have conducted a meta-analysis[6] of 45 empirical studies which all deal with the influence of taxation on foreign direct investments. They arrived at a median value for a semi-elasticity of -2.5, meaning that if the recipient country's tax rate increases by one percentage point, the inflow of foreign direct investments will be reduced by 2.5 per cent. In a similar way, Mooij and Ederveen (2006) have compiled results from 31 different studies based on OECD countries and obtained a median semi-elasticity of -2.9. In a subsequently-updated version, Mooij and Ederveen (2008) obtained a typical semi-elasticity of -4.0. These studies therefore confirm that the corporate taxation has a noticeable effect on foreign direct investments.

However, it is important to point out that an increase in foreign direct investments does not necessarily lead to a higher investment level in a country. There are many indications that foreign direct investments in developed countries generally tend to be mergers and

[5] For example, see Bellak et al. (2009) and Egger et al. (2009).

[6] A meta-study is a study that attempts to draw a general conclusion from existing studies which may in themselves differ wildly in terms of empirical methods, time scales and explanatory variables.

acquisitions of established companies rather than establishing new companies, known as 'greenfield investments' (Qui and Wang, 2011). Figures from UNCTAD support these indications. In 2011, foreign companies' net purchases of Swedish companies amounted to USD 4.4 billion, with an equivalent figure for greenfield investments at USD 2.3 billion (UNCTAD, 2012). If a large percentage of the increase in foreign direct investments relates to changes in ownership structure rather than new investments, this likely has a less positive effect on growth and job creation than a real increase in the level of investment. Of interest is what happens to capital released upon sales and what it is used for: new investments or consumption?

4 Ownership taxation, investments and business creation

Even if, traditionally, the effect of corporate taxation on firm behaviour has gained the most attention, more researchers are beginning to show interest in ownership taxation, that is, taxes on personal capital income, and how these taxes impact enterprises. Ownership taxation is considered to be important primarily for savings, investments, new enterprise creation and corporate governance. Whilst corporate taxation is considered to be relevant for already-established profitable businesses and the tax regulations ruling small enterprises (the so called "3:12 rules") for small enterprises, the design of personal income taxes on capital is relatively more important for innovative enterprises (Henrekson and Sanandaji, 2014).

One ownership tax is the dividend tax, the tax paid by the owner on distributed dividends.[7] Figure 3 shows the development of dividend taxation between 1990 and 2008 in Sweden, the EU and the OECD. The relatively high tax on dividends in Sweden has traditionally not been viewed as harmful to the economy. This view, which in the literature is called the 'new view',[8] has had a significant influence on Swedish tax policy and been used as an argument against lowering Sweden's relatively high personal capital income tax.[9] The idea that a tax on dividends at the ownership level is not harmful is based on the perception that the tax does not influence the cost of financing and therefore neither the level of investment.[10] This conclusion is based, however, on assumptions whose practical relevance is questionable. For example, it is presumed that the business is already in existence and is mature enough to make sufficient profit that a marginal investment could be financed by. In respect of businesses which lack profits or for entrepreneurs with unrealised business concepts, the tax on dividends affects the cost of finance and, hence, the investment decision.

This argument also ignores issues with asymmetric information between owners and company management. The financing cost plays a key role in determining which investments to undertake, and different types of financing have different costs. For numerous reasons, the costs of external financing are higher than for internal financing, which is partly due to the information asymmetry between individuals within the company and external financiers. An entrepreneur looking for financing for an investment has, in many cases, better information than an external financier about the investment's expected return (however in other cases it can be the reverse), meaning that the financier requires a premium for providing external capital, which can lead to profitable investments not being made. A business with internal capital does not need to acquire external capital and thereby avoids the costs associated with issuing equity and information asymmetry. A business

[7] In Sweden, business profits are subject to double taxation. Profits are first taxed at the corporate level and then again when the remaining profits are made available to the owner by either dividend or capital gains taxation.
[8] The "New View" is based on the assumption that new investments are financed by profits which are reinvested, and based on King (1974a, b and 1977)
[9] See Henrekson and Sanandaji (2014), SOU 1995:104 and SOU 2002:52.
[10] The reason for this is that instead of profit being distributed, it is reinvested into the business and no dividend tax is therefore triggered. The same reasoning does not apply to companies that cannot invest using retained profits.

with internal capital therefore has a cost advantage compared to companies dependent on external capital.

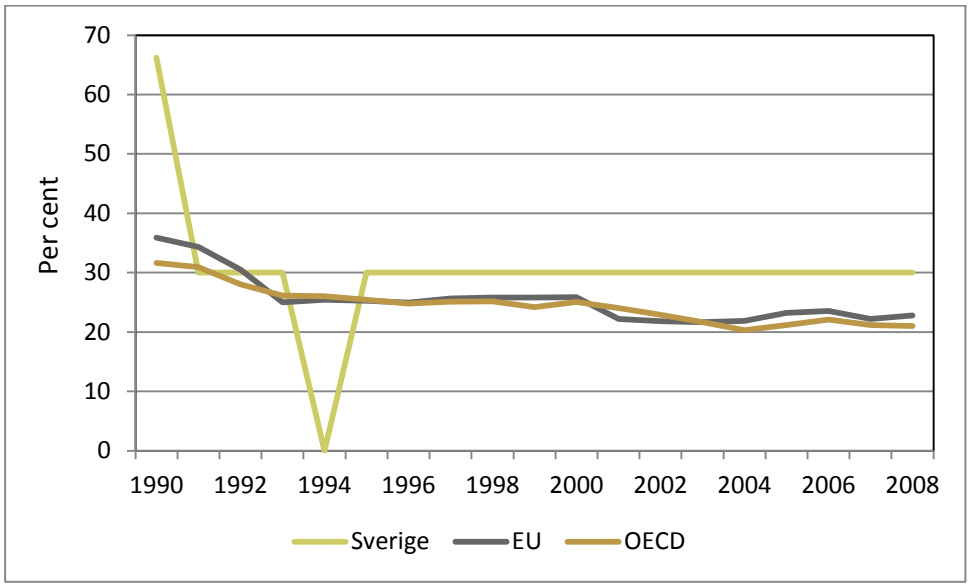

Figure 3 Tax on dividends in Sweden, the EU and the OECD 1990-2008

Remarks: In Sweden, tax on dividends was abolished in 1994, but following a change of government, it was reintroduced in 1995.

Source: Becker et al. (2013)

The difference between external and internal financing is further stressed by the fact that the Swedish taxation system treats the two financing methods differently. Even if capital gains and dividends are formally taxed at the same rate, the taxation system favours internal financing due to the fact that dividends are taxed on an ongoing basis whilst increases in value are only taxed once they have been realised. As the present value of a tax in the future is lower than the same tax amount today, the effective taxation differs between dividends and capital gains. Financing business operations with retained profits is therefore less costly in terms of tax payments, than financing operations by issuing new shares.

The fact that external financing is more costly than internal means - all else equal - that new and small companies have higher financing costs than large profitable companies. Primarily for newly started innovative businesses that are hard to risk assess, external financing can be costly and the lack of profit makes internal financing impossible. Furthermore, the difference in the tax treatment of external and internal financing will likely lead to investments being distorted. The tax difference implies that capital is locked-in in established companies instead of being distributed and financing investments in new and expanding companies with potentially better returns. Chetty and Saez (2010) noted this and demonstrate high social cost of dividend taxation. The tax difference provides a wedge between the choice to retain profits in the company and distributing the profits, meaning that too much capital remains in existing companies instead of where it will be of most use. Even if the structure of the Swedish industry − with a sizeable proportion of large and well-established businesses and relatively few new and small expanding companies −

depends on a number of factors, its appearance is consistent with the incentive structure generated by the tax design.

There is empirical evidence that the tax on dividends influences investments. For example, Becker et al. (2013) and Alstadsæter et al. (2014) show that dividend taxation lock-in capital has a sizeable effect on how capital is allocated between different types of businesses. The dividend tax locks in capital in businesses with internal cash flow to larger degree than in businesses relying on external capital. This implies that a high tax on dividends favour investments in established businesses with greater opportunity to finance their operations by retaining profits, compared with smaller and younger businesses reliant on external financing. Becker et al. (2013) finds that an increase in dividend tax of ten percentage points leads to a reduction in dividends by nine per cent. Poterba (2004), Nam et al. (2010) and Chetty and Saez (2005, 2006) also show that high dividend tax rates are associated with lower distributed dividends and thereby capital for financing investments in other and new businesses.

Personal capital taxation has many negative aspects which are overlooked in the New View. In a theoretical model, Keuschnigg and Nielsen (2004) show how both dividend and capital gains taxes inhibit entrepreneurs' efforts and lead to social welfare losses. Poterba (1989) shows that high levels of personal capital taxation not only negatively impact the supply of risk willing capital but also the demand for risk willing capital by reducing individuals' incentives to become entrepreneurs. Dividend taxation also distorts the type of investments that are made. Investments which generate continuous returns, such as dividends and interest, are disadvantaged in relation to investments that generate increases in value. Capital gains tax also leads to investors retaining their investments in order to avoid paying this tax, which prevents optimal composition of the investment portfolio.

The view that personal capital taxation plays no role for investments is further strengthened by the assumption that foreign capital works as a substitute for domestic capital. Even if a high capital tax rate reduces the national propensity to save, it is argued that high tax rates do not affect the investment level in a small, open country as it has access to the international capital market. Foreign capital replaces domestic saving. However, in reality there is a home bias which means that foreign capital does not constitute a satisfactory substitute for domestic saving as investors are not totally indifferent to where they invest. Again, small and new businesses are at a disadvantage as they do not have the same access to the foreign capital market as large established businesses. Small and new start-up businesses are largely dependent on their own capital or access to domestic risk capital. A report from the OECD (2010) shows that larger companies that have access to foreign capital markets are less affected by dividend taxation than smaller businesses lacking access to foreign capital.

For Sweden, with internationally relatively high ownership taxation, domestic owners are at a disadvantage compared to foreign owners. Relatively speaking, it is cheaper for foreign investors to invest in Sweden than for Swedish investors to acquire the same Swedish assets, as foreign owners require a lower gross return for an investment to be profitable than a Swedish owner paying 30 percent of the return in tax. The fact that the number of foreign-owned businesses is increasing is not out of spite, but simply part of the globalisation process. If the increase in foreign ownership is governed by tax differences rather than purely economic principles, however, then this is unfortunate. The nationality of the owners does not likely play a role in how well a business is run, but when tax differences mean that foreign owners can outbid Swedish owners, they are allowed to be

less effective than Swedish owners (Norbäck et al. 2009). A further consequence of high double taxation as studied by Huizinga and Vogel (2009) is the organisational corporate structure following a purchase. Countries with high levels of international double taxation are, according to Huizinga and Vogel, less inclined to win over the parent company's location.

In sum, there are many arguments for ownership taxation influencing enterprise behavior, primarily entrepreneurship and new business creation.

5 Taxation, agglomeration forces and investment decisions

The collation in section 3 shows that taxes have a negative effect on location and investment decisions. At the same time, it is also important to emphasise that multinational companies' business activities are also affected by many other factors. From a policy perspective, it may be of particular interest to examine the theory of new economic geography. This theory, based on models with imperfect competition and trade expenses, emphasises how business location decisions are dependent on the proximity to larger markets. This creates a concentration of production which is strengthened by links between different companies (such as between producers of input goods and finished goods) and between businesses and consumers and employees. Agglomeration forces lead to lock-in effects, making it possible for certain countries or regions (often centrally-located) to have higher taxes than other more peripheral countries (Baldwin and Krugman, 2004).

Several empirical studies have investigated the significance of agglomeration effects and taxation on businesses' location and investment decisions. For example, Brülhart et al. (2012) finds that the negative effect of high corporate taxes is lower in areas characterised by stronger agglomeration forces.

A number of studies by Hansson and Olofsdotter (2013, 2014a, 2014b) investigate what drives foreign direct investments within the EU, focusing on taxes and agglomeration effects. In Hansson and Olofsdotter (2013), various types of agglomeration forces are studied and how they, in conjunction with corporate taxation affect the flow of investment between EU15 countries.[11] This analysis is based on a 'gravitation model' to clarify bilateral investment flows, and considers both location and investment decisions. Unlike previous research, the study finds no support for the effective average tax rate affecting business location decisions. However, the result does provide some empirical support for the significance of the effective marginal tax rate on the amounts that are invested. In addition, the study shows that agglomeration forces affect foreign direct investments and thereby tend to reduce the negative effects of the tax. From a policy perspective, the result of the agglomeration forces linked to Marshallian external economies is particularly interesting. The result shows that countries with input-intensive production[12] (greatest in Ireland, the Netherlands and France as measured by links between businesses) or R&D-intensive production[13] (greatest in Germany, France and the UK) also have more foreign direct investments,

Using a similar method, Hansson and Olofsdotter (2014a) develop the analysis by also taking into consideration the expansion of the EU.[14] The study is based on the various differences in tax rates between the EU15 and the 12 new Member States (NMS) which became members between 2004-2007. Figure 4 shows the development of the formal tax rates in both groups of countries between 1995 and 2007. Over this period, the average tax

[11] That is, Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, the Netherlands, Portugal, Spain, Sweden and the UK. Only studying the EU15 countries may be motivated by the fact that agglomeration forces are expected to play a greater role the more similar the countries are and the deeper the integration.
[12] Refers to measuring the link effects between businesses.
[13] Refers to measuring business presence where there are significant opportunities for the spread of technology.
[14] The EU expansion in 2004 included Cyprus, Czech Republic, Estonia, Hungary, Latvia, Lithuania, Malta, Poland, Slovakia and Slovenia, and in 2007, Bulgaria and Romania.

rate for both groups dropped, but slightly more in the countries which became members in the 2000s. In 1995, the tax gap was four percentage points between the old members and those becoming members. In 2007 the gap had increased to ten percentage points. A similar development has occurred in the effective tax rates; the gap between new and old Member States has doubled for both marginal (Figure 5) and for average (Figure 6) tax rates since 1998.

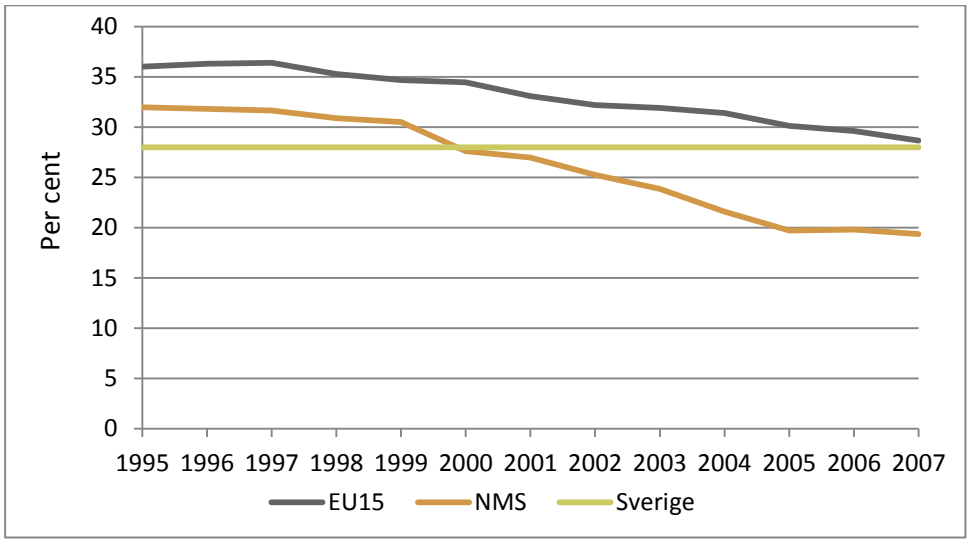

Figure 4 Formal corporate tax rates for Sweden, the EU15 and the new Member States (NMS), 1995–2007

Source: Devereux et al. (2008b).

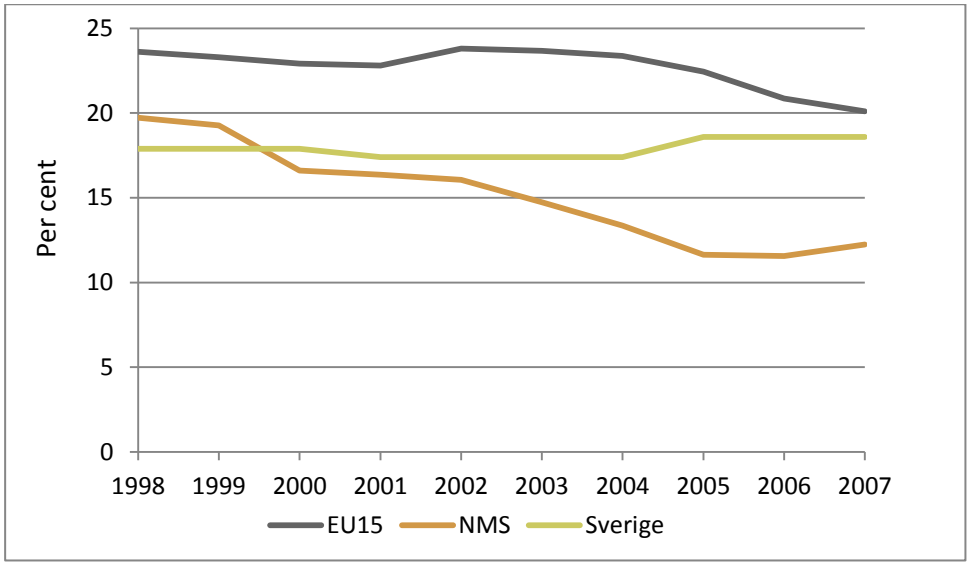

Figure 5 Effective marginal corporate tax rates for Sweden, the EU15 and the new Member States (NMS), 1998–2007

Source: Devereux et al. (2008b).

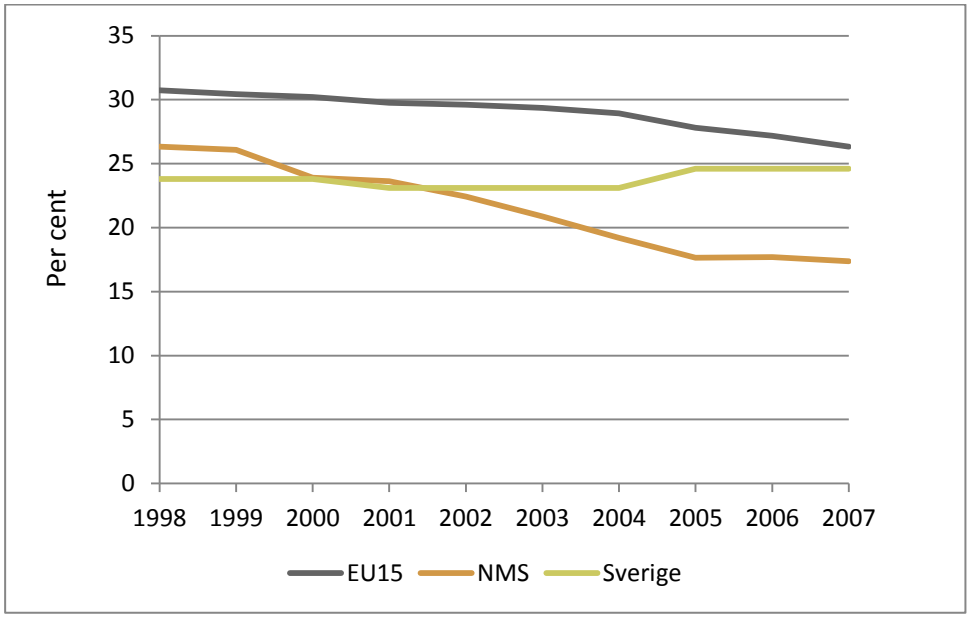

Figure 6 Average corporate tax rates for Sweden, the EU15 and the new Member States (NMS), 1998–2007

Source: Devereux et al. (2008b).

Konrad and Kovenock (2009) construct a theoretical framework to explain the increasing differences between the old and new EU members' tax policies. In their model, each country's economic policies differ in order to attract foreign direct investments, through taxes for example, depending on whether or not the country has previously obtained foreign direct investments. In order to attract investments, it is imagined that the new Member States implement a more 'aggressive' policy than the older Member States which already have a sizeable stock of foreign direct investments. This framework forms the basis for Hansson's and Olofsdotter's study in which they find strong support for lower taxes (both formal and effective) having a positive effect on the inflow of foreign direct investments to the new Member States but not to other EU countries. However, the accumulated stock of foreign direct investments – which can be interpreted as a measure of agglomeration – only has a positive effect on the inflow of foreign direct investments to the old Member States. One conclusion that can be drawn from this study is that, despite the new Member States seemingly having a more aggressive fiscal policy, the old Member States (EU15) can still utilise agglomeration forces to attract investments. This advantage does however run the risk of diminishing over time.

Hansson and Olofsdotter (2014b) investigate whether foreign direct investments within EU27 are sensitive to labour taxes. How labour taxes affect business location and investment decisions is a relatively unexplored area.[15] This can be explained by the fact that the relationship is not as obvious as the connection between taxes on capital and investment. However, there is strong belief that tax on income from employment also plays a role. One reason is that labour taxes, just like capital taxes, increase a business' production costs if part of the tax incidence falls on the employer. Another reason is that high labour taxes have a negative effect on a company's ability to attract a qualified workforce with a high level of mobility also at an international level. High levels of labour

[15] One exception to this is Egger and Radulescu (2011).

taxation can also be expected to have a negative influence on the employee's work efforts, which leads to increased production costs.[16] The study shows that labour taxation has a significant effect on investments within the EU with an estimated semi-elasticity of -2. Like Hansson and Olofsdotter (2014a), the study also highlights the differences between old and new Member States; the effect of labour taxation is greater within EU15, whilst corporate tax plays a greater role in investments to the new Member States.

[16] In an overview of what determines Swedish multinational company location of head offices, Braunerhjelm and Lindquist (1999) find that low labour taxes are one of the factors that businesses rank as most important for their location decision – more so than corporate tax.

6 Taxation and profit localisation

Corporate taxation does not only affect investment and location decisions, but also where the company reports its profits, the final step in the company's decision-making process. There is mounting empirical evidence that formal corporate tax rates affect where a business reports its profits.[17]

Multinational businesses can influence how much tax they pay without investing in or being located in another country; there may instead be room to report profits strategically to avoid tax. Profits can be moved between countries using either transfer pricing or through interest rate approaches. Transfer pricing means that transactions within a group are priced so that costs end up in high-tax countries, and profits in low-tax countries. The "arm's length" principle means that all transactions within a group are priced at market prices, which prevents transfer pricing. Even if the arm's length principle is applied within the EU, it is hard to implement in reality due to the difficulty in comparing actual price settings to market prices. Interest rate approaches mean that companies in the same group create a loan structure where interest expenses end up in countries with generous interest deductions, and interest income ends up in countries with low taxation of interest income.

Both in Sweden and internationally, the erosion of tax bases due to international tax avoidance has received considerable attention recently. Multinational companies are allegedly exploiting the differences in countries' tax systems in order to reduce their tax burden. In Sweden, this discussion has led to interest deduction limitations on inter-company loans in order to prevent multinational corporations placing their interest expenses in Sweden which allows a generous interest deduction, while interest income is taxed in low-tax countries. Issues with tax avoidance have also been noticed within the OECD, and the initiative has been taken to stop this avoidance. An example of this is the work with BEPS (Base Erosion and Profit Shifting)[18] but also individual countries propose legislation limiting the opportunities for tax avoidance (including SOU 2014:40).

Already in the1980s and early 1990s, researchers in the US began to show interest in how comprehensive tax-driven profit localisation was. For example, Wheeler (1988) and Dworin (1990) noticed that foreign-owned subsidiaries had lower taxable profit than domestic companies. Grubert et al. (1993) looked closer at this phenomenon and showed that half of the difference in profit was due to company-specific differences between foreign-owned and domestic companies, such as age and depreciation regulations, whilst the other half was due to tax-driven profit transfers.

Since then, many studies have been done to try to measure the occurrence and extent of tax-driven profit localisation. Typically a semi-elasticity of profit reporting is measured, which measures the percentage change in profit reporting that occurs when the incentive to shift profit abroad increases by one percentage point. The incentive to shift profit abroad is often measured as a reduction in corporate tax rates abroad compared to the domestic corporate tax rate. Most studies are based on American conditions, and although the results differ widely, there is consensus that profit reporting is affected by the formal corporate tax rates. Hines and Rise (1994) evaluated a profit semi-elasticity based on operating profit

[17] For example, see Devereux and Hubbard (2003), Huizinga and Laeven (2008) and Devereux et al. (2008a).
[18] In July 2013, BEPS issued a management plan with 15 measures to improve international corporate taxation (OECD 2013).

and found this to be around 3 percent, that is, a one percentage point increase in the corporate tax rate in the host country reduced the subsidiary's reported operating profit in the country by 3 percent. In later studies based on American aggregated data, the semi-elasticity was estimated to be between 3.3 and 0.3 per cent (Clausing, 2009, and Blouin et al., 2012).

A number of studies are based on European corporate data. Huizinga and Laeven (2008) evaluated the scope of profit reporting within Europe, for European multinational companies and estimated it to be 1.3 per cent. They drew the conclusion that many small European countries successfully attract corporate tax bases, primarily from Germany. Dharmapala and Riedel (2013) also use European corporate data but instead studied how an exogenous profit increase in the parent company was distributed between subsidiaries in low and high-tax countries respectively. They found that a positive increase in profit in the parent company led to a significant positive increase in profit reporting in subsidiaries in low-tax countries.

Heckemeyer and Overesch's (2013) meta-study based on 25 studies of tax-driven profit reporting results in a semi-elasticity of 0.8 per cent. Furthermore, they find that the majority, two-thirds, of profit allocation is through transfer pricing. This result concurs with other research results that have also found that transfer pricing dominates over the exploitation of interest rate approaches.[19]

Hansson et al. (2014) uses declaration and accounting data for all Swedish companies between 1997 and 2007 to analyse how multinational companies differ from domestic businesses in terms of earnings, profit, tax payments, solidity and other aspects. Their data enables analysis of how comprehensive a multinational company's tax avoidance really is, partly through which channels the avoidance is achieved, that is, through transfer pricing or interest rate approaches. Preliminary results from the study point to multinational companies paying less tax than comparable domestic businesses and that it is enabled primarily through strategic interest rate approaches. The scope seems to be smaller than the image the media conveys. As for how profit redistribution occurs, the Swedish results differ from other studies but may be explained by the unusually-generous interest deduction in Sweden.

[19] For example, see Schindler and Schjelderup (2013) for a theoretical motivation, and Pak and Zdanowicz (2001) plus Bartelsman and Beetsma (2003) for empirical support.

7 Conclusion

This report summarises the results of the economic literature dealing with the effect of taxes on business establishment and investment allocation decisions. The summary shows that taxes have a significant effect on business location and investment decisions. Corporate taxation is important for business location decisions, where foreign investments are made and where profits are reported.

Particularly for the new EU Member States, corporate tax rates are relevant to the amount of foreign investment a country attracts. For the old EU Member States however, it is agglomeration forces that are relatively speaking more important. The new Member States can therefore compensate for the lack of agglomeration forces with lower corporate tax rates. A lower corporate tax rate can also be a competitive advantage for Sweden, and partly offset our relatively distant geographical location and small size.

Results from the report show that taxation of labour income affects the amount of foreign direct investment and the location of company headquarters. The results also differ here between old and new Member States; the effect of labour taxation is greater within EU15, whilst corporate taxation plays a greater role in investments to the new Member States.

There is theoretical and empirical evidence that the tax on dividends influences investments and new business creation. Dividend taxation lock-in capital in existing companies and has an effect on how capital is allocated between different types of companies. High tax rates on dividends favour investments in established businesses with greater opportunity to finance their operations by reinvesting profits, compared with smaller and younger businesses reliant on external financing. Taxation at ownership level tends, relatively speaking, to be more significant for new enterprises than corporate taxation. In order to encourage a more dynamic business climate, there may therefore be cause to revise the comparatively high (from an international perspective) personal capital taxes in Sweden.

References

Alstadsæter, A., Jacob, M. and Vejsiu, A. (2014). 3:12-Corporations in Sweden: the effects of the 2006 Tax Reform on investments, job creation and business start-ups. ESO report 2014:2

Baldwin, R. and Krugman, P. (2004). Agglomeration, integration and tax harmonization. *American Economic Review*, 48(1), 1-23.

Bartelsman, E. and Beetsma, R. (2003). Why pay more? Corporate tax avoidance through transfer-pricing in OECD countries. *Journal of Public Economics*, 87(9-10), 2225-2252.

Becker, B., Jacob M. and Jacob M. (2013). Payout taxes and the allocation of investment. *Journal of Financial Economics*, 107(1), 1-24.

Bellak, C., Leibrecht, M. and Damijan, J. (2009). Infrastructure endowment and corporate income taxes as determinants of foreign direct investment in Central and Eastern European countries. *The World Economy*, 32(2), 267-290.

Blouin, J., Krull L. and Robinson L. (2012). Is U.S. multinational intra-firm dividend policy influenced by reporting incentives? *The Accounting Review*, 87(5), 1463-1491.

Braunerhjelm, P. and Lindquist, T. (1999). Emigrants - the effects and driving forces behind head office relocation. [Utvandrarna − Effekter och drivkrafter bakom huvudkontorsflytten.] *Ekonomisk Debatt*, 27(8), 483-497.

Brülhart, M., Jametti, M. and Schmidheiny, K. (2012). Do agglomeration economies reduce the sensitivity of firm location decision to tax differentials? *The Economic Journal*, 122(563), 1069-1093.

Chetty, R. and Saez, E. (2005). Dividend taxes and corporate behavior: evidence from the 2003 dividend tax cut. *Quarterly Journal of Economics*, 120(3), 791-833.

Chetty, R. and Saez, E. (2006). The effects of the 2003 dividend tax cut on corporate behavior: interpreting the evidence. *American Economic Review*, 96(2), 124-129.

Chetty, R. and Saez, E. (2010). Dividend and corporate taxation in an agency model of the firm. *American Economic Journal: Economic Policy*, 2(3), 1-31.

Clausing, K. (2009). Multinational firm tax avoidance and tax policy. *National Tax Journal*, 62(4), 703-725.

Davies, R. and Voget, J. (2008). Tax competition in an expanding European Union. Working Papers 0830, Oxford University Centre for Business Taxation.

Dharmapala, D. and Riedel, N. (2013). Earnings shocks and tax-motivated income shifting: evidence from European multinationals. *Journal of Public Economics,* 97, 95-107.

Devereux, M. (2006). The impact of taxation on the location of capital, firms and profits: a survey of empirical evidence. Oxford University Centre for Business Taxation no. 702. Working paper.

Devereux, M. and Griffith, R. (1998). Taxes and the location of production: evidence from a panel of US multinationals. *Journal of Public Economics*, 68(3), 335-367.

Devereux, M. and Griffith, R. (2003). Evaluating tax policy for location decisions. *International Tax and Public Finance*, 10(2), 107-126.

Devereux, M. and Hubbard ,G. (2003). Taxing multinationals. *International Tax and Public Finance*, 10(4), 469-487.

Devereux, M., Lockwood, B. and Redoano, M. (2008a). Do countries compete over tax rates? *Journal of Public Economics*, 92(5-6), 1210-1235.

Devereux, M., Elschner, C., Endres, D., Overesch, M., Schreiber, U. and Spengel, C. (2008b). Corporate effective tax rates in an enlarged European Union. Report prepared for the European Commission.

Dworin, L. (1990). Transfer pricing issues. *National Tax Journal*, 43(3), 285-291.

Egger, P., Loretz, S., Pfaffermayr, M. and Winner, H. (2009). Bilateral effective tax rates and foreign direct investment. *International Tax and Public Finance*, 16(6), 822-849.

Egger, P. and Radulesco D.M. (2011). Labor taxation and foreign direct investment. *Scandinavian Journal of Economics,* 113(3), 603-636.

Feld, L. and Heckemeyer, J. (2011). FDI and taxation: a meta study. *Journal of Economic Surveys*, 25(2), 233-272.

Gemmell, N., Kneller, R. and Sanz, I. (2011). The growth effects of corporate and personal tax rates in the OECD. Bond University Globalization and Development Centre, no 49.

Grubert, H., Goodspeed. T. and Swenson, D. (1993). Explaining the low taxable income of foreign-controlled companies in the United States. I Giovannini, A., Hubbard, G. and Slemrod, J. (red). *Studies in international taxation*. Chicago: University Press Chicago, 237-275.

Hansson, Å. and Olofsdotter, K. (2013). FDI, taxes and agglomeration economies in the EU15. *Applied Economics*, 45(18), 2653-2664.

Hansson, Å. and Olofsdotter, K. (2014a). Taxes and FDI in old and new EU member states. Unpublished manuscript. Department of Economics, Lund University.

Hansson, Å. and Olofsdotter, K. (2014b). Labor taxation and FDI decisions in the European Union. *Open Economies Review*, 25(2), 263-287.

Hansson, Å., Olofsdotter, K. and Thede, S. (2014). Do multinationals engage in tax planning activities? – The case of Sweden. Unpublished manuscript. Department of Economics, Lund University.

Heckemeyer, J. and Overesch, M. (2013). Multinationals' profit response to tax differentials: effect size and shifting channels. ZEW Discussion paper no. 13-045. Centre for European Economic Research.

Helpman, E. (1984). A simple theory of international trade with multinational corporations. *Journal of Political Economy*, 92(3), 451-471.

Helpman, E. (1985). Multinational corporations and trade structure. *Review of Economic Studies*, 52(3), 443-458.

Henrekson, M. and Sanandaji, T. (2014). Capital gains tax and enterprise [Kapitalskatter och företagande.] Expert report to the Corporate Income Tax Committee in Sweden [Expertrapport till Företagsskattekommittén] SOU 2014:14.

Hines, J. and Rise, E. (1994). Fiscal paradise: foreign tax havens and American business. *Quarterly Journal of Economics*, 109(1), 149-182.

Horstmann, I. and Markusen, J. (1992). Endogenous market structures in international trade (natura facit saltum). *Journal of International Economics*, 32(1-2), 109-129.

Huizinga H. and Laeven, L. (2008). International profit shifting within multinationals: A multi-country perspective. *Journal of Public Economics*, 92(5-6), 1164-1182.

Huizinga, H. and Vogel, J. (2009). International taxation and the direction and volume of cross-border M&As. *Journal of Finance*, 64(3), 1217-1249.

Keuschnigg, C. and Nielsen, S.B. (2004). Taxation of venture capital backed entrepreneurship. *International Tax and Public Finance*, 11(4), 369-390.

King, M. (1974a). Taxation and the cost of capital. *Review of Economic Studies*, 41(1), 21-35.

King, M. (1974b). Dividend behaviour and the theory of the firm. *Economica*, 41(161), 25-34.

King, M. (1977). *Public policy and the corporation*. London: Chapman and Hall.

Konrad, K. and Kovenock, D. (2009). Competition for FDI with vintage investment and agglomeration advantages, *Journal of International Economics*, 79(2), 230-237.

Mooij, R. de, and Ederveen, S. (2006). What a difference does it make? Understanding the empirical literature on taxation and international capital flows. European Economy – DG ECFIN, European Commission.

Mooij, R. de, and Ederveen, S. (2008). Corporate tax elasticities: a reader's guide to empirical findings. *Oxford Review of Economic Policy*, 24(4), 680-697.

Mutti, J. and Grubert, H. (2004). Empirical asymmetries in foreign direct investment and taxation. *Journal of International Economics*, 62(2), 337-358.

Nam, J., Wang, J. and Zang, G. (2010). The impact of dividend tax cut and managerial stock holdings on corporate dividend policy. *Global Finance Journal*, 21(3), 275-292.

Norbäck, P.J., Persson, L. and Vlachos, J. (2009). Cross-border acquisitions and taxes: Efficiency and tax revenues. *Canadian Journal of Economics*, 42(2), 1473-1500.

OECD (2010). Tax policy reform and economic growth. OECD Tax Policy Studies, No 20. Paris: OECD.

OECD (2013). Action plan on base erosion and profit shifting. Paris: OECD.

Overesch, M. and Wamser, G. (2009). Who cares about corporate corporation? Asymmetric tax effects on outbound FDI. *The World Economy*, 32(12), 1657-1684.

Pak, S.J. and Zdanowicz, J.S. (2001). Executive summary of US trade with the world: an estimate of 2000 lost US federal income tax revenues due to over-invoiced imports and under-invoiced exports. Unpublished manuscript. Florida International University.

Poterba, J. (1989). Tax reform and the market for tax-exempt debt. *Regional Science and Urban Economics*, 19(3), 537-562.

Poterba, J. (2004). Taxation and corporate payout policy. *American Economic Review*, 94(2), 171-175.

Qui, L. and Wang, S. (2011). FDI policy, greenfield investment and cross-border mergers. *Review of International Economics*, 19(5), 836-851.

Redoano, M. (2007). Fiscal interaction among European countries. Does the EU matter? Working paper no 1952, CESifo Munich.

Schindler. D. and Schjelderup, G. (2013). Transfer pricing and debt shifting in multinationals. CESifo Working Paper no. 4381.

Slemrod, J. (1990). Tax effects on foreign direct investment in the U.S.: evidence from across-country comparison. I Razin, A. and Slemrod, J. (red). *Taxation in the global economy*. Chicago: University of Chicago Press, 79-122.

SOU 1995:104. The tax reform 1990-1991: an evaluation [Skattereformen 1990-1991: en utvärdering]. Report from the committee for the evaluation of tax reform [Betänkande av Kommittén för utvärdering av skattereformen (KUSK)], Stockholm: Fritzes.

SOU 2002:52. Taxation of small business owners [Beskattning av småföretagare], Part 1 3:12 regulations. Stockholm: Fritzes.

SOU 2014:40. Neutral corporate tax – for increased effectiveness and stability [Neutral bolagsskatt – för ökad effektivitet och stabilitet]. Final report by the Swedish Corporate Tax Committee [Slutbetänkande av Företagsskattekommittén], Stockholm: Fritzes.

Stöwhase, S. (2002). Profit shifting opportunities, multinationals, and the determinants of FDI. Discussion Papers in Economics no. 29. University of Munich.

UNCTAD, 2012, Global Investment Trends Monitor, No 8, 24 Jan 2012.

Wheeler. J.E. (1988). An academic look at transfer pricing in a global economy. *Tax Notes* (July 1988), 87-96.

Wijeweera, A., Dollery, B. and Clark, D. (2007). Corporate tax rates and foreign direct investment in the United States. *Applied Economics*, 39(1), 109-117.

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