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Research Report

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SME taxation in Europe

– An empirical study of applied corporate income taxation for SMEs compared to large enterprises

CIP Programme 186/PP/ENT/CIP/12/F/S01C24

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May – 2015

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SME taxation in Europe

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CIP Programme 186/PP/ENT/CIP/12/F/S01C24

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1. CORPORATE INCOME TAX BURDENS FOR SMALL & MEDIUM-SIZED ENTERPRISES IN THE EU: EVIDENCE FROM A CROSS-COUNTRY STUDY

This report analyses tax incentives for SMEs in 20 EU Member States and 5 non-EU countries between 2009 and 2013. Its findings and recommendations are based on a comprehensive review of tax codes, modelling of tax burdens using two different models, a descriptive analysis of company financial ratios, and the perceptions of tax advisers and companies in each country.

The key findings of the report are:

- 1. Corporate income tax burdens across Europe are significantly different from one country to another.** While Italy, Germany, Finland and Belgium exhibit some of the highest fiscal burdens, Ireland, Estonia and Bulgaria are at the other end of the spectrum.
- 2. Only five countries** (France, Greece, Bulgaria, the UK and the Netherlands) **treat SMEs more beneficially than LSEs in terms of the actual burden of taxes paid.**
- 3. SME tax incentives are not as frequently implemented as R&D tax incentives.** Mostly, reduced tax rates are employed to support SMEs. Tax credits, additional deductions and accelerated depreciation schemes are rare and often related to very restrictive eligibility criteria.
- 4. Most SME tax incentives only benefit micro and small enterprises.** Medium-sized corporations basically benefit only from R&D tax incentives, whereas small and micro corporations additionally incur relief from SME tax incentives that range from 2.5% to over 50%.
5. There is an **increasing significance of SME tax incentives between 2009 and 2013.** However, this cannot be seen as clear evidence for SME-related tax competition among Member States.
- 6. R&D tax incentives are more advantageous for SMEs, but LSEs can circumvent high tax burdens with the help of optimized location and financing strategies.** In many Member States, the latter more than offset the advantages incurred by small and micro corporations due to SME tax incentives.
- 7. Corporate income tax is perceived to have a rather limited influence on SME decisions concerning financing, legal structure and investment.** At the same time, a large body of empirical literature has found tax provisions to impact financing decisions, the choice of legal form, as well as investment decisions. A positive impact on the level of investment has been shown for R&D tax incentives. Interviews with SMEs confirm these findings, as entrepreneurs report that investment deductions, accelerated depreciation schemes and other incentives considerably lower SME tax burdens and help them invest more.
- 8. SMEs perceive the relatively high compliance burden related to taxes to be particularly problematic.**

Based on the above findings, the report recommends that:

- 1. Tax incentives should not be explicitly connected to the size of corporations** but rather designed to encourage “desirable” outcomes such as innovation and investment.

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2. **All tax incentives need to fulfil basic requirements such as transparency, effectiveness and neutrality.**
3. **Tax credits, granted as a percentage of specified investment costs (e.g. acquisition costs of certain assets), could be used to support SMEs through the tax code.** The size of these tax credits should be limited to a maximum threshold. In addition to limiting revenue losses, this ensures relatively higher relief for SMEs compared to LSEs. By setting the percentage and the threshold, each Member State could individually determine how generous the incentive shall be and up to which size corporations should benefit significantly from the measure.

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2. EXECUTIVE SUMMARY

2.1. Executive summary (English)

2.1.1. Main objectives

Lately, tax avoidance strategies by numerous multinational enterprises have been prominently discussed in the media. As a consequence, the question arises, whether small and medium-sized enterprises (SMEs) are at a competitive disadvantage as they often cannot utilize these strategies due to their limited size. On the other hand, many countries provide small enterprises with different forms of relief in order to account for this disadvantage.

The European Commission's Directorate General for Internal Market, Industry, Entrepreneurship and SMEs therefore commissioned VVA together with ZEW to carry out a study on "SME taxation in Europe – an empirical study of applied corporate income taxation for SMEs compared to large enterprises". This study has the overall goal to provide an in-depth analysis of SME and R&D tax incentives for 20 EU Member States (Austria, Belgium, Bulgaria, Croatia, Estonia, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, Lithuania, the Netherlands, Poland, Romania, Slovenia, Sweden, Spain, and the United Kingdom) and - in some parts of the analysis - five non-EU countries (Canada, China, Japan, Switzerland, and the USA) for the period from 2009 to 2013.

The main objectives of the study are the following¹:

- to identify key competitive advantages and disadvantages resulting from corporate income tax (CIT) for SMEs and LSEs;
- to identify good SME CIT practices;
- to suggest solutions to overcome possible distortions and disadvantages for SMEs with regard to CIT.

2.1.2. Study design and methodology

The analysis was carried out in five steps.

- 1) A financial ratio analysis providing an overview of how SMEs structure their business and how they compare to large enterprises (LSEs) in terms of debt, liquidity and taxation.
- 2) A qualitative analysis of SME and R&D tax incentives summarizing which incentives are available in Europe and which requirements these incentives should fulfil to be considered good practice. We provide insight about which countries provide reliefs for SMEs, which forms of relief they provide to which types of corporations and whether there were any major trends with respect to SME and R&D tax incentives during the period from 2009 to 2013.
- 3) The results of the qualitative analysis are the foundation for the quantitative inquiry with the European Tax Analyzer which allows evaluating the actual impact of tax incentives on effective tax burdens in a national context. In doing so, we empirically developed model corporations for each size class (micro,

¹ The findings of the whole study are reported in section 9.

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small, medium-sized and large corporations) and analysed effective tax burdens for these model corporations.

- 4) The next section extends the quantitative analysis by including cross-border activities. Using the Devereux-Griffith approach enabled us to compare the relief provided by SME tax incentives to those savings that LSEs can reap by optimizing location and financing strategies with regard to corporate income taxation.
- 5) The last section complements the above results by providing further insight on the effects of SME and R&D tax incentives on corporations' decision-making. Information was gathered by means of in-depth case studies, surveys and desk research from three different sources: affected corporations from the Member States, tax advisors from the Member States and previously conducted empirical studies on the impact of taxes and tax incentives on financing, investment behaviour and the choice of legal form.

All in all, the study combines the results of different methodological approaches (section 9). The desk research in the financial ratio analysis provides an overview of the competitive situation of SMEs compared to LSEs as well as an overview of available tax incentives for them. The impact on effective tax burdens is evaluated with two different quantitative approaches. Lastly, the actual impact of CIT and related tax incentives on entrepreneurial decision-making is empirically examined and once again complemented by desk research from previous empirical findings.

Naturally, the empirical results need to be used with caution due to difficulties in obtaining a fully representative sample. In addition, given ongoing political discussions, it is crucial that the conclusions and recommendations of the empirical research are considered in light of the objectives of the study. Nevertheless the report provides evidence based insights for ongoing discussions around corporate income taxation in Europe.

2.1.3. Main results

The main results of the financial ratios analysis are:

- Tax regimes across Europe are significantly different from one another, ranging from very low tax burdens (i.e. Ireland, Estonia, and Bulgaria) to countries where the tax burden is relatively high (i.e. Italy, Germany, and Finland).
- Only five countries seem to favour small, medium-sized and micro enterprises (France, Greece, Bulgaria, the UK and the Netherlands) in terms of the tax burdens compared with LSEs.
- The industry analysis shows that while there seems not to be a particularly high difference in taxation between SMEs and LSEs in the commercial sector, enterprise size makes more of a difference regarding taxation in the construction, hotels & restaurants and manufacturing sectors.

The main findings of the qualitative analysis of tax incentives provided for SMEs and R&D activities are:

- Tax relief for SMEs is rarer than for R&D activities. Countries with various incentives in place are Belgium, Spain, France and Japan. On the other hand, seven countries (e.g. Austria, Bulgaria, Estonia, Italy, Slovenia, Sweden and Switzerland) do not have any special regimes for SMEs at all.

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- Special tax rates are the predominant tax measure to support SMEs. Special tax rates, however, exhibit unfavourable properties compared to other forms of relief and should not be considered as good practice.
- EU Member States do not uniformly limit the eligibility to tax incentives for SMEs by referring to the criteria employed in the Commission Recommendation of 6 May 2003 on the SME definition.
- Discrimination concerning tax incentives between medium-sized, small and micro corporations takes place. In fact, medium-sized corporations are rarely eligible for SME tax incentives whereas micro corporations benefit extensively.
- Explicit differentiation of LSEs and SMEs with respect to R&D tax incentives rarely occurs (e.g. France, the UK, Canada, and Japan). Benefits from the generally applicable R&D tax incentives, however, might frequently be larger for SMEs because they are less likely to be subject to restrictions on maximum permissible reliefs.

With regard to the quantitative analysis of effective tax burdens on domestic investments, the main results of this study are:

- Medium-sized enterprises virtually do not benefit from SME tax incentives in the countries considered in this study (apart from the UK). Reductions in effective tax burdens for medium-sized corporations can be mainly traced back to R&D tax incentives. These reductions range between 0.93% (i.e. Luxembourg) and 25.24% (i.e. Ireland).
- For small corporations, SME tax incentives become effective in five countries (e.g. Belgium, France, Ireland, Spain and the United Kingdom). The reductions in effective tax burdens - only attributable to SME tax incentives - range between 2.54% (i.e. Belgium) and 29.47% (i.e. Spain). For R&D tax incentives, small corporations often derive relatively higher benefits than LSEs due to threshold provisions.
- Substantial effects of SME tax incentives occur for micro corporations (i.e. reliefs amount up to 53.05%). Overall, tax reliefs provided by SME incentives turns out to be much larger than the reliefs derived from R&D incentives, mainly due to reduced tax rates.
- Effective tax burden reductions from R&D tax incentives range from 0.98% (i.e. Luxembourg) to roughly 20% (i.e. Lithuania) for LSEs.
- For most countries, an increasing significance of R&D and SME tax incentives can be observed over time.
- The impact of SME and R&D tax incentives on the effective tax burden diminishes by roughly 50% in most of the countries if shareholder taxation is additionally taken into consideration.
- The effect of R&D and SME incentives differs considerably across industries. This can be explained foremost by industry specific R&D intensities.
- Investments financed by equity capital face higher effective tax burdens than investments financed by debt capital. As SMEs usually face difficulties in obtaining debt, they are likely to suffer a competitive tax disadvantage compared to LSEs.

The quantitative analysis of effective tax burdens on domestic and cross-border investments produced the following results:

- LSEs locate their activities in different countries. Therefore, LSEs benefit from cross-country tax differentials compared to SMEs that operate domestically.
- LSEs can further reduce their effective tax burdens by allocating functions in several countries in the areas of financing and intellectual property.
- Considering tax-minimizing strategies, LSEs in 75% of the sample countries face a lower effective tax burden compared to SMEs.

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- Nevertheless, even when assuming unrestricted tax optimizing strategies by LSEs, France, Spain, Belgium, Lithuania and the Netherlands provide lower effective tax burdens for SMEs compared to LSEs.

Finally, the main findings of the case studies and the tax adviser survey are:

- CIT is seen by entrepreneurs as one of many factors that impact on entrepreneurial activity and business performance. However, compared with other types of taxes, companies of different sizes tend to be less worried about CIT than about input taxes such as labour or social security contributions.
- When dealing with issues related to access to finance, financial or legal structure of their corporations, entrepreneurs tend not to base their choices on the impact that CIT rates will have, but on various non-tax factors, such as entrepreneurial culture and background, credit availability, strategic decisions related to the positioning on the market.
- The choice of the legal structure might be affected by the difference between PIT (personal Income tax) and CIT rates.
- In entrepreneurs' opinion R&D tax incentives, deductions and special or accelerated depreciation rates are very important tools for corporations.
- SMEs are slightly more affected than LSEs by the administrative and compliance costs surrounding CIT. The vast majority of SMEs rely on outside professional assistance to comply with their CIT, because they are usually too small in terms of human resources to have the necessary knowledge and expertise available internally.

2.1.4. Overall conclusions and policy recommendations

Considering the level of CIT burdens for SMEs and LSEs, tax regimes across Europe vary significantly. While SMEs, in particular micro corporations, receive preferential treatment in several European countries, others do not provide any SME specific tax incentives. SMEs – not being able to utilize international tax planning strategies as well as suffering a comparatively high compliance burden – can be expected to be at a competitive disadvantage in these countries. Should policy makers decide to discuss about the modalities of supporting enterprises through tax incentives, these should not be explicitly connected to the size of corporations, though, but rather to encourage desirable outcomes such as innovation and investment. Otherwise, the growth of corporations is hampered and new distortions impeding the efficiency and transparency of the tax system are introduced.

In the first place, we therefore emphasize the importance of generally fair, simple, predictable and transparent tax codes. This is an incremental part of an attractive business environment for all enterprises (including SMEs) and it has the advantage that disproportionately high compliance burdens for SMEs are reduced.

Second, each tax incentive needs to fulfil basic requirements such as transparency, effectiveness and neutrality. We therefore recommend, as a tax measure to support SMEs, tax credits that are granted as a certain percentage of specified investment costs (e.g. acquisition costs of certain assets). The size of the tax credit should be limited to maximum absolute thresholds. In addition to limiting revenue losses, this secures relatively higher relief for SMEs compared to LSEs. By setting the percentage and the threshold, each Member State could individually determine how generous the incentive shall be and which size enterprises should benefit considerably from the measure. Distortions arising from special SME tax rates and other forms of tax incen-

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tives would be avoided as the tax credit is not dependent on staying below certain size criteria.

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2.2. Zusammenfassung (German/Deutsch)

2.2.1. Hauptziele

Die Steuervermeidungsstrategien zahlreicher multinationaler Unternehmen waren zuletzt regelmäßig Gegenstand öffentlicher Diskussionen. Es stellt sich dabei die Frage, ob kleine und mittlere Unternehmen (KMU) einem Wettbewerbsnachteil ausgesetzt sind, da ihnen vergleichbare Steuervermeidungsstrategien wegen ihrer national konzentrierten Geschäftstätigkeit regelmäßig nicht zur Verfügung stehen. Auf der anderen Seite bieten viele Länder kleinen und mittleren Unternehmen verschiedene Arten von Steuervergünstigungen, um diesen Nachteil auszugleichen.

Daher wurden VVA und das ZEW von der Generaldirektion Unternehmen und Industrie der Europäischen Kommission beauftragt, die Studie „Besteuerung von KMU in Europa – eine empirische Untersuchung zur angewandten Körperschaftbesteuerung von KMU im Vergleich zu großen Unternehmen“ („SME taxation in Europe – an empirical study of applied corporate income taxation for SMEs compared to large enterprises“) durchzuführen. Die Untersuchung umfasst eine detaillierte Analyse der Steueranreize für KMU und Forschungs- und Entwicklungsaktivitäten (F&E) in 20 Mitgliedstaaten der EU (Österreich, Belgien, Bulgarien, Kroatien, Estland, Finnland, Frankreich, Deutschland, Griechenland, Irland, Italien, Luxemburg, Litauen, die Niederlande, Polen, Rumänien, Slowenien, Schweden, Spanien und das Vereinigte Königreich) und – an einigen Stellen in der Analyse – von fünf Nicht-Mitgliedstaaten (Kanada, China, Japan, Schweiz und USA) für den Zeitraum 2009 bis 2013.

Die Hauptziele der Studie sind die Folgenden²:

- Identifikation der wesentlichen Wettbewerbsvorteile und -nachteile, die sich aus der Körperschaftsteuer für KMU und Großunternehmen ergeben;
- Identifikation von *bewährten Praxis* für die Körperschaftsteuer bei KMU;
- Aufzeigen von Lösungsvorschlägen, um potenzielle Verzerrungen und Nachteile für KMU in Hinblick auf die Körperschaftsteuer zu beseitigen.

2.2.2. Untersuchungsdesign und Methodik

Die Analyse erfolgt in fünf Schritten.

- 1) Mittels der Analyse von Finanzkennzahlen wird zunächst ein Überblick über strukturelle Merkmale von KMU gegeben. Zudem erfolgt ein Vergleich mit großen Unternehmen hinsichtlich Fremdkapital, Liquidität und Steuerbelastung.
- 2) Die qualitative Analyse der Steueranreize für KMU sowie für Forschungs- und Entwicklungsaktivitäten bietet einen Überblick, welche Regelungen derzeit in Europa zur Anwendung kommen. Es wird aufgezeigt, welche Länder Steuervergünstigungen für KMU bieten, welche Formen der Vergünstigungen für welche Arten von Unternehmen verfügbar sind und ob es generelle Entwicklungstendenzen bezüglich KMU- und Forschungs- und Entwicklungssteueranreizen in den Jahren 2009 bis 2013 gab. Zudem erörtert der Abschnitt, wie Steueranreize idealerweise zu gestalten sind, um als *bewährten Praxis* erachtet zu werden.

² Die Erkenntnisse der gesamten Untersuchung sind in Kapitel 9 aufgeführt.

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- 3) Die Ergebnisse der qualitativen Analyse bilden die Grundlage für die quantitative Untersuchung mit dem *European Tax Analyzer*. Dieser ermöglicht es, die tatsächlichen Auswirkungen von Steueranreizen für die effektive Steuerbelastung auf nationaler Ebene zu bewerten. Dabei werden auf empirischer Basis Modellunternehmen für jede Größenklasse entwickelt (Mikro-, kleine, mittlere und große Unternehmen) und die effektive Steuerbelastung der Modellunternehmen quantifiziert sowie analysiert.
- 4) In Kapitel 7 wird die quantitative Analyse um die Berücksichtigung grenzüberschreitender Tätigkeiten erweitert. Durch die Anwendung des Devereux-Griffith-Ansatzes können die Steuervergünstigungen aus KMU-Steueranreizen mit den Steuerersparnissen von großen Unternehmen verglichen werden, die im Rahmen der Körperschaftbesteuerung durch optimale Standort- und Finanzierungsstrategien erzielt werden.
- 5) Das letzte Kapitel ergänzt die vorhergehenden Ergebnisse um eine weitergehende Untersuchung der Auswirkungen von KMU- und Forschungs- und Entwicklungssteueranreizen auf Unternehmensentscheidungen. Die Informationen werden anhand ausführlicher Fallstudien, Umfragen und einer umfassenden Literaturrecherche gewonnen. Den Erkenntnissen liegen dabei drei unterschiedliche Informationsquellen zugrunde: betroffene Unternehmen aus den Mitgliedstaaten, aktive Steuerberater aus den Mitgliedstaaten sowie vorliegende empirische Untersuchungen zur Wirkung von Steuern und Steueranreizen auf Finanzierung, Investitionsverhalten und Rechtsformwahl.

Insgesamt vereint die Untersuchung die Ergebnisse verschiedener methodischer Ansätze. Die Literaturrecherche und die Analyse der Finanzkennzahlen bieten einen Überblick über die Wettbewerbssituation von KMU im Vergleich zu großen Unternehmen sowie über die für KMU verfügbaren Steueranreize. Die Auswirkungen auf die effektive Steuerbelastung werden mithilfe von zwei unterschiedlichen quantitativen Ansätzen bewertet. Schließlich wird die Wirkung der Körperschaftsteuer und der zugehörigen Steueranreize auf Unternehmensentscheidungen empirisch untersucht. Eine Literaturrecherche zu früheren empirischen Erkenntnissen ergänzt in diesem Teil erneut die Untersuchung.

Die empirischen Ergebnisse sind im Hinblick auf die Repräsentativität der Stichprobe naturgemäß mit Vorsicht zu behandeln. In den politischen Diskussionen müssen auch die Schlussfolgerungen und Empfehlungen der empirischen Untersuchung stets vor dem Hintergrund der Ziele dieser Studie betrachtet werden. Trotzdem vermittelt dieser Bericht evidenzbasierte Erkenntnisse, die für die anhaltenden Diskussionen zur Körperschaftsteuer in Europa von Bedeutung sind.

2.2.3. Ergebnisse

Die wichtigsten Ergebnisse der Analyse der Finanzkennzahlen sind:

- Die Steuerregime in Europa unterscheiden sich stark voneinander. Während in einigen Ländern sehr niedrige effektive Steuerbelastungen vorzufinden sind (z.B. Irland, Estland, Bulgarien), kommt es in anderen zu sehr hohen Belastungen (z.B. Italien, Deutschland, Finnland).
- Lediglich in fünf Ländern (Frankreich, Griechenland, Bulgarien, dem Vereinigten Königreich und den Niederlanden) scheinen Mikro-, kleine und mittlere Unternehmen in Bezug auf die Steuerbelastung einen Vorteil gegenüber großen Unternehmen zu genießen.

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- Die Branchenanalyse zeigt, dass hinsichtlich der Besteuerung im Handelssektor kein wesentlicher Unterschied zwischen KMU und großen Unternehmen besteht. Im Bauwesen, in der Hotel- und Restaurantbranche sowie im verarbeitenden Gewerbe führt die Unternehmensgröße hingegen zu einem größeren Besteuerungsunterschied.

Die Haupterkenntnisse der qualitativen Analyse der Steueranreize für KMU und F&E-Aktivitäten sind:

- Steuervergünstigungen für KMU sind seltener als für Forschungs- und Entwicklungsaktivitäten. In Belgien, Spanien, Frankreich und Japan gibt es diverse Anreize. Sieben andere Länder bieten dagegen überhaupt keine steuerlichen Sonderregelungen für KMU.
- Reduzierte Steuersätze sind das vorherrschende Instrument, um KMU zu begünstigen, obwohl diese im Vergleich zu anderen Anreizformen nachteilige Eigenschaften aufweisen und daher nicht als *bewährte Praxis* erachtet werden sollten. Alle weiteren Instrumente finden nur in sehr begrenztem Rahmen Anwendung.
- Die EU-Mitgliedstaaten beziehen sich bei den Größenkriterien für den Zugang zu Steueranreizen für KMU nicht einheitlich auf die Richtwerte der KMU-Definition der Europäischen Kommission.
- Mikro-, kleine und mittlere Unternehmen profitieren in unterschiedlichem Maß von KMU-Steueranreizen. Während mittelgroße Unternehmen die Anreize kaum nutzen können, profitieren Mikrounternehmen sehr stark.
- Bei Forschungs- und Entwicklungssteueranreizen wird selten ein expliziter Unterschied zwischen KMU und großen Unternehmen gemacht (Ausnahmen: Frankreich, das Vereinigte Königreich, Kanada und Japan). Die Vorteile aus den allgemein anwendbaren Forschungs- und Entwicklungssteueranreizen können relativ jedoch größer für KMU ausfallen, da es unwahrscheinlicher ist, dass sie von den absoluten Höchstgrenzen der gewährten Steuerentlastungen betroffen sind.

Die Hauptergebnisse der quantitativen Analyse zur effektiven Steuerbelastung nationaler Investitionen sind:

- Mittlere Unternehmen profitieren so gut wie gar nicht von KMU-Steueranreizen in den in dieser Studie untersuchten Ländern (abgesehen vom Vereinigten Königreich). Senkungen der effektiven Steuerbelastung für mittlere Unternehmen sind hauptsächlich auf Forschungs- und Entwicklungssteueranreize zurückzuführen. Die Entlastungen reichen von 0,93% (Luxemburg) bis zu 25,24% (Irland).
- Kleine Unternehmen profitieren in fünf Ländern von KMU-Steueranreizen. Die Reduktion der effektiven Steuerbelastung – die allein den KMU-Steueranreizen zuzurechnen ist – bewegt sich zwischen 2,54% (Belgien) und 29,47% (Spanien). Von Forschungs- und Entwicklungssteueranreizen profitieren kleine Unternehmen oftmals mehr als große Unternehmen aufgrund von absoluten Höchstgrenzen bei den Steuerentlastungen.
- KMU-Steueranreize haben signifikante Auswirkungen bei Mikrounternehmen (Vergünstigungen bis zu 53,05%). Insgesamt zeigt sich, dass die Steuervergünstigungen, die sich aus den KMU-Steueranreizen ergeben, viel umfangreicher sind als jene, die aus Forschungs- und Entwicklungssteueranreizen resultieren. Dies ist vor allem den ermäßigten Steuersätzen zuzuschreiben.
- Die Steuervergünstigungen aus Forschungs- und Entwicklungssteueranreizen für große Unternehmen reichen von 0,98% (Luxemburg) bis zu rund 20% (Litauen).
- In den meisten Ländern nimmt die Bedeutung von Forschungs- und Entwicklungs- und KMU-Steueranreizen im Untersuchungszeitraum 2009-2013 zu.

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- Die Wirkung von KMU- und Forschungs- und Entwicklungssteueranreizen auf die effektive Steuerentlastung verringert sich in den meisten Ländern um rund 50%, wenn zusätzlich die Besteuerung auf Ebene der Gesellschafter berücksichtigt wird.
- Die Wirkung von Forschungs- und Entwicklungs- und KMU-Steueranreizen unterscheidet sich im Vergleich verschiedener Industrien deutlich. Dies ist vor allem darauf zurückzuführen, dass die Forschungs- und Entwicklungsintensität sektorspezifisch ist.
- Eigenkapitalfinanzierte Investitionen sind einer höheren effektiven Steuerbelastung ausgesetzt als Investitionen, die mit Fremdkapital finanziert werden. Da sich die Fremdkapitalbeschaffung für KMU normalerweise als schwieriger erweist, erleiden sie im Vergleich zu großen Unternehmen eher einen steuerlichen Wettbewerbsnachteil.

Die quantitative Analyse der effektiven Steuerbelastung nationaler und grenzüberschreitender Investitionen führt zu folgenden Ergebnissen:

- Große Unternehmen verteilen ihre Aktivitäten regelmäßig auf verschiedene Länder. Daher profitieren große Unternehmen mehr vom zwischenstaatlichen, internationalen Steuergefälle als KMU, die vorwiegend national operieren.
- Große Unternehmen können ihre effektive Steuerbelastung weiter durch Zwischenschaltung von Konzerngesellschaften im Finanzierungs- und IP-Bereich senken.
- Unter Berücksichtigung von Steueroptimierungsstrategien ergibt sich in 75% der untersuchten Länder für große Unternehmen eine geringere effektive Steuerbelastung als für KMU.
- In Frankreich, Spanien, Belgien und Litauen ergibt sich selbst dann eine niedrigere effektive Steuerbelastung für KMU im Vergleich zu großen Unternehmen, wenn steuerliche Optimierungsstrategien großer Unternehmen berücksichtigt werden.

Die Haupteckdaten der Fallstudien und der Steuerberaterumfrage sind:

- Aus Sicht von Unternehmern stellt die Körperschaftsteuer einen von vielen Faktoren dar, die die unternehmerische Aktivität und die Geschäftsentwicklung beeinflussen. Jedoch zeigen sich Unternehmen unterschiedlicher Größenklassen tendenziell weniger besorgt über die Körperschaftsteuer als über die Lohnsteuer oder die Sozialversicherungsbeiträge.
- Finanzierungsentscheidungen und die Gestaltung der rechtlichen Unternehmensstruktur werden primär von nichtsteuerlichen Faktoren wie der Unternehmenskultur, der Kreditverfügbarkeit oder der strategischen Positionierung am Markt beeinflusst, wohingegen Steuersätze eine eher untergeordnete Rolle spielen.
- Die Wahl der Rechtsform kann jedoch von dem Unterschied zwischen Einkommensteuer- und Körperschaftsteuersatz beeinflusst werden.
- Unternehmern zufolge sind Forschungs- und Entwicklungssteueranreize, Abzugsbeträge und Sonderabschreibungen bzw. beschleunigte Abschreibungen wichtige Instrumente für steuerliche Anreize.
- KMU sind im Vergleich zu großen Unternehmen etwas stärker von den mit der Körperschaftsteuer verbundenen Befolgungskosten betroffen. Die große Mehrheit der KMU nimmt professionelle externe Unterstützung bei der Erfüllung der körperschaftsteuerlichen Verpflichtungen in Anspruch, da intern hierzu in der Regel keine ausreichenden personellen Ressourcen vorhanden sind.

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2.2.4. Fazit und Handlungsempfehlungen

Bei der Körperschaftsteuerbelastung für KMU und große Unternehmen bestehen innerhalb von Europa große Unterschiede, die aus den länderspezifischen Steuersystemen resultieren. Während einige EU-Mitgliedstaaten erhebliche Steuervergünstigungen für KMU, insbesondere für Mikrounternehmen, gewähren, gibt es in anderen Staaten überhaupt keine KMU-spezifischen Steueranreize. KMU, die keinen Gebrauch von internationalen Steuerplanungsstrategien machen können und sich vergleichsweise hohen Befolgungskosten ausgesetzt sehen, unterliegen in diesen Ländern einem Wettbewerbsnachteil.

Wenn Politiker Steueranreize für Unternehmen in Erwägung ziehen, sollten sie diese nicht direkt an die Unternehmensgröße knüpfen, sondern eher so ausgestalten, dass die Wirkung der Anreize von „wünschenswertem“ Verhalten wie Innovations- und Investitionsaktivitäten abhängig ist. Andernfalls wird das Wachstum von Unternehmen behindert und es ergeben sich neue Verzerrungen, welche die Effizienz und Transparenz des Steuersystems verschlechtern.

Wir betonen daher insbesondere die Wichtigkeit eines fairen, einfachen und transparenten Steuersystems. Dies ist ein entscheidender Bestandteil eines attraktiven Geschäftsumfelds für alle Unternehmen (einschließlich der KMU) und verhindert unverhältnismäßig hohe Befolgungskosten für KMU.

Des Weiteren muss jeder Steueranreiz die grundlegenden Anforderungen Transparenz, Effektivität und Neutralität erfüllen. Daher empfehlen wir, als steuerliches Instrument zur Unterstützung von KMU Steuergutschriften einzusetzen, die sich auf einen bestimmten Prozentsatz spezifischer Investitionskosten belaufen (z.B. Kauf bestimmter Vermögensgegenstände). Für die absolute Höhe der Steuervergünstigungen sollten Höchstgrenzen festgelegt werden, um Steuerausfälle zu begrenzen. Neben der Begrenzung von Aufkommensverlusten sichert dies eine verhältnismäßig stärkere Förderung von KMU im Vergleich zu großen Unternehmen. Durch die Festlegung von Prozentsatz und Höchstgrenzen kann jedes Land selbst bestimmen, wie großzügig der Anreiz sein soll und bis zu welcher Größenordnung Unternehmen maßgeblich von dieser Maßnahme profitieren sollen. Verzerrungen, die sich aus Sondersteuersätzen und anderen Arten von Steueranreizen ausschließlich für KMU ergeben, würden so vermieden, da der Zugang zum Anreiz nicht mehr von bestimmten Größen- bzw. Einkommenskriterien abhängig wäre.

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2.3. Résumé (French/Français)

2.3.1. Objectifs principaux

Les stratégies d'évasion fiscale adoptées par de nombreuses entreprises multinationales ont récemment fait l'objet de discussions importantes dans les médias. Ainsi, la question s'est posée de savoir si les petites et moyennes entreprises (PME) étaient soumises à un désavantage concurrentiel, dans la mesure où celles-ci ne peuvent souvent pas utiliser ces mêmes stratégies en raison de leur taille restreinte. D'autre part, de nombreux pays offrent aux petites entreprises différents types d'aide afin de compenser ce désavantage.

C'est pourquoi la Direction Générale du Marché intérieur, de l'industrie, de l'entrepreneuriat et des PME de la Commission européenne a chargé VVA, en partenariat avec ZEW, de réaliser une étude sur « l'imposition des PME en Europe – une étude empirique de l'impôt sur le revenu des PME comparé aux grandes entreprises ». Cette étude a pour objectif général de fournir une analyse approfondie des incitants fiscaux en faveur des PME et de la R&D dans 20 pays membres de l'UE (Autriche, Belgique, Bulgarie, Croatie, Estonie, Finlande, France, Allemagne, Grèce, Irlande, Italie, Luxembourg, Lituanie, Pays-Bas, Pologne, Roumanie, Slovénie, Suède, Espagne, et Royaume-Uni), ainsi que – pour certaines parties de l'analyse seulement – 5 pays hors UE (Canada, Chine, Japon, Suisse, et les États-Unis) sur la période 2009-2013.

Les principaux objectifs de l'étude sont les suivants³:

- identifier les avantages et désavantages concurrentiels majeurs générés par l'impôt sur le revenu des sociétés (IRS) pour les PME et les grandes entreprises
- identifier les bonnes pratiques en ce qui concerne l'IRS des PME
- proposer des solutions pour remédier aux potentiels distorsions et désavantages à l'encontre des PME en ce qui concerne l'IRS.

2.3.2. Structure de l'étude et méthodologie

L'analyse a comporté cinq étapes.

- 1) Une analyse des ratios financiers permettant d'appréhender comment les PME organisent leurs activités commerciales et comment elles se situent par rapport aux grandes entreprises en termes de dette, liquidité et imposition.
- 2) Une analyse qualitative des incitants fiscaux en faveur des PME et de la R&D rappelant quels incitants sont disponibles en Europe et quels critères ces incitants doivent remplir pour être considérés comme « bonnes pratiques ». Nous rappelons quels pays offrent de telles aides, quels types d'aide ils offrent en particulier et à quel type de sociétés, et nous nous interrogeons sur les grandes tendances en matière d'incitants fiscaux en faveur des PME et de la R&D durant la période 2009-2013.

³ Les résultats complets de l'étude figurent dans le chapitre 9.

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- 3) Les résultats de l'analyse qualitative constituent la base de l'enquête quantitative menée à l'aide du « European Tax Analyzer » qui permet d'évaluer l'impact réel des incitants fiscaux sur les charges fiscales effectives dans un contexte national. Ce faisant, nous avons développé des modèles empiriques pour chaque catégorie de société (micro, petite, moyenne et grande) et analysé les charges fiscales effectives de ces sociétés-modèles.
- 4) La section suivante élargit l'analyse quantitative en y incluant les activités transfrontalières. Adopter l'approche dite de Devereux-Griffith nous a permis de comparer l'allègement fiscal engendré par les incitants fiscaux aux économies que les grandes entreprises peuvent réaliser en optimisant leur localisation et leurs stratégies de financement par rapport à l'impôt sur le revenu des sociétés.
- 5) La dernière section complète les résultats précédents par un aperçu plus général de l'effet des incitants fiscaux en faveur des PME et de la R&D sur le processus décisionnel des entreprises. Les informations utilisées dans cette section ont été collectées grâce à des études de cas approfondies, des enquêtes et une recherche documentaire portant sur et/ou réalisées auprès de trois sources de données : les sociétés européennes concernées, les conseillers fiscaux européens et les études empiriques menées précédemment sur l'impact des taxes et des incitants fiscaux sur le financement, le comportement d'investissement et le choix de la forme juridique.

L'étude combine les résultats de différentes approches méthodologiques (chapitre 9). La recherche documentaire réalisée dans l'analyse des ratios financiers donne un aperçu de la situation concurrentielle des PME par rapport aux grandes entreprises, ainsi qu'un bilan des incitants fiscaux qui sont disponibles. L'impact sur les charges fiscales effectives est évalué par deux approches quantitatives différentes. Enfin, l'impact réel de l'IRS et des incitants fiscaux associés sur le processus de décision entrepreneurial est examiné de façon empirique. L'analyse est, une fois encore, complétée par une recherche documentaire sur les études empiriques menées précédemment.

Naturellement, les résultats empiriques doivent être utilisés avec précaution en raison des difficultés rencontrées pour obtenir un échantillon pleinement représentatif. De plus, et compte tenu des discussions politiques en cours, il convient de replacer les conclusions et les recommandations de la recherche empirique dans le contexte des objectifs de l'étude. Ce rapport reste néanmoins une source d'inspiration fondée sur des données factuelles pour les discussions en cours autour de l'impôt sur le revenu des sociétés en Europe.

2.3.3. Principaux résultats

Les principaux résultats de l'analyse des ratios financiers sont les suivants:

- Les régimes fiscaux pratiqués en Europe varient considérablement d'un pays à l'autre, allant de charges fiscales très basses (Irlande, Estonie, et Bulgarie) à des charges fiscales relativement élevées (Italie, Allemagne, et Finlande).
 - Seuls cinq pays semblent favoriser les microentreprises et les PME (France, Grèce, Bulgarie, le Royaume-Uni et les Pays-Bas) en matière de charges fiscales par rapport aux grandes entreprises.
- L'analyse sectorielle montre que s'il semble ne pas y avoir de différence importante dans le niveau d'imposition entre les PME et les grandes entreprises du

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secteur commercial, la taille de l'entreprise joue beaucoup dans le niveau d'imposition appliqué aux secteurs de la construction, de l'hôtellerie-restauration et des produits manufacturés.

Les principales conclusions de l'analyse qualitative sur les incitants fiscaux accordés aux PME et aux activités de R&D sont les suivantes :

- L'allègement fiscal est plus rare pour les PME que pour les activités de R&D. Les pays ayant mis en place divers incitants sont la Belgique, l'Espagne, la France et le Japon. D'autre part, sept pays (tels que l'Autriche, la Bulgarie, l'Estonie, l'Italie, la Slovénie, la Suède et la Suisse) n'ont même aucun régime fiscal particulier pour les PME.
- Les taux d'imposition spécifiques forment la principale mesure fiscale en faveur des PME. Toutefois, cette mesure présente des propriétés défavorables par rapport à d'autres types d'allègement fiscal et ne devrait pas être considérée comme une « bonne pratique ».
- Les États membres de l'UE ne limitent pas tous de la même façon l'éligibilité aux incitants fiscaux pour les PME en se référant aux critères utilisés dans la définition de la PME établie dans la Recommandation de la Commission du 6 mai 2003.
- On constate une certaine discrimination en matière d'incitants fiscaux entre les microentreprises, les petites entreprises et les moyennes entreprises. En réalité, les moyennes entreprises sont rarement éligibles aux incitants fiscaux destinés aux PME, tandis que les microentreprises en bénéficient largement.
- Il y a rarement de différenciation explicite entre les grandes entreprises et les moyennes entreprises en ce qui concerne les incitants fiscaux en faveur de la R&D (c'est le cas seulement en France, au Royaume-Uni, Canada et Japon). Néanmoins, les avantages générés par les incitants fiscaux applicables de façon générale sont souvent plus importants pour les PME car elles sont moins susceptibles d'être soumises aux restrictions concernant les allègements maximaux autorisés.

Les principaux résultats de l'analyse quantitative des charges fiscales effectives appliquées aux investissements domestiques sont les suivants :

- En pratique, les moyennes entreprises ne profitent pas des incitants fiscaux en faveur des PME dans les pays considérés dans cette étude (mis à part au Royaume-Uni). Les réductions de charge fiscale effective se résument généralement aux incitants fiscaux en faveur de la R&D. Ces réductions vont de 0,93% (cas du Luxembourg) à 25,24% (cas de l'Irlande).
- Pour les petites entreprises, les incitants fiscaux en faveur des PME sont progressivement effectifs dans cinq pays (Belgique, France, Irlande, Espagne et Royaume-Uni). Les réductions de charge fiscale effective (relevant seulement des incitants fiscaux en faveur des PME) vont de 2,54% (cas de la Belgique) à 29,47% (cas de l'Espagne). Les petites entreprises retirent souvent de plus grands bénéfices des incitants fiscaux en faveur de la R&D que les grandes entreprises en raison des dispositions relatives aux seuils.
- Les effets des incitants fiscaux en faveur des PME sont non négligeables pour les microentreprises (les allègements peuvent atteindre 53,05%). Globalement, les allègements fiscaux relatifs aux incitants pour les PME se révèlent être bien plus importants que les allègements relatifs aux incitants pour la R&D, et ce principalement en raison des taux d'imposition.
- Les réductions de charge fiscale effective provenant des incitants fiscaux en faveur de la R&D pour les grandes entreprises vont de 0,98% (cas du Luxembourg) à environ 20% (cas de la Lituanie).

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- Pour la plupart des pays, on observe une importance croissante des incitants fiscaux en faveur des PME et de la R&D dans le temps.
- L'impact des incitants fiscaux en faveur des PME et de la R&D sur la charge fiscale effective diminue d'environ 50% dans la plupart des pays si l'imposition de l'actionariat est également prise en compte.
- L'effet des incitants fiscaux en faveur des PME et de la R&D varie considérablement d'une industrie à l'autre. Ceci s'explique avant tout par l'intensité en R&D de l'industrie considérée.
- Les investissements financés par fonds propres sont affectés par des charges fiscales plus élevées que les investissements financés par emprunt. Comme les PME éprouvent généralement des difficultés à lever des emprunts, elles sont plus susceptibles de souffrir d'un désavantage concurrentiel vis-à-vis des grandes entreprises.

Les résultats de l'analyse quantitative des charges fiscales effectives appliquées aux investissements domestiques et transfrontaliers sont les suivants :

- Les grandes entreprises implantent leurs activités dans des pays différents. Ainsi, elles bénéficient des différentiels de taxation entre ces pays, contrairement aux PME qui opèrent localement.
- Les grandes entreprises peuvent encore réduire leurs charges fiscales effectives en répartissant certaines fonctions relevant du financement et de la propriété intellectuelle dans différents pays.
- Concernant les stratégies de minimisation des taxes, on constate que dans 75% des pays de l'échantillon, les grandes entreprises ont une charge fiscale effective plus basse que celle des PME.
- Néanmoins, et même en supposant des stratégies d'optimisation fiscale sans contrainte par les grandes entreprises, les PME en France, en Espagne, en Belgique, en Lituanie et aux Pays-Bas ont des charges fiscales effectives plus basses que les grandes entreprises.

Enfin, les principales conclusions des études de cas et de l'enquête auprès des conseillers fiscaux sont les suivantes :

- L'IRS est perçu par les entrepreneurs comme un des nombreux facteurs qui impactent leur activité entrepreneuriale et leurs résultats économiques. Toutefois, en comparaison à d'autres types d'impôts auxquels elles sont soumises, les sociétés de toute taille ont tendance à être moins préoccupées par l'IRS que par les impôts et taxes sur les intrants comme les cotisations sociales.
- En traitant des problèmes relatifs à l'accès au financement la structure légale ou financière de leur société, les entrepreneurs ont tendance à ne pas fonder leurs choix sur l'impact que l'IRS aura, mais sur divers facteurs non-fiscaux tels que la culture et le contexte entrepreneuriaux, la disponibilité du crédit et les décisions stratégiques en matière de positionnement sur le marché.
- Le choix de la structure légale pourrait être affecté par la différence qui existe entre les taux d'imposition sur le revenu des personnes physiques et le revenu des sociétés.
- De l'avis des entrepreneurs, les incitants fiscaux en faveur de la R&D, les déductions et les taux de dépréciation spéciaux ou accélérés sont des instruments très importants pour les sociétés.
- Les PME sont légèrement plus affectées par les coûts administratifs et les coûts de mise en conformité relatifs à l'IRS que les grandes entreprises. La vaste majorité des PME fait appel à une assistance professionnelle extérieure pour se conformer à l'IRS, car elles sont généralement trop petites en termes de res-

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sources humaines pour disposer en interne des connaissances et de l'expertise nécessaires.

2.3.4. Conclusions générales et Recommandations

En ce qui concerne le niveau des charges liées à l'IRS pour les PME et les grandes entreprises, les régimes fiscaux varient considérablement d'un pays européen à l'autre. Les PME, et notamment les microentreprises, bénéficient d'un traitement préférentiel dans plusieurs pays européens, mais ne bénéficient d'aucun incitant fiscal particulier dans les autres. C'est dans ces pays que les PME – incapables d'utiliser des stratégies de planification fiscale internationale et souffrant d'un processus de mise en conformité assez lourd – sont les plus à mêmes de souffrir d'un désavantage concurrentiel. Si les responsables politiques décidaient de discuter des modalités de soutien aux entreprises par des incitants fiscaux, ceux-ci ne devraient pas être directement liés à la taille des entreprises mais à la volonté de produire des résultats souhaitables tels que l'innovation et l'investissement. Sinon, la croissance des entreprises serait ralentie par de nouvelles distorsions qui entraveraient l'efficacité et la transparence du système fiscal.

C'est pourquoi dans un premier temps nous mettons l'accent sur l'importance des systèmes de taxation équitables, simples, prévisibles et transparents. Ceci représente une étape intermédiaire dans la construction d'un environnement d'affaires attractif pour toutes les entreprises (y compris les PME), et possède l'avantage de réduire les charges administratives de mise en conformité disproportionnellement élevées pour les PME.

Dans un second temps, chaque incitant fiscal doit remplir un certain nombre de critères de base tels que la transparence, l'efficacité et la neutralité. Nous recommandons donc, comme mesure fiscale en faveur des PME, les crédits d'impôts d'un montant proportionnel aux coûts d'investissements spécifiques (ex. coûts d'acquisition de certains actifs). Ce montant devrait être limité par des plafonds absolus maxima. En plus de limiter les pertes de revenus, cela permettrait de garantir des allègements relativement plus élevés pour les PME que pour les grandes entreprises. En fixant le coefficient de proportionnalité et le plafond correspondant, chaque État membre pourrait déterminer individuellement la « générosité » de son incitant fiscal et la taille des entreprises qui devraient largement bénéficier de cette mesure. Les distorsions qui apparaissent avec des taux d'imposition spécifiques pour les PME ou d'autres mesures d'incitation fiscale seraient alors évitées puisque le crédit d'impôt ne dépendrait pas de critères de taille maximale.

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3. INTRODUCTION AND STUDY SCOPE

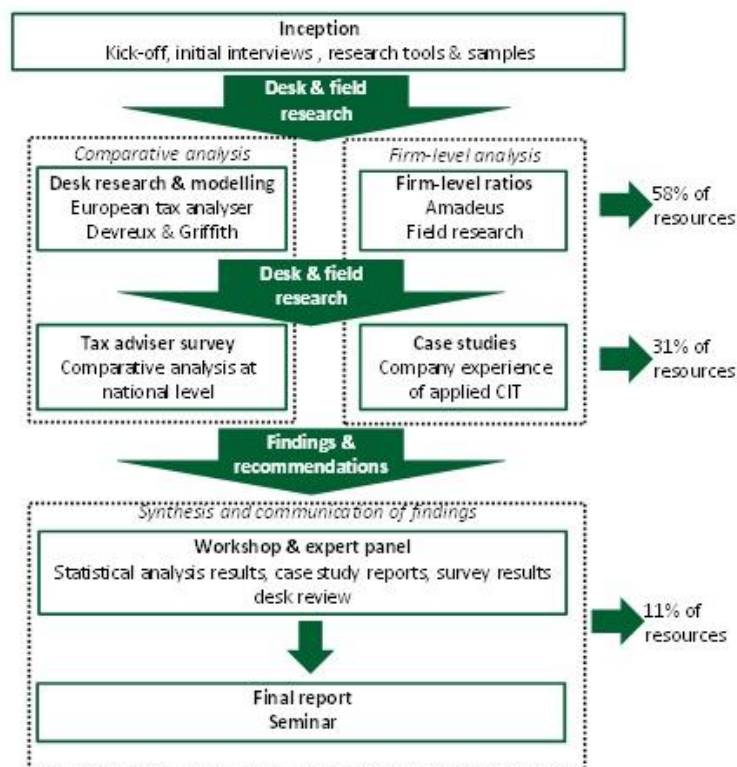
Across all European countries, both large enterprises (LSEs) and small- and medium-sized enterprises (SMEs) have to pay some form of CIT if they have a non-transparent organizational form⁴. In each country, both categories of enterprises thus tend to be subject to the same tax regime.

The major goal of this study was to find evidence about which kinds of corporations, LSEs or SMEs, have to bear a higher CIT burden. We also investigated how tax rules - in combination with different tax structuring options of enterprises - influence companies' effective tax burdens and the behaviour of entrepreneurs. The study was composed of two main elements (summarised in Figure 3.1):

1. Desk and field research were conducted to provide a statistically robust overview of the impact of different aspects of CIT on SME performance. The objective was to identify key competitive advantages and disadvantages resulting from corporate income tax (CIT) for SMEs and LSEs.
2. Empirical research with companies was carried out to provide in-depth qualitative information regarding actual experiences with different taxation regimes.

This report presents the information in points 1 and 2 above to provide an evidence-based starting point for the formulation of practical recommendations (section 9).

Figure 3.1: Overview of the approach



⁴ In this study we use the terms "company" and "corporation" interchangeably to designate enterprises with a non-transparent organisational form. The term "enterprises" denotes all legal entities irrespective of their organisational form.

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In agreement with the European Commission, the study scope was limited as follows:

1. By definition, the study was limited to incorporated entities (companies/ corporations), i.e. entities that are liable to pay CIT. A large number of SMEs, especially at the micro end of the SME definition are not incorporated. This includes for instance, sole traders or partnerships. Because these entities do not pay CIT they fall outside the scope of this study on CIT regimes.
2. The available data only captured corporations that are required to file accounts with the national administration. Corporations that are not required to file accounts are not captured in the AMADEUS database (or in other databases).
3. The tax modelling part of the study shows the impact of the tax code on effective tax burden for corporations of different size. It examines tax burdens assuming that corporations comply with applicable legislation and that they take advantage of size related exemptions and reductions where they are eligible. Thus, this analysis is not based on the actual behaviour of corporations but on model corporations. The value added of this part of the study is that it identifies those CIT regimes with the most/least advantageous tax provisions for SMEs. There are three stages in the tax modelling analysis (described in more detail in the main body of this report):
 - a. Extraction of SME-specific provisions in the tax code in the countries covered by the study (Section 5 of this report). This part of the study identifies special tax provisions for SMEs and compares and contrasts the CIT regimes in each country on the basis of their tax code.
 - b. Calculation of the impact of these provisions on corporations of different size (the “European Tax Analyser” in Section 6). This part of the study computes the impact of the provisions identified in point a) on a typical corporation in each size group: micro, medium-sized and small and compares them against companies that are not eligible for SME specific provisions (i.e. LSEs). The “typical corporation” is defined as an average corporation on the basis of data contained in the AMADEUS database. This part of the study shows how SME-specific provisions in the tax code affect the tax burden of typical corporations of different size that take advantage of these provisions.
 - c. Demonstration of the potential impact of internationalisation of a corporation on its tax burden (the “Devereux-Griffiths analysis” in Section 7). This part of the study shows the potential difference in the tax burden for a purely domestic corporation compared with a corporation that is part of a multi-national group. The analysis demonstrates how profit shifting by multi-national groups can reduce the tax burden of a corporation compared with a competitor that is not part of a multinational group.
4. The financial ratio analysis (Section 4) analyses the behaviour and actual tax burden of individual companies, extracted from the AMADEUS database. This part of the analysis is based on a sample of real-life companies in each country. It shows trends in six key financial ratios over time and its value added is that it can help identify patterns in the way companies behave in different countries. At the same time, this part of the analysis cannot correlate financial ratios to specific provisions in the tax code of any one country since there are too many intervening variables to be able to make that correlate.

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5. Finally, the survey and company interviews investigated the perceptions of entrepreneurs on the CIT regime in their country in greater detail.

The study does not include aspects in the tax code that do not explicitly make a distinction on the basis of the size of the company but that may in practice apply mostly to LSEs (e.g. holding regimes, group taxation, etc.). As presented above, the study analyses the tax code to extract paragraphs that make a distinction in treatment of companies on the basis of their size (turnover, employees or assets as per the SME definition). While this may sound like a significant limitation it allows the study to focus on SME specific provisions in the tax code over which policymakers can exert direct control.

In the context of this study we analysed 20 current Member States of the European Union.

Table 3.1 Sample countries

Austria	Estonia	Greece	Luxembourg	Spain
Belgium	Finland	Ireland	Poland	Sweden
Bulgaria	France	Italy	Romania	The Netherlands
Croatia	Germany	Lithuania	Slovenia	The United Kingdom

The distinction between LSEs and the different categories of SMEs (i.e. micro, small and medium-sized) is based on the three criteria named in EU recommendation 2003/361: number of employees, turnover and balance sheet total.

Table 3.2 Definition of SME

Enterprise category	Max. number of employees	Max. turnover	Max. balance sheet total
Medium	< 250	≤ € 50 million	≤ € 43 million
Small	< 50	≤ € 10 million	≤ € 10 million
Micro	< 10	≤ € 2 million	≤ € 2 million

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4. FINANCIAL RATIO ANALYSIS

The Financial Ratio analysis is focused on a number of key tax and structural ratios for companies across Europe. The report aims at providing an insight on the fiscal burden of SMEs compared to LSEs in the 20 selected EU Member States (see previous Section for a list of countries covered).

The ratios evaluated in this report are:

- TAX over EBITDA (Earnings Before Interests, Taxes, Depreciation and Amortization);
- TAX over EBIT (Earnings Before Interests and Taxes);
- TAX over EBT (Earnings Before Taxes);
- Cash ratio;
- Quick ratio;
- Debt ratio.

Furthermore, the study focuses on five economic sectors:

- Commerce;
- Construction;
- Manufacturing;
- Hotels & restaurants;
- Energy.

The analysis is based on an extraction from the Amadeus database produced by Bureau Van Dijk, which provides updated information on the financial statements of almost 19 million enterprises. In total the dataset for this study includes nearly 4 million observations⁵. Each observation corresponds to an enterprise operating between 2009 and 2013.

To ensure reliable results and to reduce the impact of outliers, a number of observations were dropped from the dataset. In particular the dataset does not include:

- Observations with a negative debt ratio, negative value of total assets or negative total liabilities.
- Observations where tax over EBT is negative.

The dataset was also adjusted for outliers. Values above the 75th percentile + 1.5 times the absolute value of the interquartile range within their group OR values lower than the 25th percentile - 1.5 times the absolute value of the interquartile range within their group are considered outliers. Adjusting for outliers reduces bias in reporting average results across different groups of observations.

The objective of the financial ratio analysis is to determine the CIT burden that SMEs and LSEs face in the selected EU countries and in five economic sectors. On the basis of this analysis we aim at responding to one of the key questions of the study, to assess whether SMEs pay more taxes than LSEs from a general point of view.

⁵ The sample size is sufficiently high to allow for representative conclusions at company size, sector, ratio and country level. The full dataset cannot be included in this report and in Annex 1 due to the confidential nature of the information.

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The analysis shows that, solely on the basis of the financial ratios, it is not possible to say that, in general, SMEs face a higher fiscal burden than LSEs in the EU. Tax regimes across the countries in the sample vary significantly from one another, with countries that seem to favour SMEs and others where LSEs face a lower CIT burden.

4.1. Tax over EBITDA

The tax over EBITDA⁶ ratio shows the impact of CIT on the profitability of the company without taking into account the effect of interest payments, financing, depreciation or amortisation. This ratio can be used to assess the impact of taxation on the core business of the company without considering the impact of the capital structure, or the depreciation and amortisation provisions that change from country to country.

Comparing tax over EBITDA across countries leads to quite a diverse picture across the EU⁷ (see Figure 4.1). The European average TAX over EBITDA (taking into account all 28 Member States) is around 12.6% and for most European companies, CIT falls between 8% and 16% of EBITDA. At the extremes, in Bulgaria (5.02%) the weight of CIT on operating income is particularly low whereas in Italy (23.6%) TAX over EBITDA is almost one-fourth of operating income. Indeed, Italy presents a much higher tax over EBITDA ratio compared to the other countries in the sample. This is partially due to a high CIT rate in Italy, but also to the presence of additional regional taxes⁸, the effect of which cannot be separated out due to data limitations.

Figure 4.1: TAX over EBITDA, ratio per country

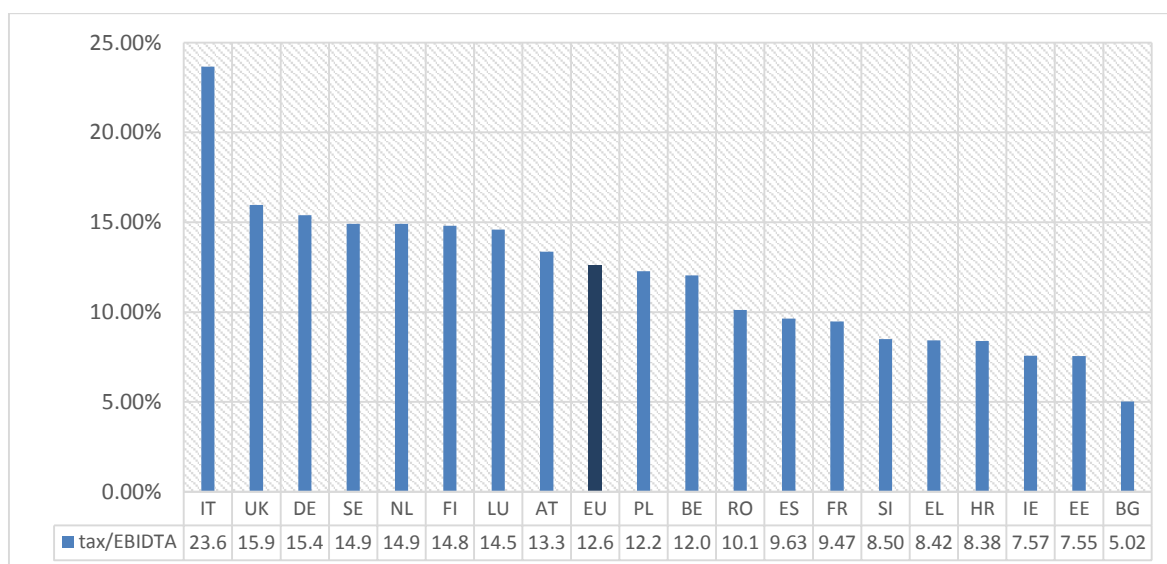


Figure 4.2 presents a comparison for each country between TAX over EBITDA for SMEs and LSEs. Countries are ranked depending on the spread between the average ratios for the two groups.

⁶ Earnings Before Interests, Taxes, Depreciation and Amortization

⁷ The Amadeus database does not provide data on EBITDA for Lithuania.

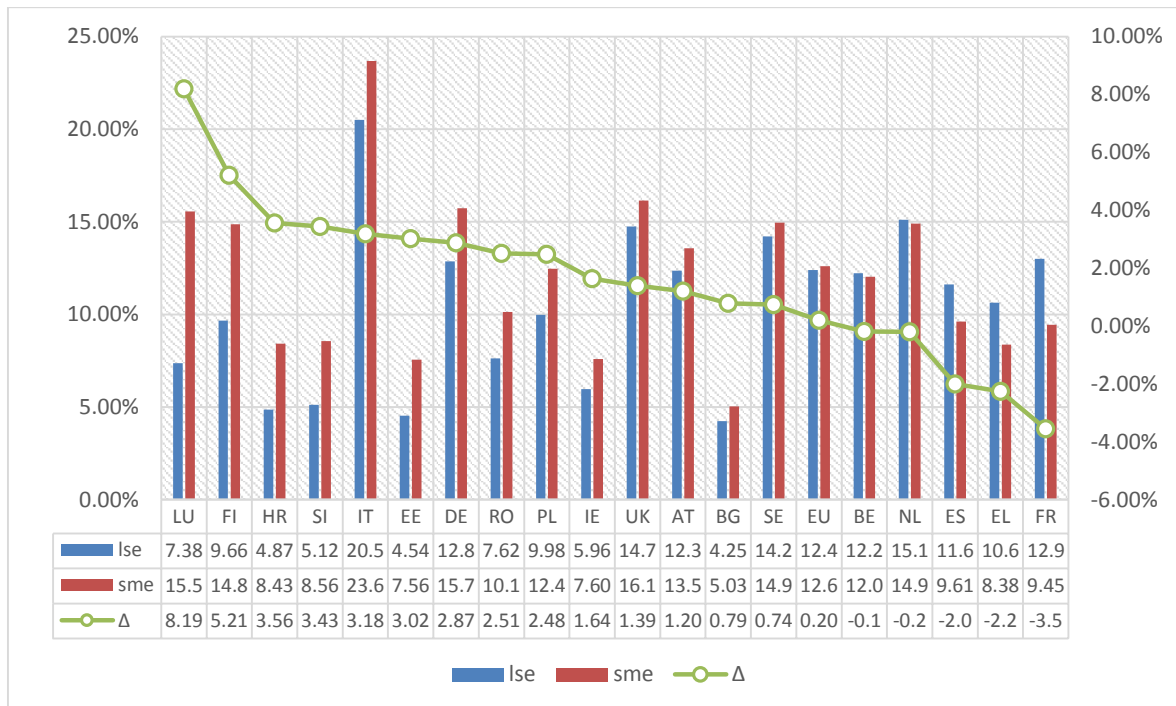
⁸ IRAP: Imposta Regionale sulle Attività Produttive (Regional Tax on Businesses)

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The Figure shows that, in Luxembourg and Finland, SMEs have a TAX over EBITDA ratio of 15% while for LSEs the weight of taxation on EBITDA is only 7.4% and 9.6% respectively. France, on the other hand, presents a more favourable situation for SMEs with a TAX over EBITDA ratio that is 3.5% points lower than for LSEs. This is mainly due to the fiscal incentives and the special tax rates available to SMEs in France. While there are differences across countries in terms of CIT paid by SMEs versus LSEs, the EU average shows that at an aggregate level, the ratio is almost identical for SMEs and LSEs.

Figure 4.2: TAX over EBITDA, ratio per country (detail SMEs / LSEs)



Similarly, Figure 4.3 shows that small companies seem to have a tax advantage in Spain, Belgium and France where TAX over EBITDA is lower than for medium-sized companies. On the other hand Austria, the UK, Croatia and Finland seem to have TAX over EBITDA ratios that are more favourable for medium-sized companies than for smaller ones.

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Figure 4.3: TAX over EBITDA, ratio per country (SMEs detail)⁹

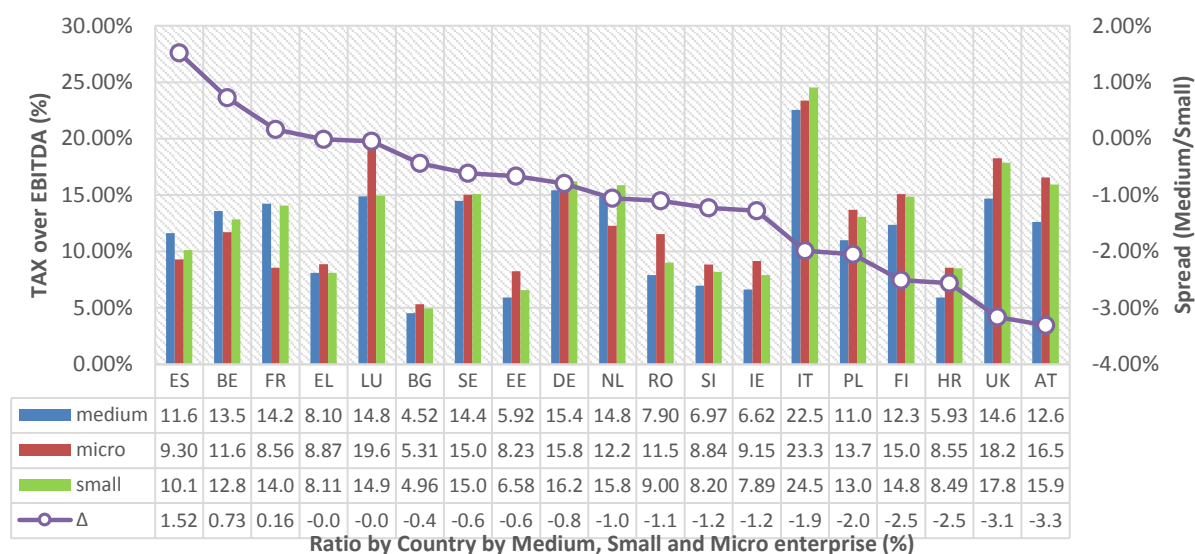
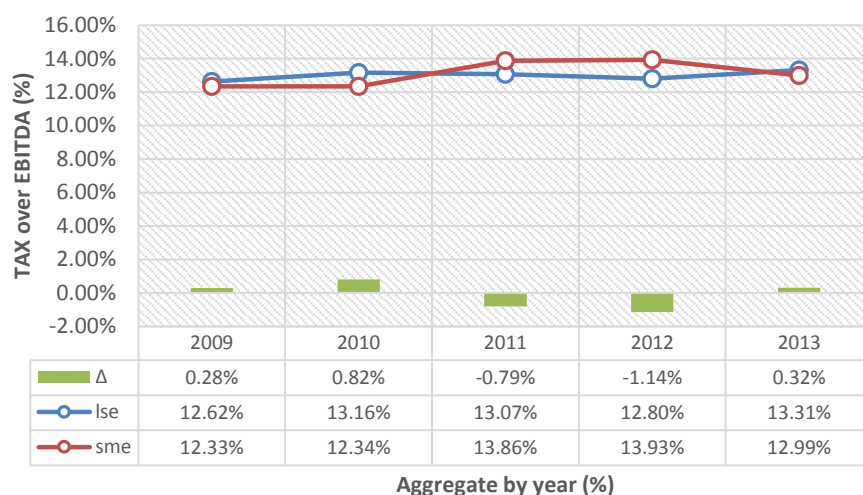


Figure 4.4 presents the TAX over EBITDA ratio trend between 2009 and 2013. The analysis shows an overall slight increase of the weight of taxation on EBITDA in Europe. The trend is similar for SMEs and LSEs with a difference of about 0.3% points between the two groups.

Figure 4.4: TAX over EBITDA, time trend (2009-2013), SME/LSE detail and spread¹⁰



A detailed analysis of the time trend per industry in Figure 4.5 shows that there seems to be no significant difference between SMEs and LSEs in the commerce sector. In the five year period under study, the ratio for LSEs decreased slightly to a level below that for SMEs.

⁹ Delta is defined as the difference between the ratio for small and medium corporations.

¹⁰ Green bars indicate the spread between the TAX over EBITDA ratio for SMEs and LSEs. The blue and red lines show the time trend of Tax over EBITDA ratio for SMEs and LSEs.

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In contrast, the construction sector presents a slight increase for SMEs for four years and an evident decrease in 2013 and a steady decreasing trend for large companies. In the energy sector, ratios for LSEs and SMEs were at the same level in 2009 and they remained closely aligned until 2013, when a lower ratio for SMEs was registered.

In the hotels and restaurants sector, SMEs have a TAX over EBITDA ratio that is between 2 and 3.8 percentage points lower than for LSEs during the period of analysis.

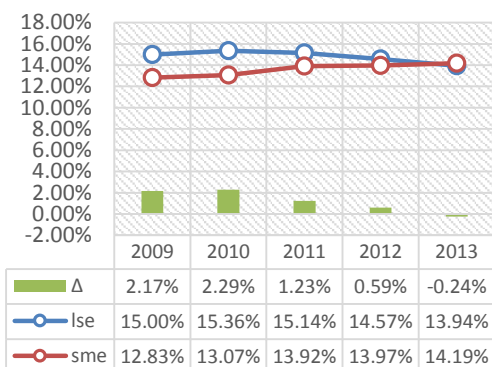
Finally, in the manufacturing sector, SMEs have a slightly higher TAX over EBITDA ratio and both size groups present the same increasing trend.

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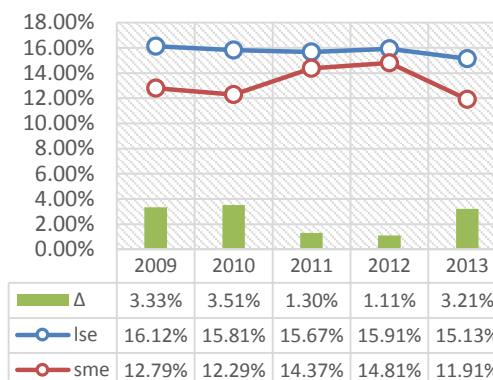
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Figure 4.5: TAX over EBITDA by industry and LSE/SME, and spread between SMEs and LSEs

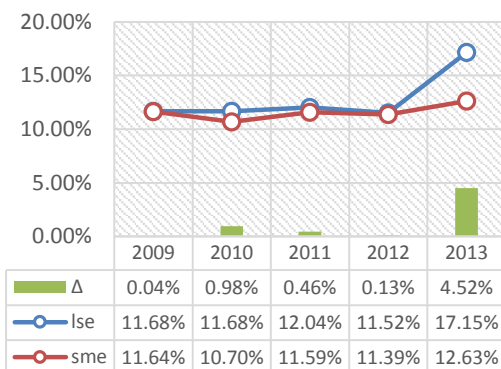
Commerce (EBITDA)



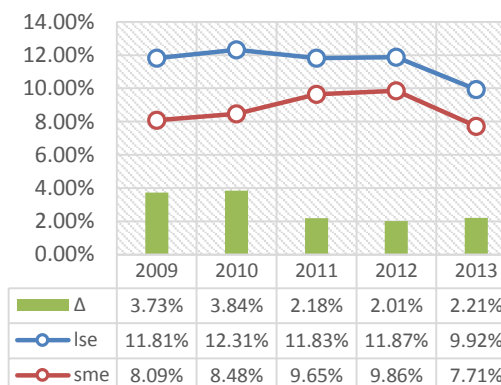
Construction (EBITDA)



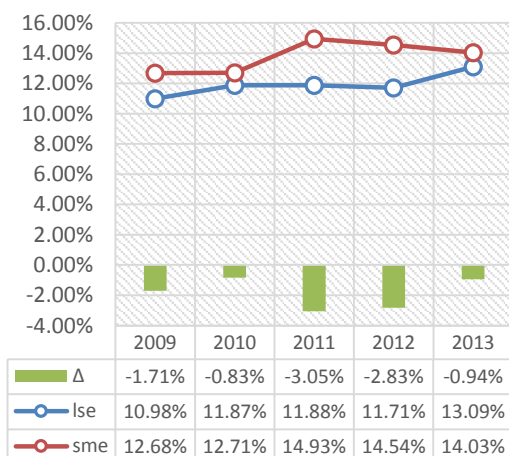
Energy (EBITDA)



Hotels and Restaurants (EBITDA)



Manufacturing (EBITDA)



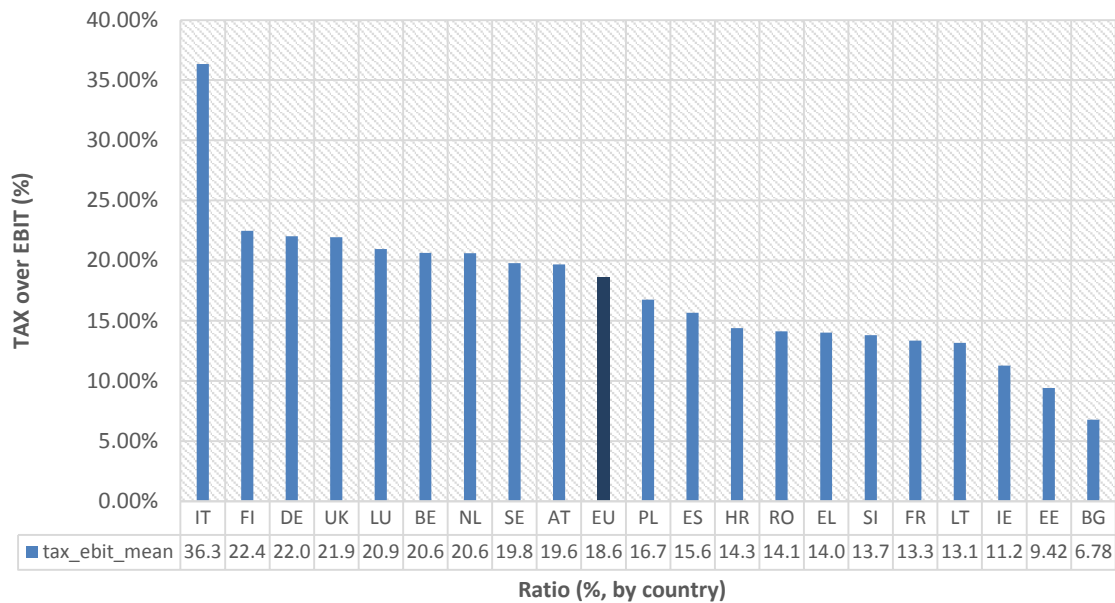
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4.2. TAX over EBIT

The TAX over EBIT¹¹ ratio shows the impact of taxation on operating profits. However, EBIT includes the effects of depreciation and amortisation.

Figure 4.6 shows that the EU average for TAX over EBIT is at 18.6%. Across countries, the ratios range from 36% in Italy to 7% in Bulgaria.

Figure 4.6: TAX over EBIT ratio by country



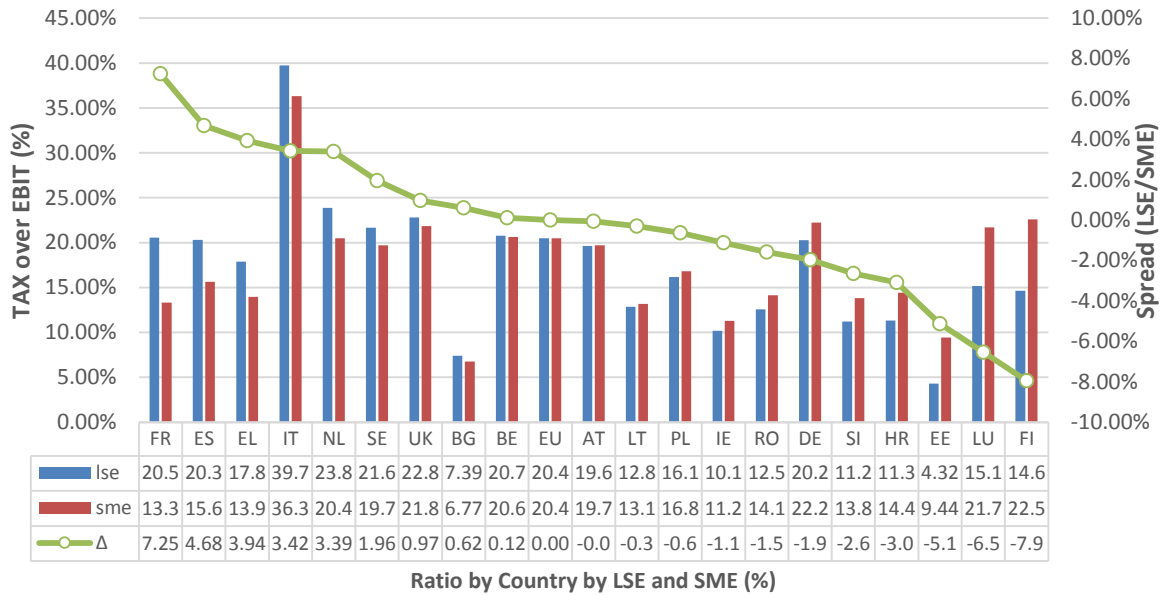
The detail analysis of the two size groups (LSEs and SMEs) in Figure 4.7 shows great differences from country to country: while Finland, Estonia, Luxembourg and Croatia have a lower ratio for LSEs, SMEs in France, Spain, Greece and Italy have a lower TAX over EBIT ratio than larger companies.

¹¹ Earnings Before Interests and Taxes

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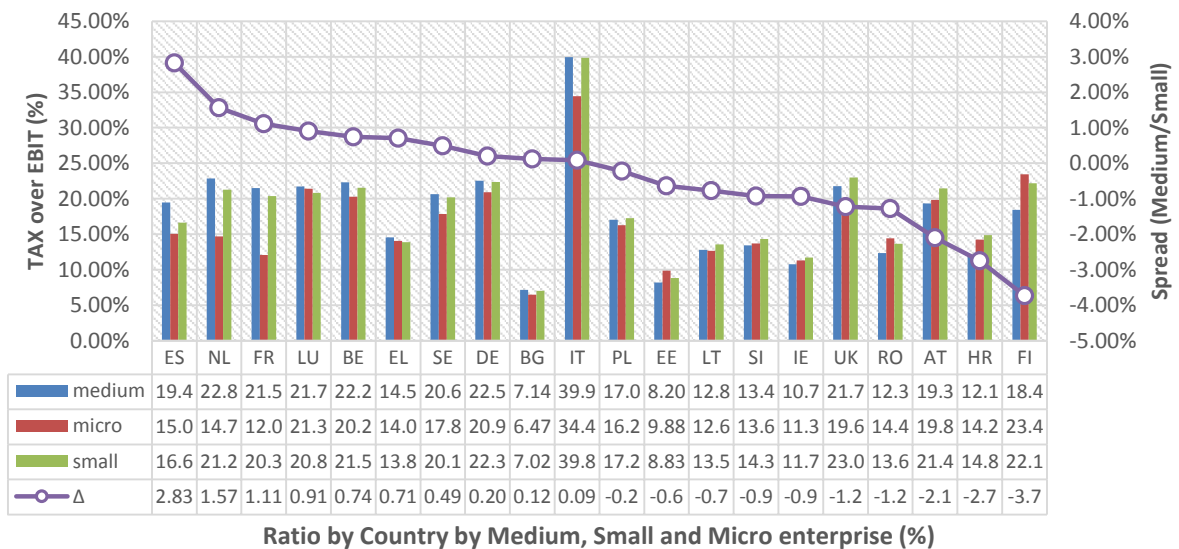
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Figure 4.7: TAX over EBIT ratio (SME/LSE detail)



A detailed analysis of the ratio within the SME group (Figure 4.8) shows that the difference between SMEs ranges between -4% and +3% indicating that within the SME group the differences are less marked than between SMEs and LSEs.

Figure 4.8: TAX over EBIT ratio (SMEs detail)¹²



¹² Delta is defined as the difference between the ratio for small and medium corporations.

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Figure 4.9 shows that the weight of taxation on EBIT is slightly increasing over the time period of the study and the spread between the two groups (SMEs and LSEs) is almost constant over time for LSEs, while for SMEs increased slightly in 2010 and more sensibly in 2011, with a slight decrease during 2013.

Figure 4.9: TAX over EBIT ratio (time trend)¹³

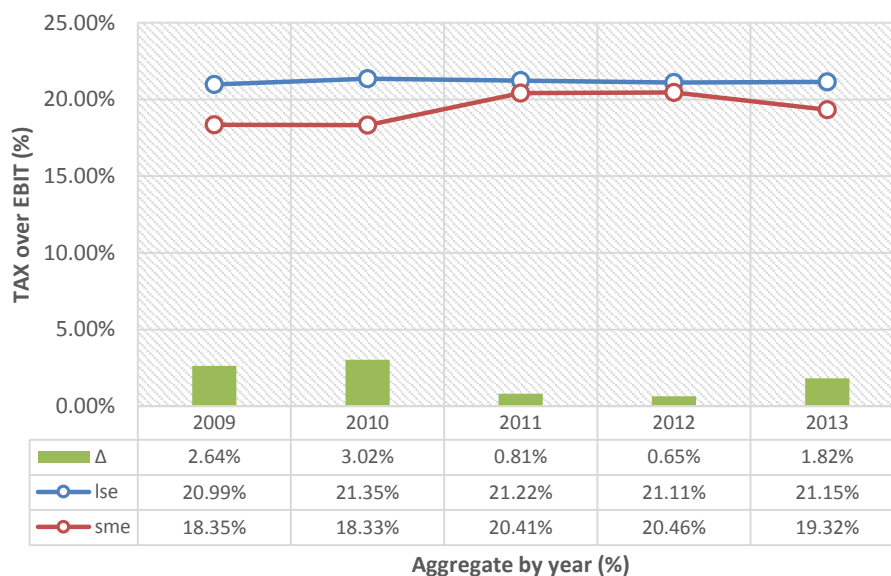


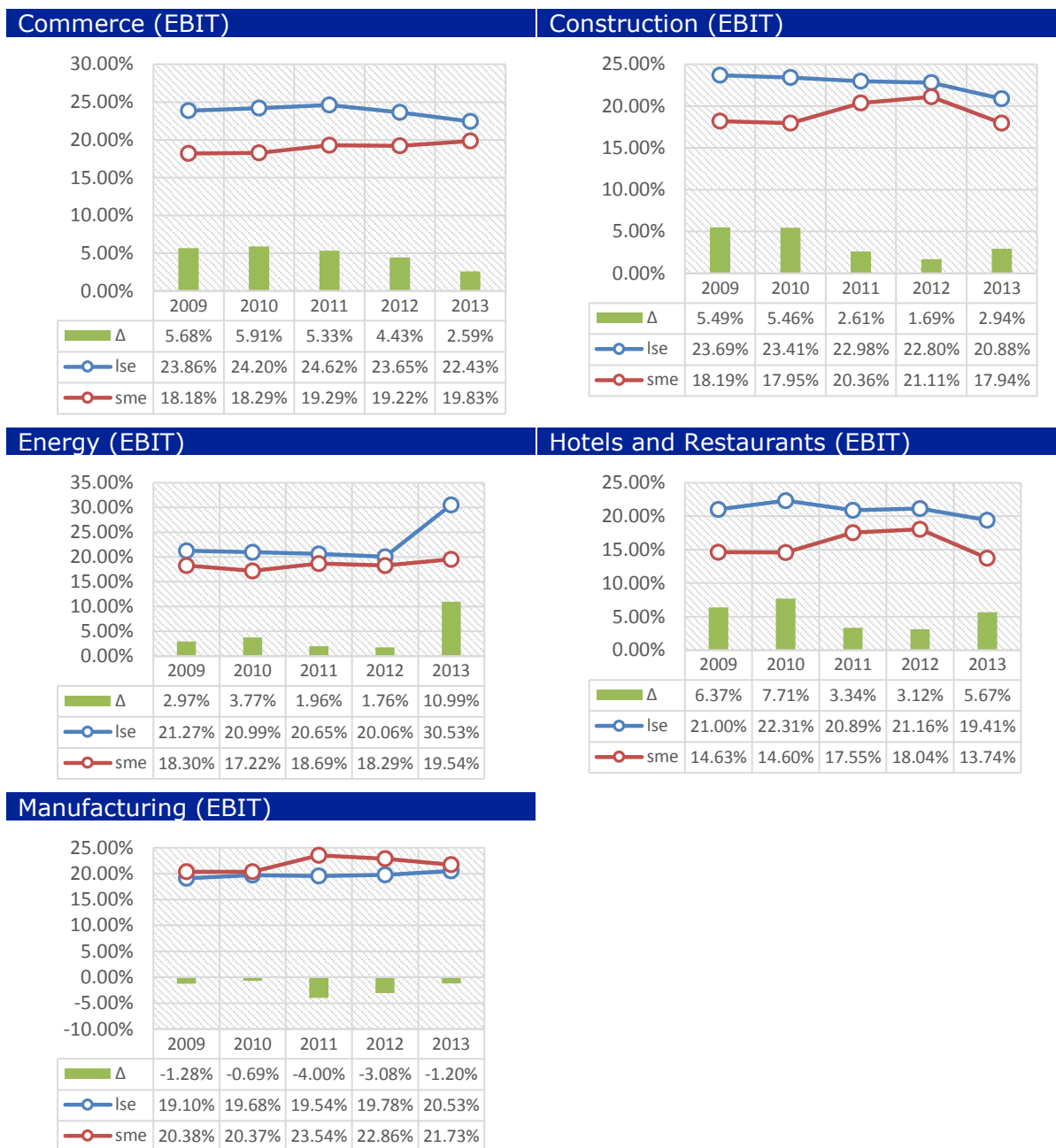
Figure 4.10 reports the time trend for TAX over EBIT in the commerce, construction, energy, hotels and restaurants, manufacturing sectors. A detailed analysis of trends between 2009 and 2013 in the commerce sector shows an increase in the weight of taxation on EBIT for SMEs, while for LSEs this ratio decreased starting in 2011. The same situation for LSEs is shown in the construction sector, while for SMEs the ratio decreased markedly starting in 2012. The opposite trend can be observed in the energy sector, where the spread between SMEs and LSEs increased over time from a slight 3% point difference to 11% points in 2013 in favour of SMEs. The ratio is also favourable to SMEs in the Hotels and Restaurants sector, with a difference of 5.67% points in 2013. In the manufacturing sector there is no present any statistically relevant difference between the two groups.

¹³ Green bars indicate the spread between the TAX over EBIT ratio for SMEs and LSEs. The blue and red lines show the time trend of Tax over EBIT ratio for SMEs and LSEs.

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Figure 4.10: TAX over EBIT by industry and LSE/SME, and spread between SMEs and LSEs



4.3. TAX over EBT

The TAX over EBT¹⁴ ratio expresses the weight of taxation on the value created by the company in all its activities. It takes into consideration operations, capital structure (in particular the cost of debt) and other activities. This ratio is often used as a quick and easy way to assess the effective tax burden on enterprises. However, different fiscal

¹⁴ Earnings Before Taxes

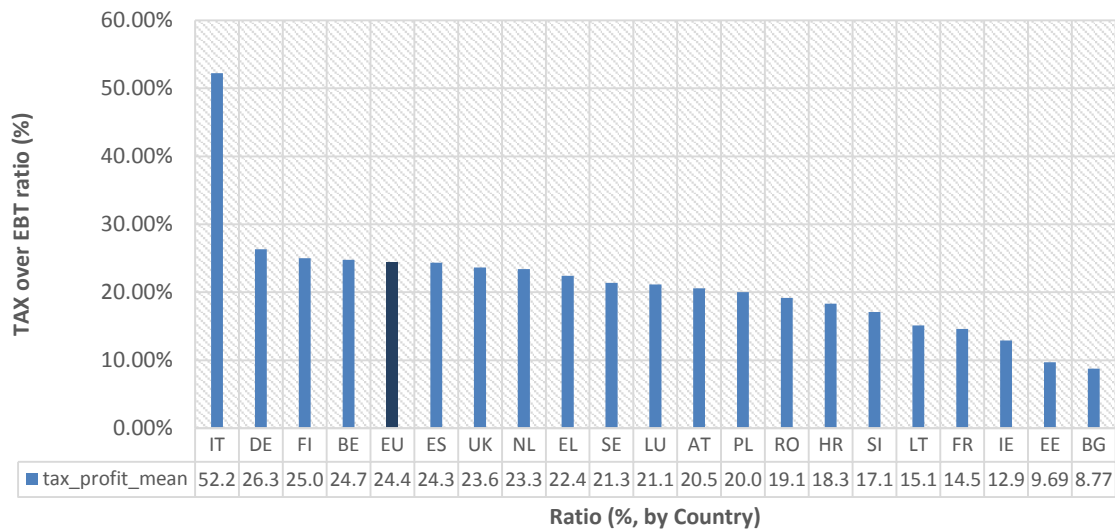
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regimes define taxable income differently from EBT and thus direct comparisons with statutory CIT rates need to be interpreted with caution.¹⁵

Figure 4.11 shows that as for the previous TAX ratios, Italy has the highest value (52.2%), followed by Germany (26.3%) and Finland (25.0%). Bulgaria (8.77%), Estonia (9.69%) and Ireland (12.9%) have the lowest tax over EBT ratio.

Figure 4.11: TAX over EBT ratio by country



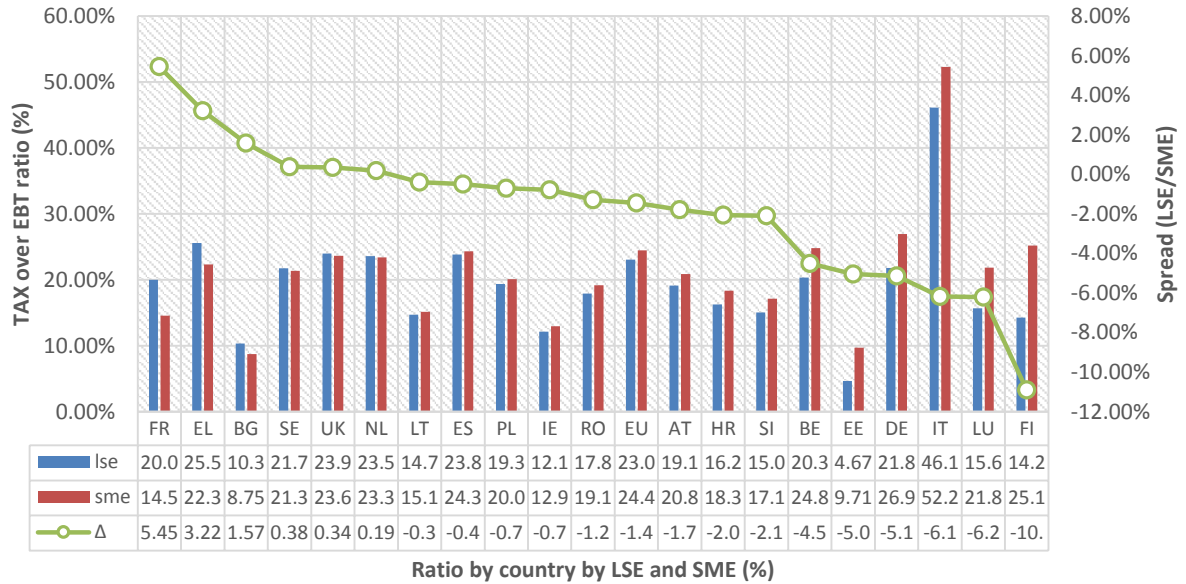
For EBT, the measure of earnings that is closest to profit, corporate income taxation tends to weight more, on average, for SMEs than for LSEs in 14 countries out of 20. Figure 4.12 presents the TAX over EBT ratio by country and by size class (LSE and SME). Cross-country differences vary from a maximum of -10% points in Finland to 5.45% points in France but for most of the countries the difference between SMEs and LSEs ranges between -6% and -0.3%. Only 3 countries (France, Greece and Bulgaria) appear to have a tax regime that significantly favours SMEs (by >1% point).

¹⁵ Even though CIT is a profit based tax, the calculation of taxable income varies from country to country. Thus TAX/EBT does not necessarily give a comprehensive picture of the burden of CIT on enterprises.

SME taxation in Europe

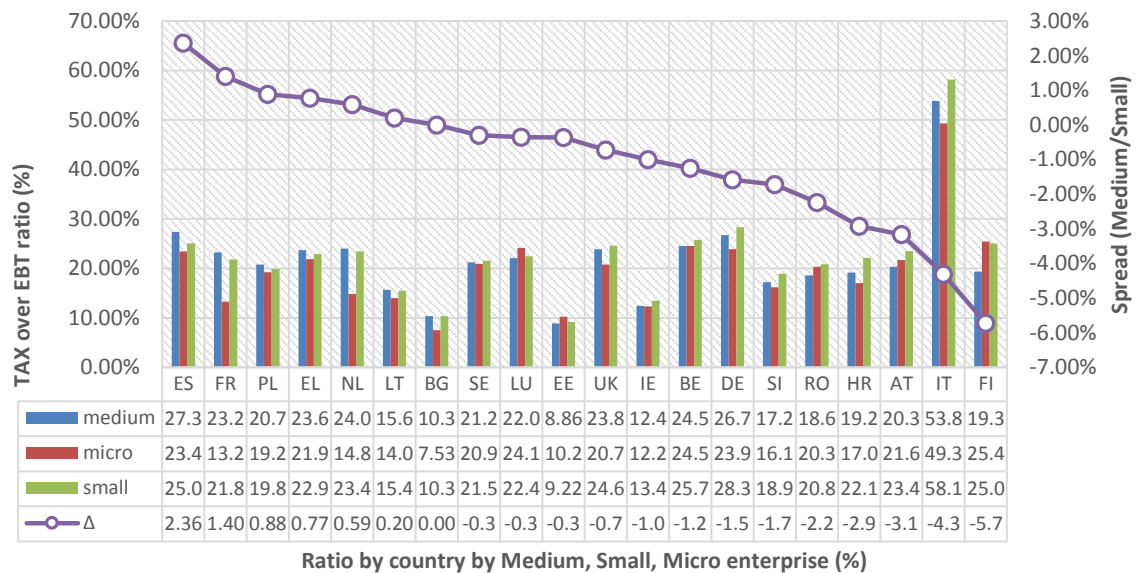
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Figure 4.12: TAX over EBT ratio (SME/LSE)



A detailed analysis of the SME group in Figure 4.13 shows a similar trend. A partial explanation for this result may lie in the fact that few countries seem to have “progressive regimes” with different tax rates for different levels of EBT (e.g. France, the Netherlands). Instead, most countries show a higher TAX over EBT ratio for small companies in comparison with medium-sized companies.

Figure 4.13: TAX over EBT ratio (SME detail)¹⁶



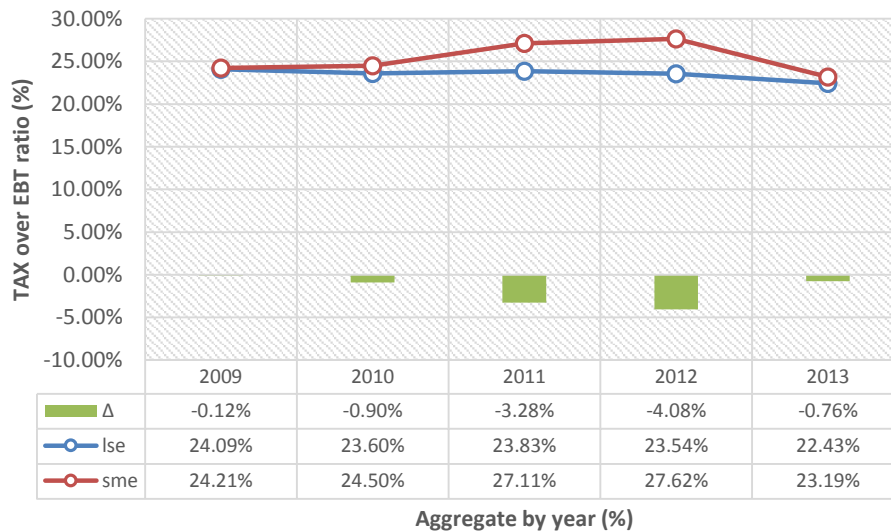
¹⁶ Delta is defined as the difference between the ratio for small and medium corporations.

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The trend analysis in Figure 4.14 indicates that, on average, SMEs pay about 1% more TAX on EBT than LSEs. However, a comparison with the previous ratios presents an interesting fact: for both the TAX over EBITDA and TAX over EBT, SMEs have higher ratios than LSEs while, on average, the TAX over EBIT is higher for LSEs than for SMEs. The causes of this inversion might be related to the different weight of depreciation and amortization in the income statements of SMEs and LSEs.

Figure 4.14: TAX over EBT ratio (time trend)¹⁷



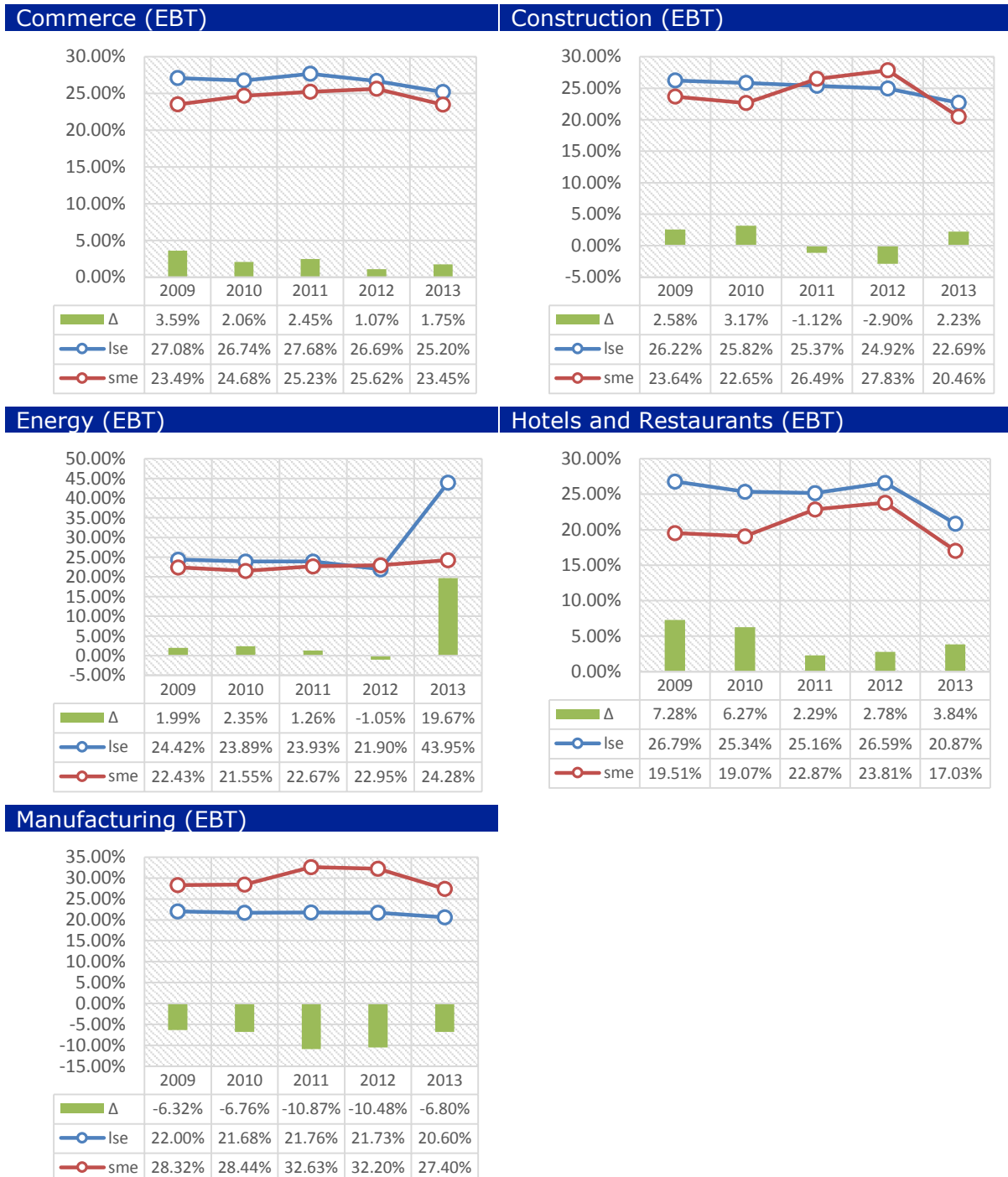
Different trends emerge in the sector analysis in Figure 4.15. While in the commerce and in the construction sectors differences between SMEs and LSEs are between 1% point and 3.6% points, other sectors present some more significant fluctuations: in 2013, the spread between the two groups in the energy sector reached 19% points, with SMEs having a lower ratio on average than LSEs.

¹⁷ Green bars indicate the spread between the TAX over EBT for SMEs and LSEs. The blue and red lines show the time trend of Tax over EBT ratio for SMEs and LSEs.

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Figure 4.15: TAX over EBT by industry and LSE/SME, and spread between SMEs and LSEs



4.4. Cash Ratio

The cash ratio expresses the ability of companies in the short term to cover current liabilities with cash or cash equivalents. The cash ratio is calculated by simply comparing the immediate liquidity of the enterprise to the current liabilities. It is a measure of the ability of the enterprise to pay back its debts in the very short term. A high cash

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ratio does not necessarily indicate a healthy enterprise as it might indicate an unnecessary accumulation of funds and inventory¹⁸ or inefficient financial management (since these funds could be invested more profitably). On the other hand, an extremely low cash ratio might suggest that the enterprise could become unable to repay its short term debt.

Figure 4.16 presents the average cash ratio of companies across Member States. On the left side of the diagram Estonia, Ireland and Finland have a particularly high liquidity (in Estonia, for example, on average 69% of company liabilities are covered with cash or cash equivalent assets). On the other side of the graph Slovenia, Croatia and Italy present a particularly low average cash ratio.

Figure 4.16: cash ratio per country

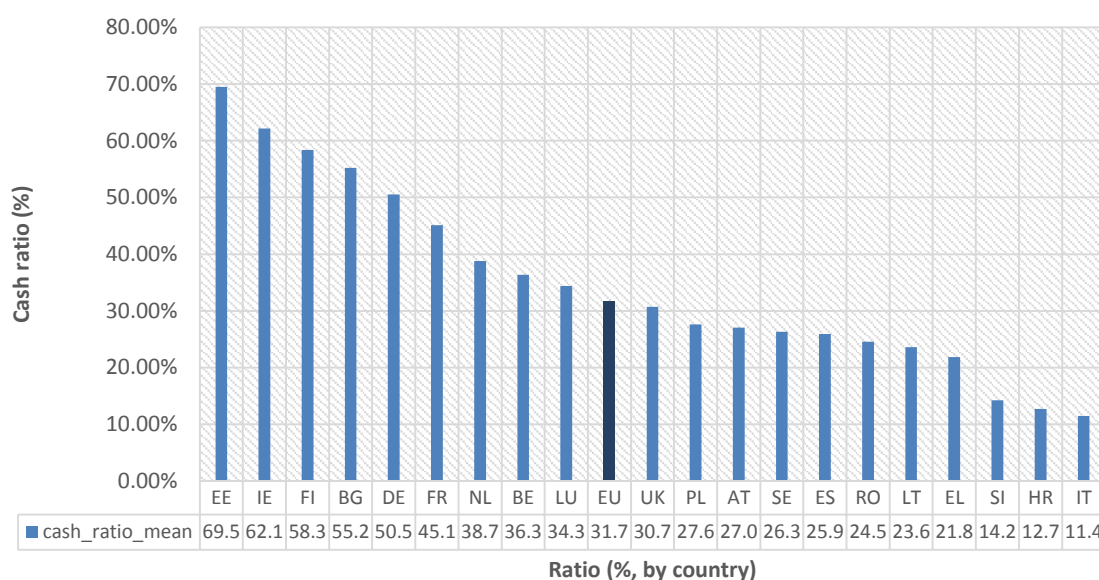


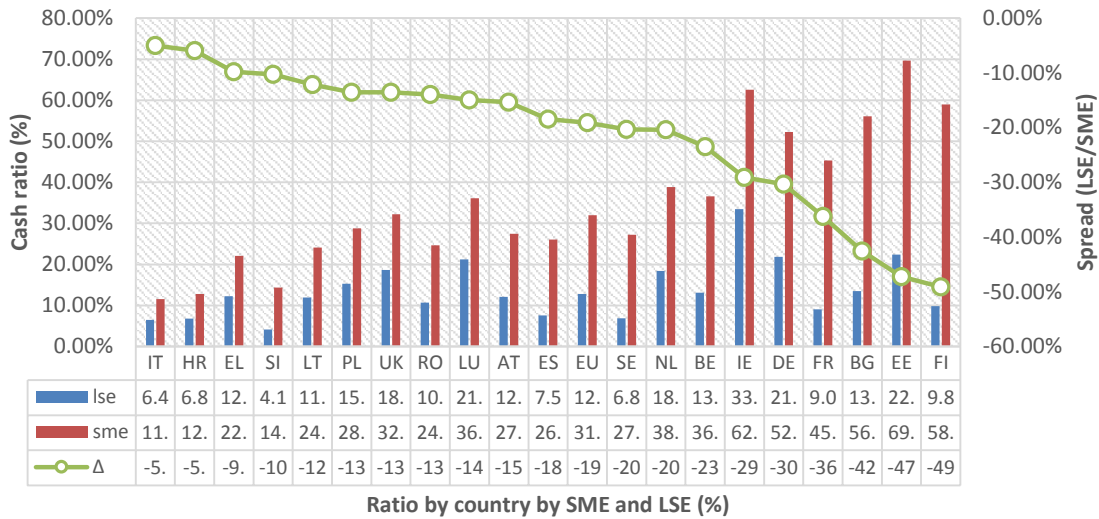
Figure 4.17 presents a disaggregated view of the cash ratio between SMEs and LSEs. Member States are ranked by the spread of the ratio between the two groups. Finland, Estonia, Bulgaria and France have the highest spread (between 36% points and 49% points higher for SMEs in comparison to LSEs). On the opposite side, Italy, Croatia and Greece have cash ratios that are between 5% points and 9.8% points higher for SMEs. In none of the countries do LSEs have a higher average cash ratio than SMEs.

¹⁸ Carrying too much inventory means that an enterprise is either not selling enough or is ordering too much. Failure to turn over inventory negatively affects revenue and cash flow.

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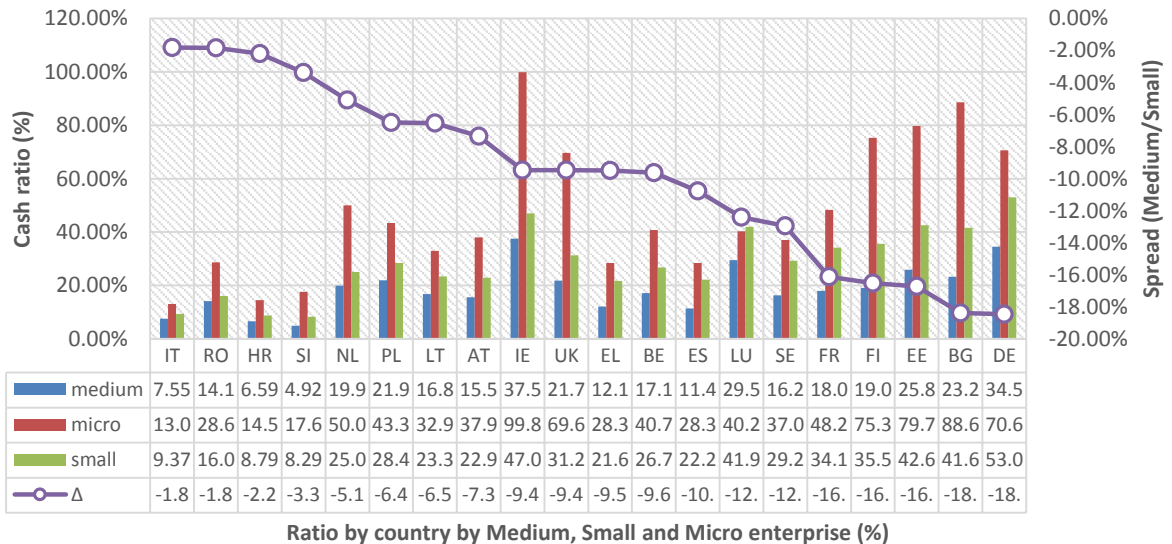
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Figure 4.17: cash ratio by SME/LSE



A detailed analysis of the SME group in Figure 4.18 shows that micro companies exhibit the highest cash ratios in all countries. Furthermore, the spread between medium-sized and small companies is particularly evident in Germany, Bulgaria and France (around 16-18% points higher for small companies).

Figure 4.18: cash ratio by country (SME detail)¹⁹



The time trend analysis in Figure 4.19 shows a constant spread between SMEs and LSEs between 2009 and 2012 and an increase in 2013 when it reached 27.8% points.

¹⁹ Delta is defined as the difference between the ratio for small and medium corporations.

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Figure 4.19: cash ratio (time trend)²⁰

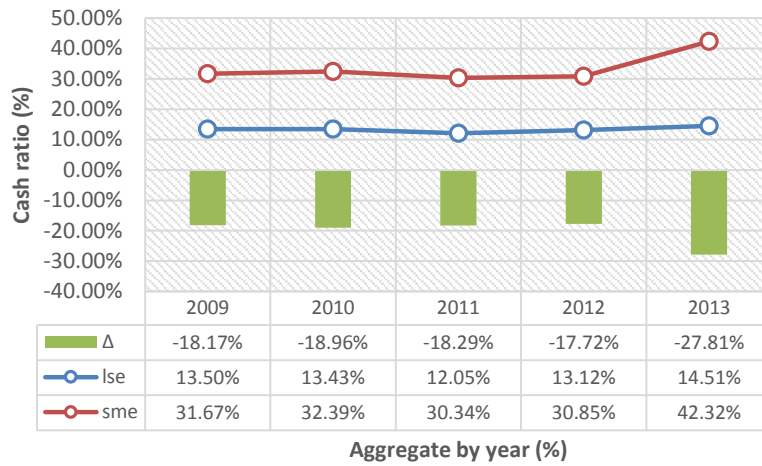


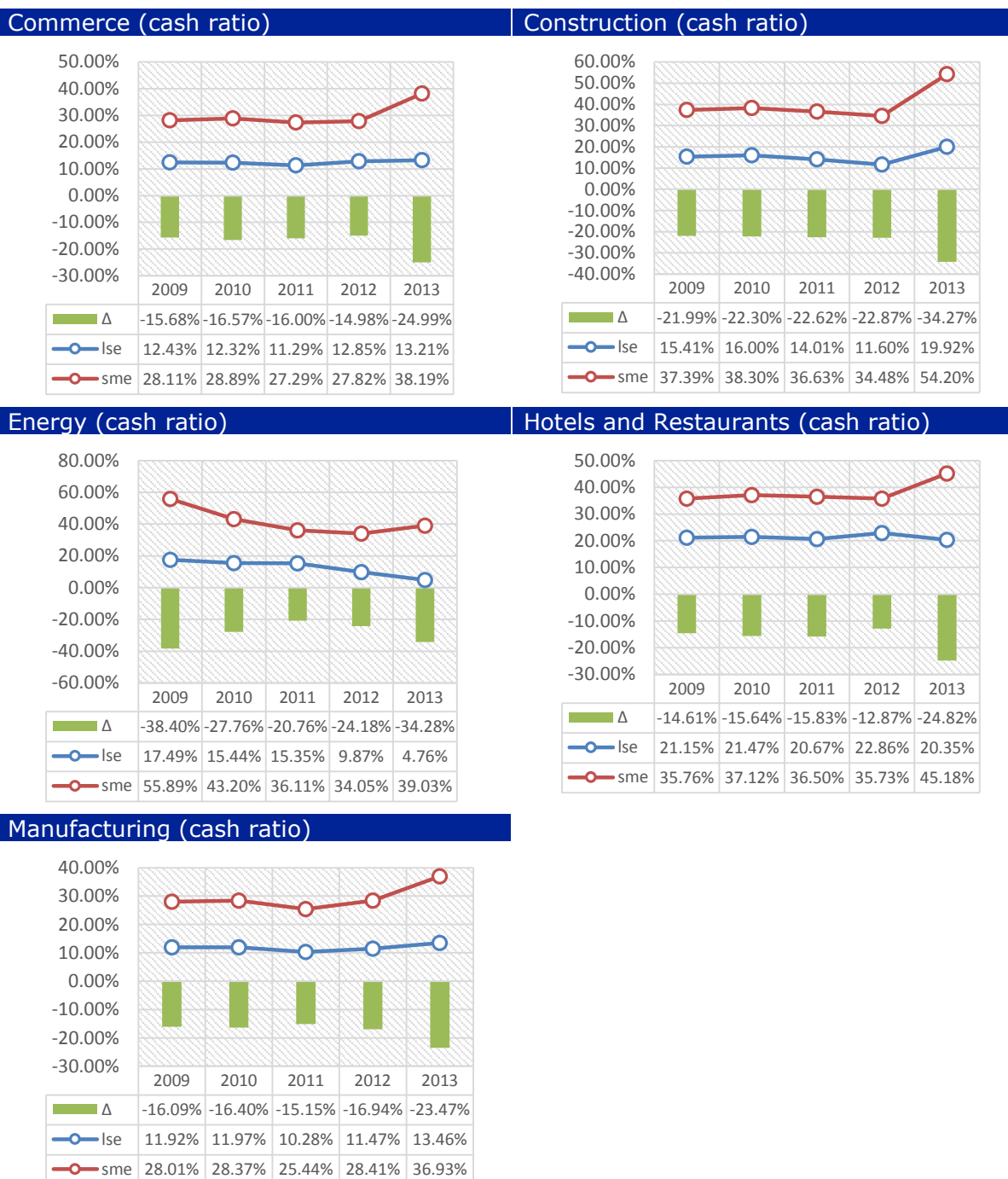
Figure 4.20 provides the detail by industrial sector between 2009 and 2013. In all five sectors SMEs present a higher ratio than LSEs, a result consistent with the data shown in Figure 4.17.

²⁰ Green bars indicate the spread between the cash ratio for SMEs and LSEs. The blue and red lines show the time trend of cash ratio for SMEs and LSEs

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Figure 4.20: cash ratio by industry and LSE/SME, and spread between SMEs and LSEs



The highest difference between the cash ratio of LSEs and SMEs in 2013 is registered in the construction and energy sectors, with SMEs having a cash ratio higher than LSEs by around 34 percentage points. In all sectors apart from energy, the spread between the ratios of SMEs and LSEs in 2013 was higher than in 2009.

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4.5. Quick Ratio

The quick ratio expresses the ability of a company to cover its current liabilities. It is calculated as the sum of its most liquid assets (cash, cash equivalents and short term investments) plus the accounts receivables over the current liabilities.

Obviously, it is vital that companies have sufficient cash on hand to meet accounts payables, interest expenses and other bills when they become due. The higher the ratio, the more financially secure the company is in the short term. A common rule of thumb is that companies with a quick ratio of greater than 1.0 are sufficiently able to meet their short-term liabilities.

In general, low or decreasing quick ratios suggest that a company is over-leveraged, struggling to maintain or grow sales, paying bills too quickly or collecting receivables too slowly. On the other hand, a high or increasing quick ratio generally indicates that a company is experiencing solid top-line growth, quickly converting receivables into cash, and easily able to cover its financial obligations. Such companies often have faster inventory turnover and cash conversion cycles.

Like most other measures, the quick ratio does have drawbacks. To begin with, analysts commonly point out that it provides no information about the level and timing of cash flows, which are what really determines an enterprise's ability to pay liabilities when due. The quick ratio also assumes that accounts receivables are readily available for collection, which may not be the case for many companies. Finally, the formula assumes that a company would liquidate its current assets to pay current liabilities, which is not always realistic, considering some level of working capital is needed to maintain operations.

It is also important to understand that the timing of asset purchases, payment and collection policies, allowances for bad debt and even capital-raising efforts can all impact the calculation and result in different quick ratios for similar companies. Capital needs that vary from industry to industry can also have an effect on quick ratios. For these reasons, liquidity comparisons are generally most meaningful among companies within the same industry.

The average quick ratio of all EU companies operating in the sectors in scope of this analysis is around 110%, as shown in Figure 4.21. This means that, on average, the health condition of European companies can be considered as positive. In Germany, Ireland and Luxembourg, the quick ratio reaches 1.65 times current liabilities, whereas the average quick ratio of Italian and Croatian companies is lower than 100% (which indicates a tendency to finance operations with debt capital).

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Figure 4.21: quick ratio by country

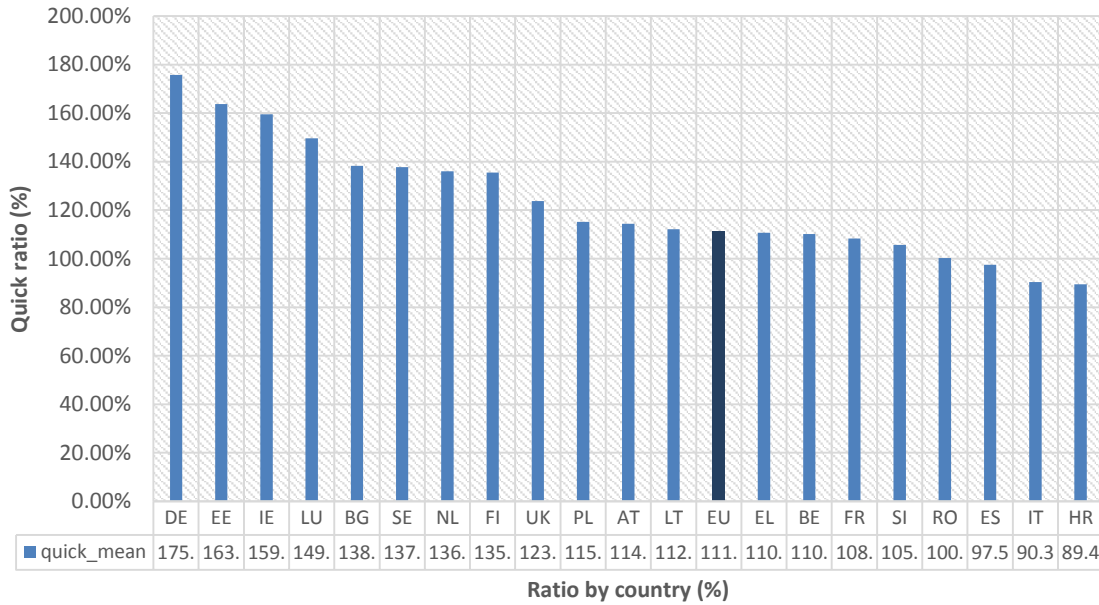
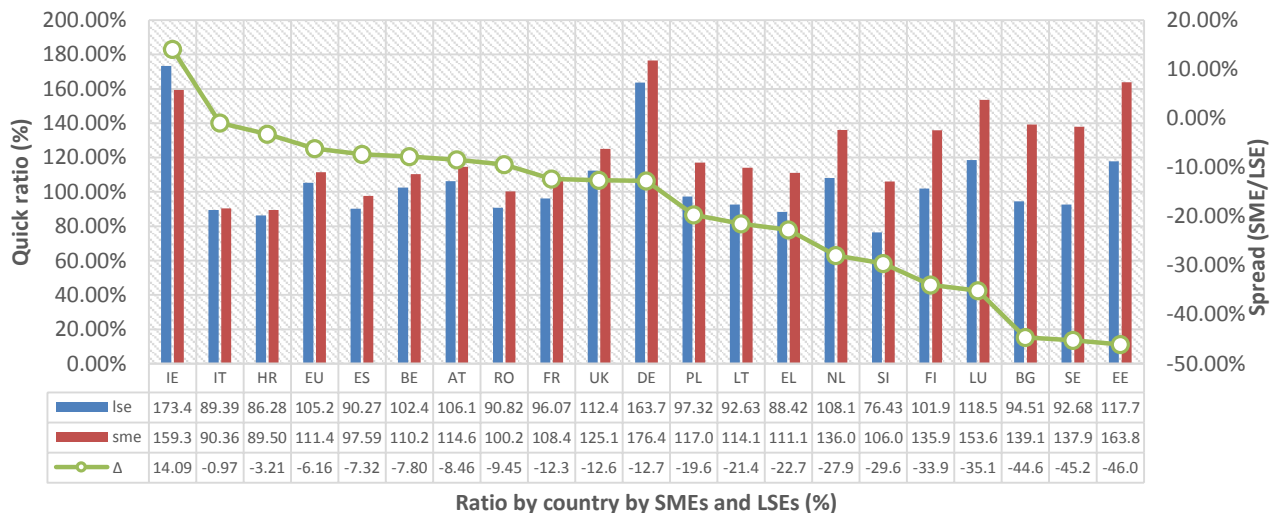


Figure 4.22 presents a comparison of the average quick ratio for SMEs and LSEs, showing that in nearly all countries in scope (with the exception of Ireland) SMEs have a higher quick ratio. However, the spread between the two groups is not as significant as for the cash ratio. The highest spread between SMEs and LSEs is evident in Estonia, Sweden and Bulgaria (over 40%).

Figure 4.22: quick ratio by country (SME/LSE)

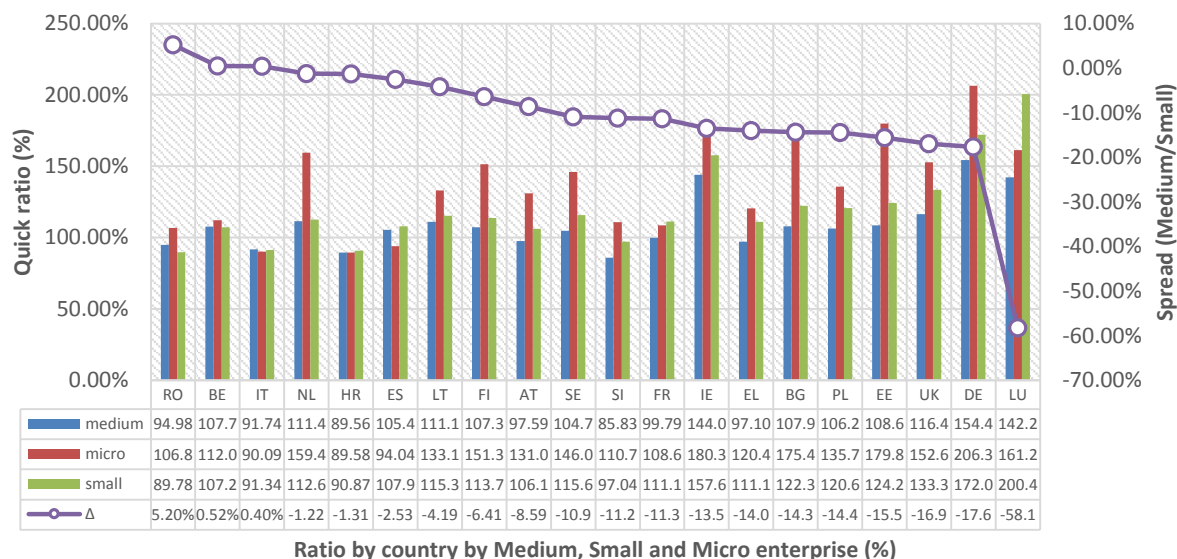


The detail of the SME groups in Figure 4.23 shows that small companies in Luxembourg have a quick ratio 58 percentage points higher than medium-sized ones. Further, German micro companies exhibit the highest quick ratio.

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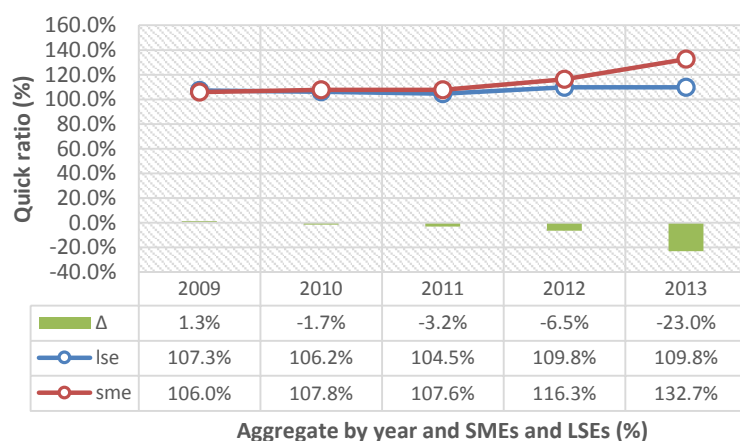
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Figure 4.23: quick ratio by country (SME detail)²¹



The analysis of the time trend presented in Figure 4.24 shows that starting in 2011 the ratio for SMEs is higher than for LSEs, even though for that year the difference was still low, at 3.2 percentage points. The spread became significantly higher during 2012 and 2013, with a final quick ratio for SMEs that is 23 percentage points higher than for LSEs.

Figure 4.24: quick ratio (time trend)²²



The quick ratio, similarly to the cash ratio, is strongly influenced by the characteristics of the sector where the enterprise operates. Figure 4.25 presents the time trend for the commerce, construction, energy, hotels and restaurants, manufacturing sectors.

²¹ Delta is defined as the difference between the ratio for small and medium corporations.

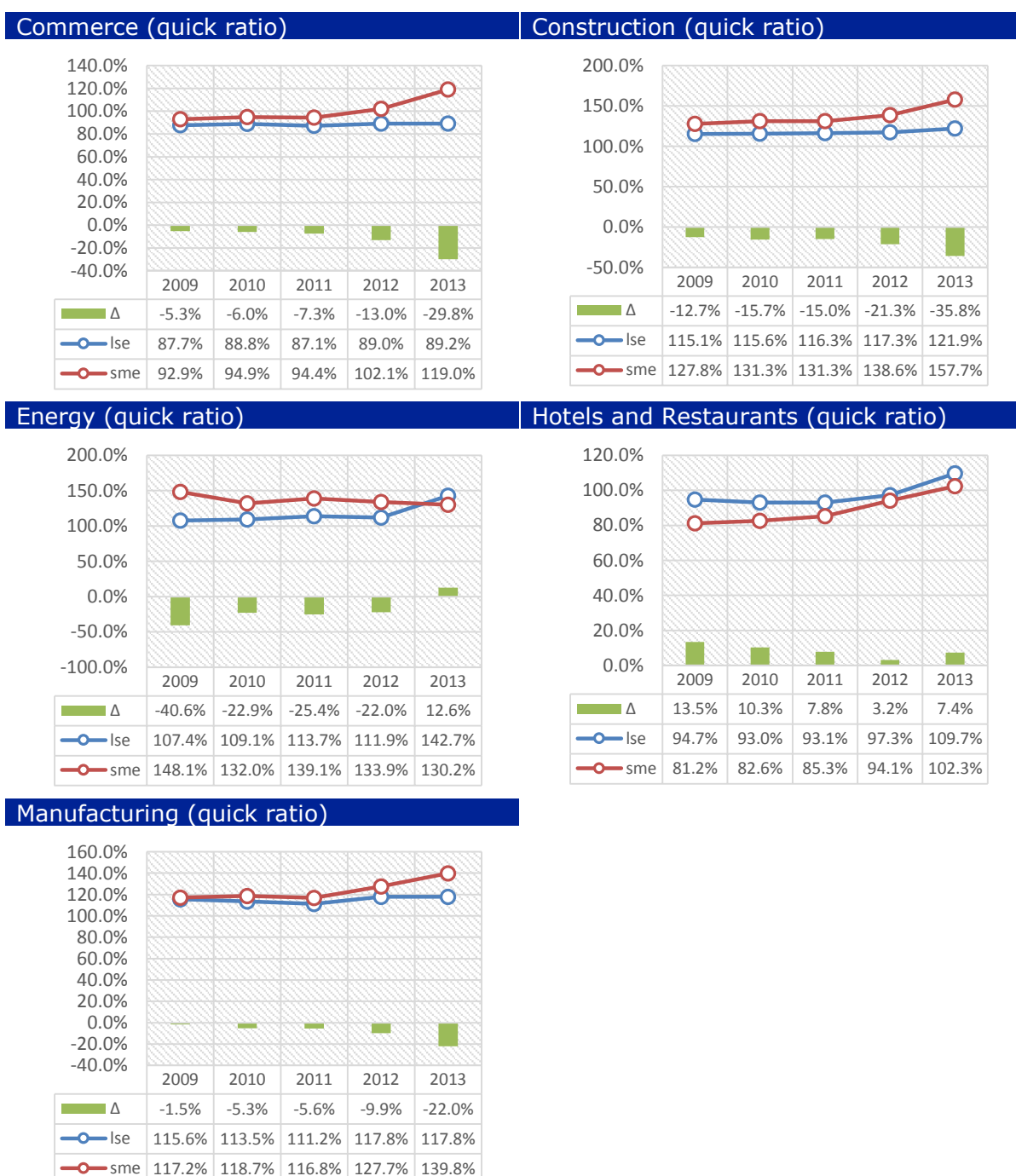
²² Green bars indicate the spread between the quick ratio for SMEs and LSEs. The blue and red lines show the time trend of quick ratio for SMEs and LSEs.

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Specifically, in the commerce sector the quick ratio ranges from 87% to 89% for LSEs and from 93% to 119% for SMEs. The spread between the two groups is increasing in the period under study. The construction sector shows a similar picture with an increasing spread. The trend is different in the energy sector, where the ratio for LSEs in 2013 is higher than for SMEs. For hotels and restaurants, in the five years taken into account the ratio for SMEs is always lower than for LSEs. There is a relatively constant spread between the two groups in the manufacturing sector which increases only during 2013.

Figure 4.25: quick ratio by industry and LSE/SME, and spread between SMEs and LSEs



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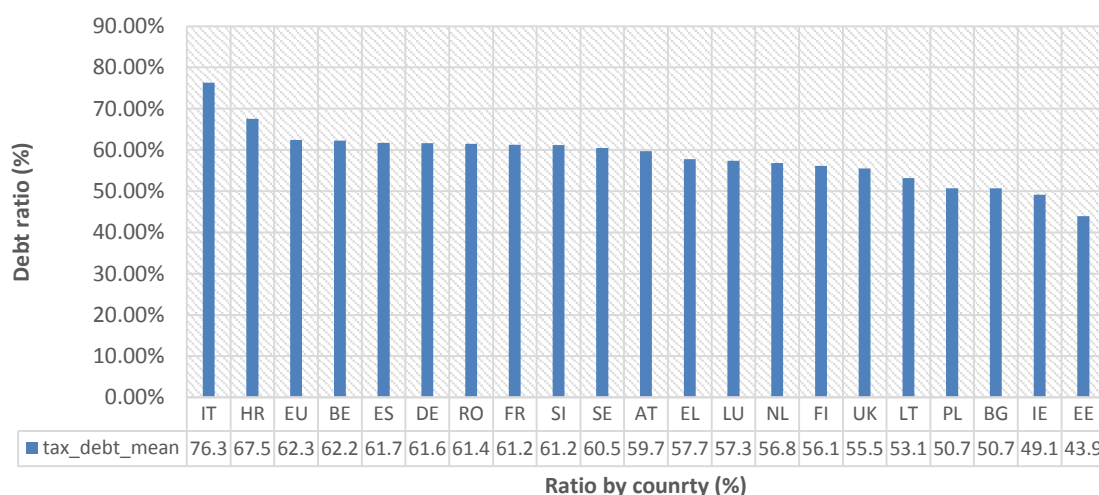
4.6. Debt Ratio

The debt ratio indicates the capital structure of a company and it provides a broad idea as to the leverage used by the company. A low percentage means that the company is less dependent on leverage, i.e., money borrowed from and/or owed to others. The lower the percentage, the less leverage the company is using. In general, the higher the ratio, the more risk the company is considered to have taken on.

When the debt ratio is high, the company has a lot of debt relative to its assets. It is thus carrying a bigger burden in the sense that principal and interest payments may take a significant amount of cash flows. When the debt ratio is low, principal and interest payments don't command such a large portion of cash flows. However, a low debt ratio may also indicate that the company has an opportunity to use leverage as a means of responsibly growing the business that it is not taking advantage of.

As shown in Figure 4.26, amongst the countries in scope, Italy (76%) and Croatia (67%) exhibit the highest debt ratios. On the opposite side, Estonia (44%), Ireland (49%) and Bulgaria (51%) present the lowest debt ratios. This means that, on average, companies operating in these countries finance 50% or more of their assets with equity. This can have a very strong impact on taxation: higher leverage generally leads to higher interest costs in the income statement and thus to a decrease in taxable income.

Figure 4.26: debt ratio by country

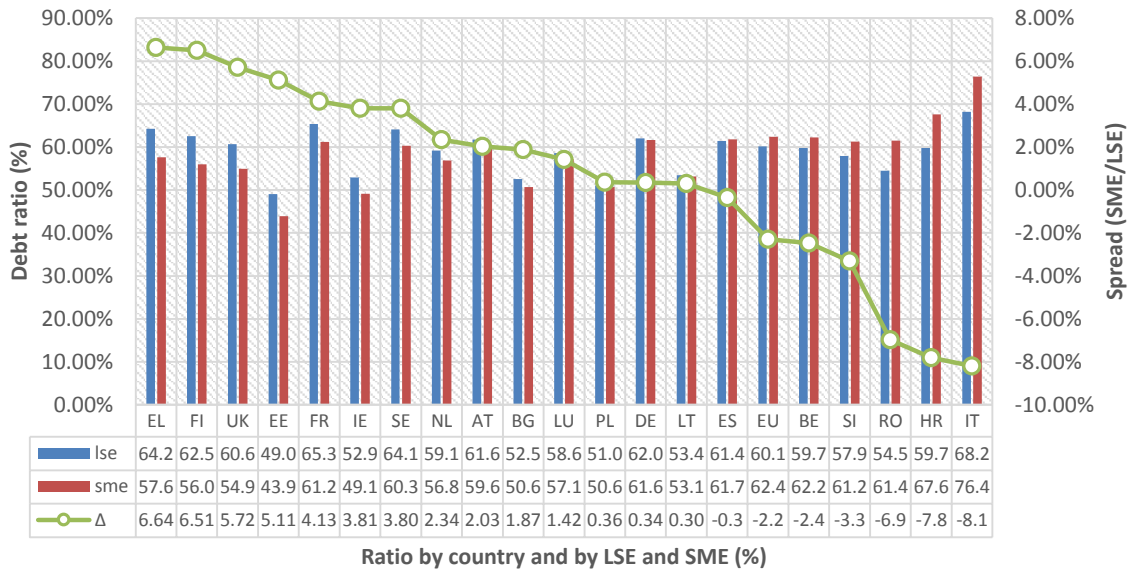


The comparison between SMEs and LSEs carried out in Figure 4.27 does not suggest any substantial difference between the two groups in any Member State. In Italy, Croatia and Romania SMEs tend to be slightly more indebted in comparison with LSEs (around 8% points), while in Finland, Greece and UK SMEs are slightly less indebted (6% points).

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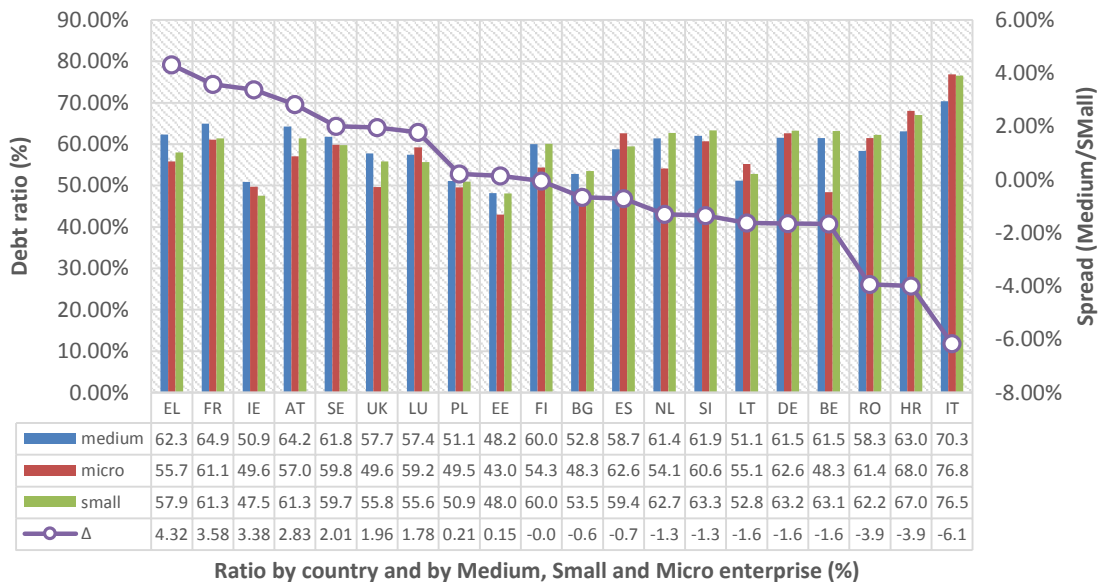
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Figure 4.27: debt ratio by country (SME/LSE)



The detail of the SME group in Figure 4.28 shows the same relatively small difference among medium-sized, small and micro companies. The countries where the difference is bigger are Italy, Romania and Croatia where smaller companies exhibit, on average, a higher debt ratio. On the other side of the graph are Greece, France and Ireland where the ratio is higher for medium-sized companies.

Figure 4.28: debt ratio by country (SME detail)²³



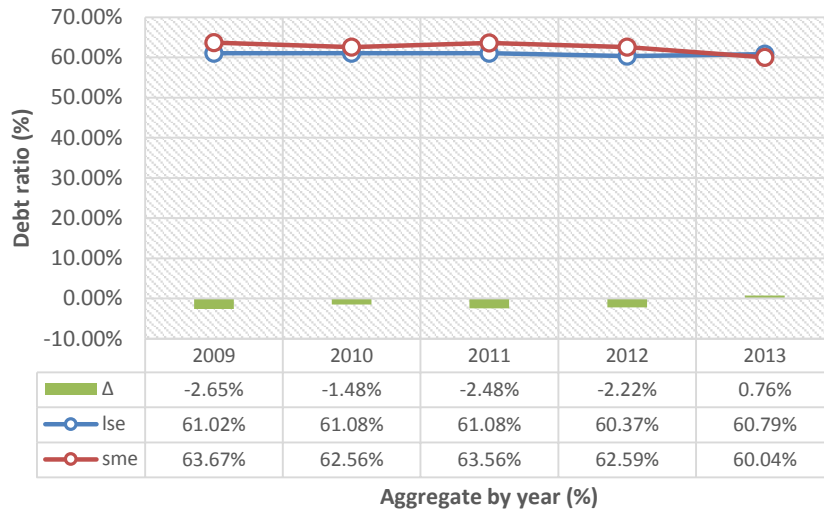
²³ Delta is defined as the difference between the ratio for small and medium corporations.

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This strong similarity is also shown in the overall EU time trend analysis in Figure 4.29. This small difference is maintained across all sectors taken into account and it is just slightly higher in the construction sector where LSEs tend to have a debt ratio around 12% points higher in 2013 than SMEs.

Figure 4.29: debt ratio (time trend)²⁴



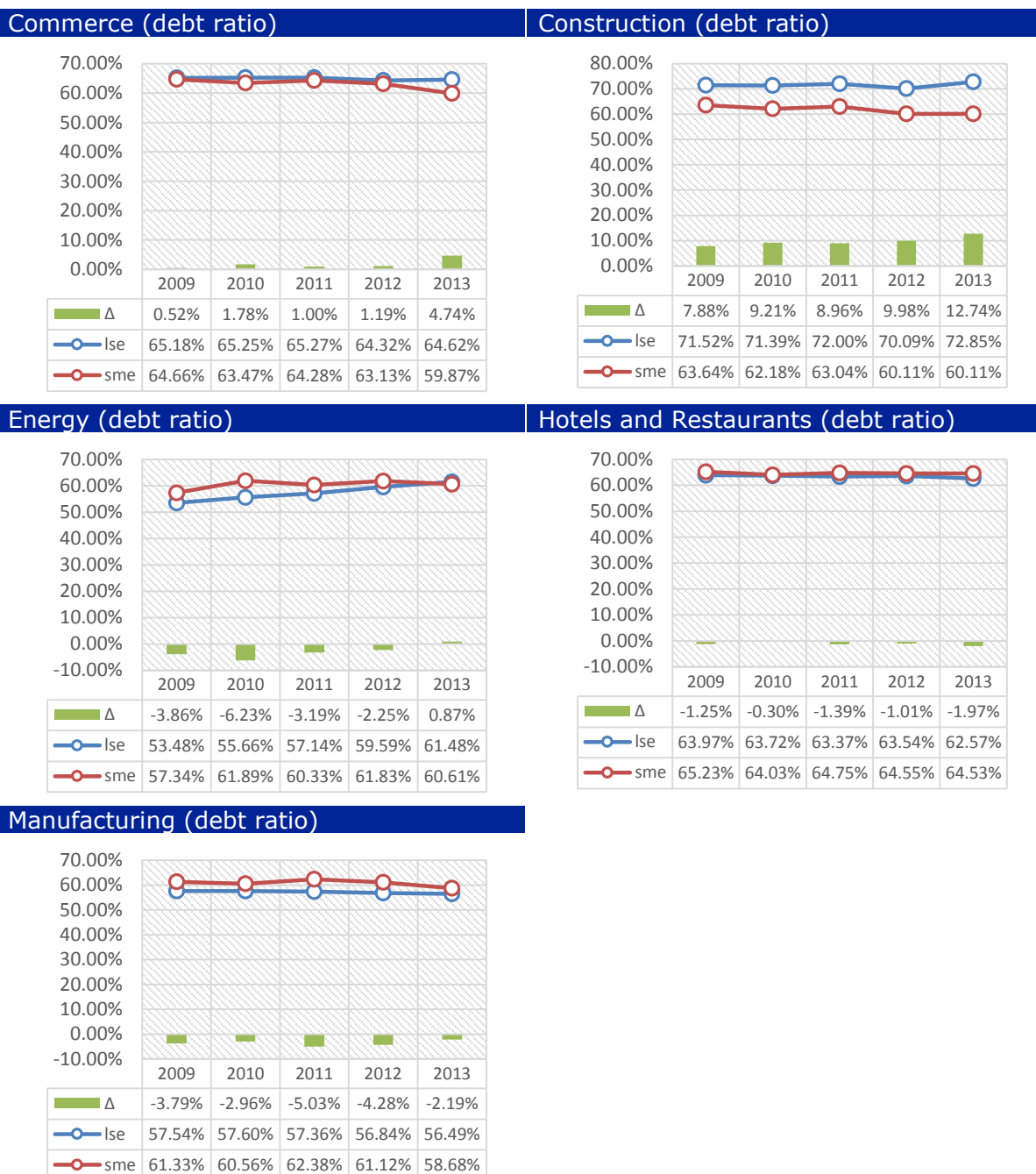
The industry detail of the debt ratio in Figure 4.30 presents a similar pattern to that in the previous graphs: SMEs and LSEs do not exhibit a significant difference except for the construction sector, where LSEs have a higher debt in comparison to SMEs by 9% points.

²⁴ Green bars indicate the spread between the debt ratio for SMEs and LSEs. The blue and red lines show the time trend of debt ratio for SMEs and LSEs.

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Figure 4.30: debt ratio by industry and LSE/SME, and spread between SMEs and LSEs



4.7. Conclusions

Several conclusions emerge from the above ratio analysis:

- Tax regimes across Europe are significantly different from one another, ranging from very low overall tax burdens (i.e. Ireland, Estonia, Bulgaria) to countries where the overall tax burden is relatively high (i.e. Italy, Germany, Finland).

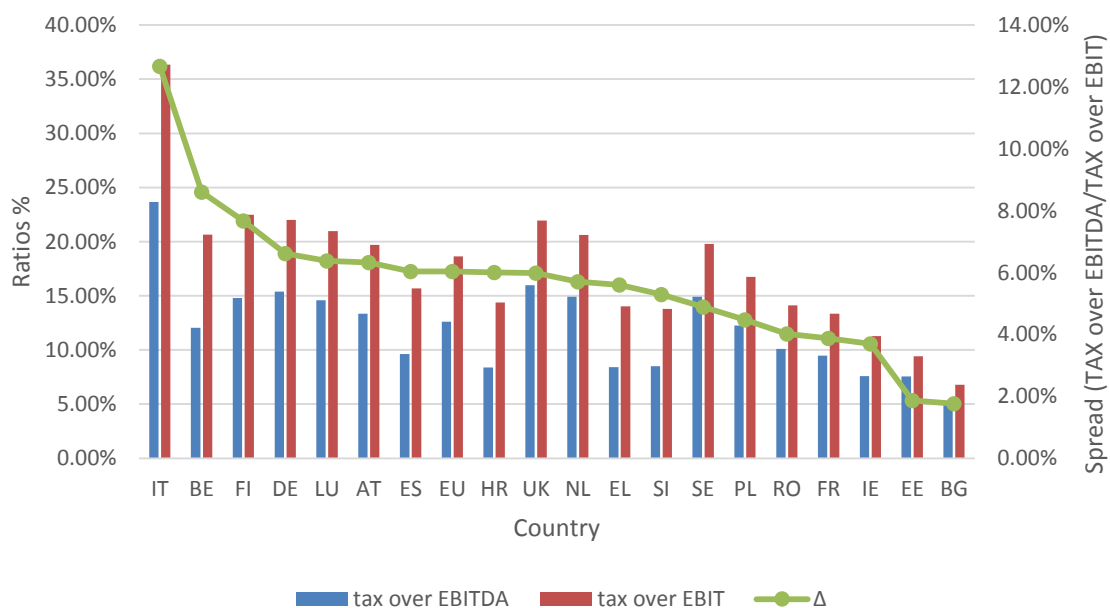
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- Just based on TAX/EBT it appears that Italy, Germany, Finland and Belgium exhibit some of the highest fiscal burdens.
- Only five countries seem to favour small, medium-sized and micro companies (France, Greece, Bulgaria, the UK and the Netherlands) in terms of the actual burden of taxes paid compared with LSEs.
- The industry analysis shows that while there seems not to be a particularly high difference between SMEs and LSEs in the commercial sector, company size makes more of a difference in the construction, hotels & restaurants and manufacturing sectors.
- An analysis of structural ratios shows that on average companies in Estonia, Ireland and Finland are characterised by high liquidity ratios and low debt ratios, while companies in Italy and Croatia have low liquidity ratios and high debt in their capital structure.
- In terms of the relation between structural and tax ratios, the analysis of the impact of depreciation on tax burdens in Figure 4.31 shows that companies in Italy, Belgium and Finland are able to reduce their tax base the most.

Overall, the financial ratios analysis shows that a uniform treatment for SMEs cannot be identified, with different tax burdens across the countries of the sample and different tax burdens for SMEs compared to LSEs.

Figure 4.31: impact of depreciation on tax burden (difference between TAX over EBITDA and TAX over EBIT)



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5. ANALYSIS OF SME-SPECIFIC PROVISIONS AND R&D INCENTIVES IN NATIONAL TAX CODES

5.1. Outline of the qualitative analysis and definition of SMEs

The aim of the qualitative analysis is to provide an overview of the multitude of available SME-specific tax incentives. In a first step, the analysis identifies the five broad categories of available tax incentives and explains their ways of affecting the tax burden. Afterwards, the concrete provisions with respect to SMEs and R&D tax incentives are summarized. Synoptic tables containing all countries and all forms of relief provide an overview of the provisions in place.²⁵

SME and R&D incentives are limited to certain enterprises that fulfil different eligibility thresholds. This report draws on the EU recommendation 2003/361 to classify the different incentives and their availability for large, medium-sized, small and micro enterprises. The exact thresholds are displayed in Table 5.1. According to EU recommendation 2003/361, the classification is based on three main criteria: number of employees, annual turnover and balance sheet total. While the maximum number of employees constitutes a binding limit, enterprises only need to meet one of the other two thresholds in order to qualify as an SME

Table 5.1 Definition of SME

Enterprise category	Max. number of employees	Max. turnover	Max. balance sheet total
Medium	< 250	≤ € 50 million	≤ € 43 million
Small	< 50	≤ € 10 million	≤ € 10 million
Micro	< 10	≤ € 2 million	≤ € 2 million

Our study focuses on enterprises that take the legal form of a corporation. Therefore, transparent enterprises such as partnerships are ignored and the results only refer to corporations

5.2. Classification of tax incentives

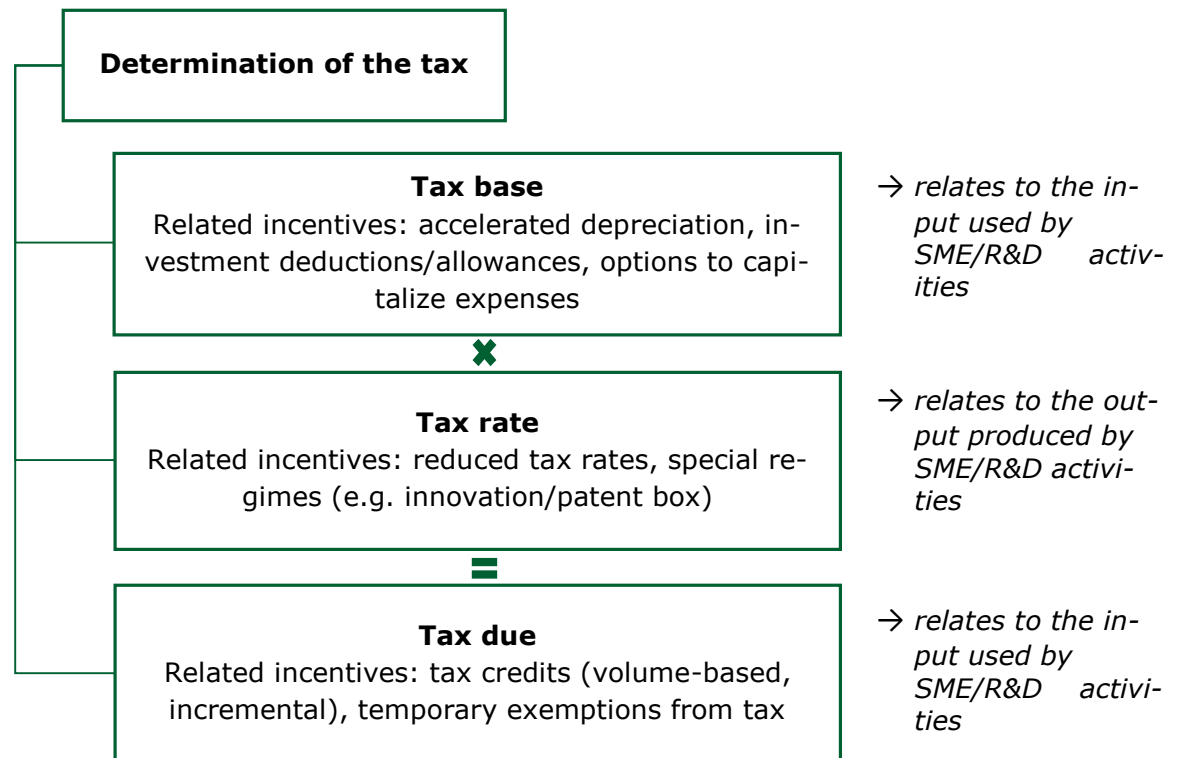
In general, the study at hand identifies five types of tax incentives:

- 1) accelerated depreciation schemes;
- 2) investment deductions and allowances;
- 3) tax credits;
- 4) special regimes for certain types of income;
- 5) special tax rates.

²⁵ More detailed descriptions can be found in the country reports in Annex 1 (section 4).

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Figure 5.1 Mechanisms of tax incentives to reduce the tax burden



The various tax incentives differ with respect to the mechanisms through which they influence tax burdens. They can either reduce the tax base, the tax rate or the amount of actual tax payments (see Figure 5.1). Special depreciation rates, options to capitalize expenses and additional allowances based on the investment volume aim at modifying the taxable base. Tax credits have similar effects as allowances, but they are directly deducted from the tax due instead of the tax base. Moreover, they offer the possibility to become effective even in absence of positive taxable income if refundable credits are offered. This might be especially important for (small) newly founded corporations incurring start-up losses and R&D activities that often take some time to yield profits.

Special tax rates and regimes for certain types of income differ from the abovementioned forms of relief as they are tied to the output of corporations. Both measures are usually granted irrespective of investment levels.

With regard to good practices, implemented measures should be evaluated on the basis of the following criteria:

- *Effectiveness*: The tax incentive should provide enterprises with increased liquidity and enable additional investments and growth.
- *Neutrality of the tax system*: Enterprises should benefit from the incentive irrespective of their legal form. Moreover, the growth of enterprises should not be hampered. Eligibility thresholds relating to the size of enterprises provide an incentive to remain small as enterprises want to retain eligibility. Hence, tax incentives with exclusive eligibility for SMEs introduce additional undesired distortions to the tax system.

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- *Transparency for investors:* The size of the relief should be foreseeable for investors. This enables them to appropriately consider the relief when making investment decisions.
 - *Manageability for tax legislators:* The losses in tax revenue should be foreseeable. Moreover, administrative costs need to be manageable.

Considering the above criteria, output-based incentives, in particular special tax rates, entail several problems. Usually they are only available up to a certain income threshold. Enterprises do therefore have an incentive to keep profits low, either by accounting measures or by curtailing their actual economic growth. Moreover, special tax rates can only be introduced for corporations. Transparently taxed enterprises are subject to the personal income tax that applies separate progressive tax rates. Additional violations of the neutrality of the tax code are therefore inevitable when implementing special tax rates. Moreover, the benefit from special tax rates is highly dependent on the profitability of an enterprise. As enterprises' profitability fluctuates over time, this impedes transparency for investors and manageability for tax legislators. Additionally, young, innovative and growing enterprises – those that are most likely to create positive externalities and that should primarily be targeted by SME tax incentives – are likely to incur losses at the beginning of their business activity and do therefore often not benefit.

Input-based measures, especially tax credits, provide the opportunity to circumvent these problems. In the context of SMEs, such a tax credit could be defined as a percentage of eligible investments and costs respectively. The benefit arising from the tax incentive would thus be independent from profitability and transparent for investors. Also non-corporate enterprises could take advantage. Furthermore, it is especially attractive for growing, entrepreneurial business activities that usually require higher investment volumes. Instead of restricting eligibility to enterprises of a certain size, the amount of eligible investments or costs could be capped. Thereby, enterprises do not have an incentive to remain small. The cap makes the effect on losses in tax revenues foreseeable and enables tax legislators to determine up to which size enterprises shall incur significant benefits (without implementing explicit size-related restrictions to eligibility). Setting the maximum thresholds also allows active control of the generosity of the tax credit and the related losses in tax revenues.

5.3. Favourable R&D incentives for all enterprises in the EU and other selected countries

In the period from 2009 to 2013 all of the five types of tax incentives described above have been in place for R&D activities in the countries selected. Tables 5.2 and 5.3 provide an overview of existing tax incentives for research and development in the 20 Member States and the five non-EU countries examined here.²⁶ Footnotes inform about the fundamental features of the incentives. Importantly, the tables do not cover incentives that are applicable for all kinds of investments (e.g. general investment deductions) but only those specifically targeted at R&D activities.

²⁶ The 20 EU Member States comprise Austria, Belgium, Bulgaria, Croatia, Estonia, Finland, France, Germany, Greece, Ireland, Italy, Lithuania, Luxembourg, the Netherlands, Poland, Romania, Slovenia, Spain, Sweden and the United Kingdom. Additionally, Canada, China, Japan, Switzerland and the USA are included as non-EU countries.

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Looking at the frequency of application, investment deductions and tax credits are the most common ways of incentivizing R&D activities. 19 out of 25 countries have at least one deduction or credit in place. Mostly, the incentives are volume-based, which means that all qualifying expenditure is considered in determining the deductible amounts. Only six countries use incremental measures. In these cases, only expenditure beyond a certain base amount (usually an average of expenditure in previous years) enters the calculation. The majority of credits and allowances refer to revenue expenditure such as material costs and personnel costs (26 out of 38 measures currently in place). Only 12 out of 38 consider capital expenditure (investments in fixed assets) whereas 25 incentives from this category include contract research. Frequently, multiple kinds of expenditure are included. Four provisions exclusively refer to expenses on personnel employed in R&D. Looking at deductible percentages, most tax credits range between 10% and 40%, whereas deductions exceed percentages of 50% in many cases. Deductions are especially high when only revenue expenditure is considered (99.5% on average in contrast to 67.1% for allowances including capital expenditure). Some countries also offer tax credits and allowances as mutually exclusive alternatives (e.g. Austria, Belgium, and the UK).

Accelerated depreciation schemes are another commonly used measure to incentivize R&D activities (applied in 12 out of 25 countries). As the schemes refer to different assets, it is difficult to identify a typical range of depreciation rates. The percentages range from 10% (Spain; refers to buildings only) to 100% (= immediate depreciation) and two countries even allow free depreciation. Eligible assets comprise equipment and machinery in almost all countries. Intangibles are mostly included, buildings in about half of the cases and land only once.

Income exemptions and special tax rates constitute the last major group of tax incentives for R&D activities. In Europe, these forms of relief are usually established for income from intellectual property (IP-Box regimes). Currently, 7 of the 25 countries have such regimes in place. The reduction of tax payments usually amounts from 50% to 80% (the Netherlands, Spain and the UK have extended their incentives recently, whereas Ireland repealed its IP-Box in 2010). There are no such regimes outside of Europe. China and Japan exempt the income of entities exclusively engaged in R&D instead.

All in all, most countries have established some form of tax incentive for R&D activities (only Bulgaria, Estonia, Germany and Sweden have not). Existing incentives, by trend, have become more generous during the last years. Especially extensive reliefs are available in Belgium, France, the Netherlands, Spain and the UK. Compared to the EU, non-European countries target more specific fields of R&D with their incentives. Finally, it is noteworthy that only few countries (France, the UK, Canada and Japan) differentiate between SMEs and LSEs with respect to R&D incentives.

5.4. SME taxation in Europe and in other selected countries

An overview of all incentive schemes for SMEs that have been in place from 2009 to 2013 is displayed in Tables 5.4 and 5.5. The same five kinds of tax incentives that were provided to R&D activities can be distinguished with regard to SMEs. Interestingly, special tax rates are the most common form among the examined countries with a total of 12 countries having such provisions in place for SMEs. Accelerated depreciation schemes (6 countries), investment deductions (6), exemptions (4) and tax credits (4) are less prevalent.

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Each accelerated depreciation scheme increases the normal depreciation rate by at least 50%. The scope of application is usually very restricted, though, as only micro or very small corporations or only certain regions, activities or assets are affected. Overseas, the USA employs a widely applicable option for immediate depreciation as the only major incentive for SMEs.

Investment allowances for SMEs play a minor role in almost all of the 25 countries. Only Belgium offers a scheme that most small corporations are eligible for. The Netherlands and the USA provide general investment allowances for all corporations, which phase out beyond a certain amount of investment. SMEs therefore enjoy a stronger relief. The applicable rates of the allowances vary between 0.5% and 125%, which is due to the diversity of calculation bases. Generally, rates tend to be high if the qualifying expenditure is rather limited and vice versa.

The application of tax credits for SMEs is even less common than applying investment deductions. As for the latter, eligibility is usually restricted to very specific regions and activities. The rates reach from 5% to 20% and the credits mostly refer to capital or revenue expenditure. Occasionally, tax credits are tied to conditions concerning employment levels.

Special tax rates are by far the most popular tax relief for SMEs. They differ significantly in their generosity, though. While Luxembourg offers a very small discount of 1% up to a comparably low threshold of 15,000 EUR, small and especially micro corporations in other countries might face tax rates of less than 50% of the standard rate. In most cases, the reduced rates amount to 50% - 80% of the LSE rate. Compared to other incentives, special tax rates are less frequently limited to certain activities or regions. They are, however, exclusively targeted at micro corporations in many countries (not at small and medium-sized ones). A particular regime can be found in Romania where micro corporations can elect to be taxed on turnover.

Exempt income regimes are less prevalent than special tax rates. Like the other incentives, they are predominantly restricted to very limited circumstances. Mostly, they occur in the form of investment reserves that need to be reinvested

5.5. Summary of results: general trends and patterns

Comparing tax incentives for SME and R&D activities, SMEs receive considerably fewer tax reliefs. Countries with various incentives in place are Belgium, Spain, France and Japan. On the other hand do not have any special regimes for SMEs at all. In addition, the following noteworthy trends can be observed:

- Despite their unfavourable properties, special tax rates are the predominant tax measure to support SMEs. All other instruments are very limited in their scope of application. They can therefore be expected to serve the promotion of very specific activities, regions and taxpayers. R&D activities benefit more frequently from tax credits and allowances, which exhibit more favourable characteristics for tax legislators as well as investors.
- Member States do not uniformly limit the eligibility to tax incentives for SMEs by referring to the criteria employed in the SME definition by the European Commission (i.e. the number of employees, turnover and the balance sheet total). Special tax rates are usually bound to income thresholds. The non-EU countries mostly relate their SME incentives to equity thresholds. Irrespective of which size criteria are applied, they are associated to the danger of incentivizing corpo-

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rations to not grow beyond the threshold. If this effect really kicks in in practice, has not been empirically answered yet. For the personal income tax (PIT), bunching of self-employed entrepreneurs below thresholds has been observed, though, and is likely to also occur for corporations²⁷.

- Discrimination between medium-sized, small and micro enterprises takes place. In the Member States examined, 12 incentives currently target all SMEs (= 32%), 16 mainly small and micro enterprises (= 42%) and 9 micro enterprises only (= 23%; for one regime no clear assignment was possible).²⁸ Exclusive eligibility for micro enterprises primarily occurs for specific tax rates.
- Seven countries connect at least some of their SME incentives to criteria relating to the level of employment and four countries limit at least some of their SME incentives to newly founded enterprises.
- Differentiation of LSEs and SMEs with respect to R&D tax incentives rarely occurs (e.g. France, the UK, Canada, and Japan). Benefits from the generally applicable R&D incentives, however, might frequently be larger for them because they are less likely to be subject to restrictions on maximum permissible reliefs.
- If and to which extent the abovementioned tax incentives for SMEs really decrease the effective tax burdens of SMEs cannot be assessed solely based on the qualitative analysis. It is thus necessary to quantitatively capture the incentives, which is done in the upcoming sections of the report.

²⁷ Recent papers that show taxpayers' bunching below thresholds include Saez (2010), Chetty/Friedman/Olsen/Pistaferri (2011) and Kleven/Waseem (2014). The bunching could be due to income shifting as well as real economic effects, i.e. an actual slowdown of enterprise growth. Almunia/Lopez-Rodriguez (2014) examine bunching for Spanish corporations. They – while covering another time period - do not discover bunching at the thresholds that are in place for the SME tax incentives included in this study but only at a threshold determining about the tax audit status of a corporation.

²⁸ See Annex 1 (section 4.1) for the underlying summary statistics on the availability of SME as well as R&D tax incentives in the sample countries.

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Table 5.2 R&D tax incentives in 20 Member States for both LSEs and SMEs

Country	Accelerated depreciation	Option to capitalize R&D expense	Investment deductions	Tax credits	Exempt income	Special tax rates
Austria	-	-	25% ^{8, 10, 11, 32} 35% ^{9, 10, 28, 32} 25% ^{8, 12, 23, 32}	10% ^{8, 10, 11, 12, 31}	-	-
Belgium	33.33% ^{1, 4} [20%/10%]	-	14.5% ^{8, 10, 34} €15,050 ^{14, 33}	100% ^{8, 15}	80% ¹⁶	-
Bulgaria	-	-	-	-	-	-
Croatia	-	-	150/125/100/ 75% ^{8, 11, 12, 33}	-	-	-
Estonia	-	-	-	-	-	-
Finland	20% ² [7%/4%]	2-10 years	100% ^{13, 23, 31}	-	-	-
France	250/200/150% ^{1, 4, 5, 7} [225/175/125%]	2-5 years	-	30/5% ^{8, 11, 24} 60/10% ^{8, 12, 23, 24} 20% ^{8, 11, 23, 26, 28, 31}	100/50% ^{21, 34}	15.5% ¹⁶ [34.43%]
Germany	-	-	-	-	-	-
Greece	-	2-5 years	50% ^{9, 11, 12}	-	-	-
Ireland	100% ^{1, 2, 3, 4}	-	-	25% ^{8, 10, 11, 12, 23, 31} 25% ^{9, 10, 11, 12, 33} 25% ^{8, 10, 30, 33}	100% ^{16, 23, 32}	-
Italy	-	5 years	100% ^{8, 10, 11, 28, 33}	35% ^{8, 13, 14, 23, 31} 90% ^{9, 12, 31} 10% ^{8, 10, 11, 23, 32} 40% ^{8, 12, 23, 32}	-	-
Lithuania	≥50% ^{1, 2, 4}	-	200% ^{8, 11, 12}	-	-	-
Luxembourg	133.3% ^{1, 5}	-	-	-	80% ¹⁶	-
The Netherlands	Free depr. ^{1, 4}	-	54% ^{8, 10, 11, 31, 33}	-	-	5% ^{16, 33} [25%]
Poland	-	≥1 year	50% ^{8, 12, 23}	-	20% ¹⁹	-

[...]- provision for activities not related to R&D
Depreciation

- 1 - machinery, equipment & furniture
- 2 - buildings
- 3 - land
- 4 - intangibles
- 5 - compared to ordinary straight-line rate
- 6 - only for one year
- 7 - declining-balance method

Investment deductions/tax credits

- 8 - volume-based
- 9 - incremental
- 10 - on capital expenditure
- 11 - on revenue expenditure
- 12 - on expenditure for contract research
- 13 - on salaries of R&D staff
- 14 - per employee hired in R&D
- 15 - on WHT on patent income from abroad

Exemptions/special tax rates: income from...

- 16 - patents/intellectual property
- 17 - technology transfers/development/services
- 18 - tax-free R&D reserve
- 19 - certified research centers
- 20 - institutions with R&D as statutory purpose
- 21 - innovative SMEs (activities in R&D zones) in first 2 (5) years of operations
- 22 - R&D-centered technology corporations

General Provisions

- 23 - limited to certain amount
- 24 - altered rate beyond threshold
- 25 - higher rate only for corporations up to a certain size
- 26 - only corporations up to a certain size
- 27 - not in combination with certain other deductions/credits
- 28 - only certain activities/fields of R&D
- 29 - only in a certain region
- 30 - expenditure on construction/refurbishment

Changes during the observation period

- 31 - introduced after 2009
- 32 - repealed after 2009
- 33 - amount/scope of the relief enhanced
- 34 - amount/scope of the relief reduced

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Romania	50% ^{1, 6}	-	50% ^{8, 11, 33}	-	100% ²⁰	-
Slovenia	33.33% ¹ [20%]	-	100% ^{8, 10, 11, 12, 33}	-	-	-
Spain	Free depr. ^{1, 4} 10% ²	5 years	-	8% ^{8, 10, 34} 12% ^{8, 10, 11, 12, 28, 33} 25/42% ^{8/9, 11, 12} 17% ¹³	60% ^{16, 33}	-
Sweden	-	-	-	-	-	-
The UK	100% ^{1, 2, 4}	-	30/125% ^{8, 11, 12, 23, 25}	10% ^{8, 11, 12, 27, 31}	-	10% ^{16, 31, 33} [23%]

[...]- provision for activities not related to R&D

Depreciation

- 1 - machinery, equipment & furniture
- 2 - buildings
- 3 - land
- 4 - intangibles
- 5 - compared to ordinary straight-line rate
- 6 - only for one year
- 7 - declining-balance method

Investment deductions/tax credits

- 8 - volume-based
- 9 - incremental
- 10 - on capital expenditure
- 11 - on revenue expenditure
- 12 - on expenditure for contract research
- 13 - on salaries of R&D staff
- 14 - per employee hired in R&D
- 15 - on WHT on patent income from abroad

Exemptions/special tax rates: income from...

- 16 - patents/intellectual property
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- 18 - tax-free R&D reserve
- 19 - certified research centers
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- 27 - not in combination with certain other deductions/credits
- 28 - only certain activities/fields of R&D
- 29 - only in a certain region
- 30 - expenditure on construction/refurbishment

Changes during the observation period

- 31 - introduced after 2009
- 32 - repealed after 2009
- 33 - amount/scope of the relief enhanced
- 34 - amount/scope of the relief reduced

Table 5.3 R&D tax incentives in non-EU countries for both LSEs and SMEs

Country	Accelerated depreciation	Option to capitalize R&D expense	Investment deductions	Tax credits	Exempt income	Special tax rates
Canada	100% ^{1, 4}	-	-	20/35% ^{8, 10, 11, 12, 25, 34} 14.5% ^{8, 10, 11, 12, 26}	-	-
China	-	-	50% ^{8, 11, 12}	-	100/50% ^{17, 24}	15% ^{22, 33} [25%]
Japan	-	-	-	8-10/12% ^{8, 11, 12, 25} 5% ^{9, 11, 12, 27} 0-20% ^{9, 11, 12, 27} 2-4% ^{8, 11, 12, 28}	20% ^{20, 27, 31}	-
Switzerland	-	-	-	-	100% ^{18, 23} 80% ^{16, 29}	-
The USA	-	5 years	-	20% ^{9, 11, 12, 27, 28, 34} 14% ^{9, 11, 12, 27, 28, 34} 20% ^{9, 12, 28} 50% ^{9, 11, 12, 28}	-	-

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Table 5.4 Tax incentives targeted at SMEs in 20 Member States

Country	Accelerated Depreciation	Investment deductions	Tax credits	Exempt income	Special tax rates
Austria	-	-	-	-	-
Belgium	200% ^{4, 17, 28, 32/34}	11.5% ^{7, 17, 23} 3,5% ^{6, 17} [3%]	-	€37,500 ^{17, 35}	24.25- 33.33% ¹² [33%]
Bulgaria	-	-	-	-	-
Croatia	-	70/35% ^{2, 26} [50/25%]	-	-	10% ^{15, 16, 31} [20%]
Estonia	-	-	-	-	-
Finland	150% ^{4, 26, 27, 28}	-	-	-	-
France	-	-	20% ^{1, 25, 27} 0-15% ^{9, 15, 23} 50% ^{8, 15, 24, 26} 20% ^{2, 24, 26, 31}	100/50% ^{3, 25, 28, 29, 34} 100/50% ^{11, 12, 17, 26}	15% ^{14, 17, 19} [34,43%] 13%/23% ^{16, 21} [34,43%]
Germany	20% ^{1, 16, 20, 28} Additionally	40% ^{1, 35, 36}	-	-	-
Greece	-	-	-	25-45% ^{1, 26, 34, 35} [15-40%]	15/20% ^{30, 32} [25%]
Ireland	-	-	-	€0-40,000 ^{21, 28, 29}	-
Italy	-	-	-	-	-
Lithuania	-	-	-	-	5% ^{16, 33} [15%]
Luxembourg	-	-	-	-	20-21% ¹² [21%]
The Netherlands	-	0-28% ^{1, 13, 24, 25}	-	-	-
Poland	100% ^{1, 16, 19, 25, 34}	70% ¹⁷ /60% ^{1/8, 27, 31} [50%]	100% ^{9, 17, 29, 36} 75% ^{1, 22, 24, 25, 26}	-	-
Romania	-	-	-	-	3% ^{5, 16, 21}

[...]- equivalent provision for large corporations

Quantification of relief

- 1 - % refers to relevant capital expenditure
- 2 - % refers to relevant revenue expenditure
- 3 - % refers to taxable income
- 4 - % refers to ordinary depreciation rate
- 5 - % refers to turnover
- 6 - % refers to company's equity
- 7 - % refers to amount of depreciation incurred
- 8 - % refers to related personnel costs
- 9 - % refers to income tax payable
- 10 - % refers to local income tax payable
- 11 - % refers to capital gains from sale of SME
- 12 - progressive schedule
- 13 - diminishing scale
- 14 - reduced rate up to certain income threshold
- 15 - relief based on employment level/hiring

Size restrictions

- 16 - only micro corporations
- 17 - only small and micro corporations
- 18 - extended SME definition
- 19 - turnover threshold in place
- 20 - equity threshold in place
- 21 - income threshold in place
- 22 - asset threshold in place
- 23 - employment threshold in place
- 24 - restricted to a certain amount of investment

Other restrictions

- 25 - only certain assets
- 26 - only certain activities/purposes/transactions
- 27 - only certain regions
- 28 - only for 1 year (DE) / 2 years (FR) / 3 years (BE, FI, EI)
- 29 - only new corporations
- 30 - only newly merged corporations

Changes during the observation period

- 31 - introduced after 2009
- 32 - repealed after 2009
- 33 - increase of the size/scope of the relief
- 34 - decrease of the size/scope of the relief

Other specifications

- 35 - investment reserve
- 36 - only deferral of tax payments

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Slovenia	-	-	-	-	-
Spain	100% ^{1, 15, 17, 19, 25, 32} 300/200% ^{4, 17, 19}	-	€3,000 ^{15, 17, 19, 23} 10% ^{1, 17, 26} 6% ^{1, 26, 32}	-	20% ^{14, 15, 17, 19, 23, 31/} 25% ^{15, 17, 19, 23/} 25% ^{14, 17, 19, 33/} 24% ^{17, 19, 27} [30%/28% ²⁷]
Sweden	-	-	-	-	-
The UK	-	125% ^{2, 18, 26, 33} [30%]	-	-	20% ^{14, 33} [23%] 19% ^{14, 25, 26} [30%]

[...]- equivalent provision for large corporations

Quantification of relief

- 1 - % refers to relevant capital expenditure
- 2 - % refers to relevant revenue expenditure
- 3 - % refers to taxable income
- 4 - % refers to ordinary depreciation rate
- 5 - % refers to turnover
- 6 - % refers to company's equity
- 7 - % refers to amount of depreciation
- 8 - % refers to related personnel costs
- 9 - % refers to income tax payable
- 10 - % refers to local income tax payable
- 11 - % refers to capital gains from sale of SME
- 12 - progressive schedule
- 13 - diminishing scale
- 14 - reduced rate up to certain income threshold
- 15 - relief based on employment level/hiring

Size restrictions

- 16 - only micro corporations
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- 18 - extended SME definition
- 19 - turnover threshold in place
- 20 - equity threshold in place
- 21 - income threshold in place
- 22 - asset threshold in place
- 23 - employment threshold in place
- 24 - restricted to a certain amount of investment

Other restrictions

- 25 - only certain assets
- 26 - only certain activities and purposes
- 27 - only certain regions
- 28 - only for 1 year (DE) / 2 years (FR) / 3 years (BE, FI, EI)
- 29 - only new corporations
- 30 - only newly merged corporations

Changes during the observation period

- 31 - introduced after 2009
- 32 - repealed after 2009
- 33 - increase of the size/scope of the relief
- 34 - decrease of the size/scope of the relief

Other specifications

- 35 - investment reserve
- 36 - only deferral of tax payments

Table 5.5 Tax incentives targeted at SMEs in 5 non-EU countries

Country	Accelerated Depreciation	Investment deductions	Tax credits	Exempt income	Special tax rates
Canada	-	-	-	-	15.5% ^{14, 20} [25%]
China	-	-	-	-	20% ^{21, 22, 23} [25%]
Japan	-	-	12% ^{2, 20, 26} [8-10%] 7% ^{1, 20, 25} ¥ 200,000 ^{15, 20, 23}	-	15% ^{14, 20, 34} [25,5%] 81% ^{10, 20} [148%]
Switzerland	-	-	-	-	-
The USA	100% ^{1, 24, 33}	-	-	-	-

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6. EFFECTIVE TAX BURDENS FOR SMES COMPARED TO LSES USING THE EUROPEAN TAX ANALYZER

The European Tax Analyzer is based on a multi-period model enterprise approach to compute effective tax burdens. The model enterprise can take any legal form, i.e. it can be either a transparent enterprise or an incorporated enterprise. The following analysis considers an incorporated enterprise, i.e. a corporation. Therefore, the term “model enterprise” will be used for the general description of the European Tax Analyzer whereas the term “model corporation” relates to the actual models used for this study in the following. The model enterprise approach allows a highly detailed quantitative analysis of effective tax burdens across the selected countries in general as well as of the effect of SME tax incentives. The analysis conducted with the European Tax Analyzer can be mainly divided into two parts. In the first part, different size-dependent model corporations are generated by using the AMADEUS database.²⁹ For the determination of micro, small, medium-sized as well as large model corporations, we apply the EU recommendation 2003/361 for micro, small and medium-sized enterprises.³⁰ In the second part of the analysis, the impact of SME tax incentives which have been elaborated in the first part of the analysis on the effective tax burden of the model corporations are calculated (Section 6.3). Here, the country-specific conditions concerning the eligibility for SME tax incentives are applied. The underlying prerequisites are described in Section 6.2 and in Annex 1 (section 5) of this report. In most countries, the conditions for SME tax incentives differ from the conditions set out in EU recommendation 2003/361.

6.1. The European Tax Analyzer

6.1.1. Description of the European Tax Analyzer

The European Tax Analyzer is a computer program for a model enterprise that calculates and compares effective average tax burdens for enterprises located in different jurisdictions.³¹ We consider 20 Member States displayed in Table 6.1.

Table 6.1 The EU-countries considered in the study

Austria	Finland	Italy	Romania
Belgium	France	Luxembourg	Slovenia
Bulgaria	Germany	Lithuania	Sweden
Croatia	Greece	The Netherlands	Spain
Estonia	Ireland	Poland	The UK

As the standard model enterprise with regard to this study is a corporation, the relevant tax rules have to be implemented for the corporate level and the shareholder level. Therefore, the effective tax burden is computed at corporate level (i.e. ignoring shareholder taxes) and the overall level (i.e. combining corporate and shareholder taxes). Differences in tax rules, e.g. with regard to depreciation, are highly important

²⁹ A detailed description of this process can be found in Annex 1 (section 5.1)

³⁰ The detailed description of EU recommendation 2003/361 can be found in section 5.1.

³¹ Among others, the model has been already approved by two earlier studies conducted for the European Commission. See Jacobs/Spengel (2000); Spengel/Oestreicher/Reister/Ernst/Finke/Grünewald (2008).

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for enterprises and become more visible in a multi-period approach. Therefore, the simulation takes into account ten periods. It is important to differentiate the simulation (ten hypothetical periods) from the tax codes for 2009-2013 regarded in this study. Each country-specific tax code for each year (2009-2013) is separately implemented in the simulation and applied for the ten simulation periods in the European Tax Analyzer. This assures that effects of changes in tax rules (e.g. if depreciation rules are changing from 2009 to 2010) can be better displayed and analysed.

It should be noted here that the European Tax Analyzer allows implementing tax bases in a very detailed manner.³² Hence, we are able to take into account differences with regard to the following elements of the tax base:

- Depreciation (e.g. pool and individual depreciation schemes, depreciation periods for all relevant assets);
- Stock valuation (valuation method, i.e. last-in, first-out (LIFO), first-in, first-out (FIFO), weighted average cost method; production costs);
- Research and development costs (i.e. immediately expensed or capitalized);
- Employee pension schemes (i.e. deductibility of pension costs, contributions to pension funds);
- Provisions for bad debt and guarantee accruals;
- Elimination or mitigation of double taxation on foreign-source income (i.e. exemption method, tax credit, deduction of foreign taxes);
- Thin capitalization rules, earnings stripping rules;
- Non-deductible items (e.g. non-deductible taxes);
- Notional interest deductions; and
- Loss relief (carry-back and carry-forward)

Additionally and considering the focus of this study, it is also possible to implement SME and R&D-related tax incentives with their respective country-specific thresholds (balance sheet total, sales or number of employees) in great detail.

In considering differences in tax bases across the countries in our sample, we draw on a study conducted by the Centre for European Economic Research (ZEW), the University of Mannheim and Ernst & Young.³³ This study comprises an extensive international comparison of tax accounting regulations in the EU Member States, Switzerland and the U.S. which enables us to comprehensively consider such differences in tax codes in our computations with the European Tax Analyzer.

We use financial data from corporations across all EU-28 Member States provided by the AMADEUS database to arrive at an EU-28 average corporation. In essence, we generate 24 different EU-28 average corporations with regard to a broad base case

³² For a more detailed description, see Spengel/Zinn (2011), p. 500.

³³ See Spengel/Zöllkau (2012).

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(average over different industries) and five different industries (manufacturing, energy, construction, commerce and hotels & restaurants) for four different sizes (large, medium-sized, small and micro). Each of these EU-28 average corporations will be applied for the computation of effective tax burdens in the 20 Member States considered in this study.

At the beginning of the simulation, an initial capital stock has to be defined. The development of the balance sheet, sales and other figures for further periods is based on corporate planning parameters which are also defined at the beginning of the simulation and implemented into the European Tax Analyzer model.

- 1) **Initial capital:** The initial capital is described by a balance sheet; total assets are divided in fixed assets and current assets. The fixed assets contain real estate, machinery, office equipment, intangibles and financial assets. Inventories, trade receivables and cash are sub-items of current assets. Liabilities consist of equity, long-term and short-term debt and trade creditors.
- 2) **Development of the corporation:** The corporate planning estimators are important for the development of the corporation over the ten-year simulation period. Besides macroeconomic data such as interest rates (short- and long-term rates for debtor and creditor) and price increases (primary products, general inflation, wages, real estate and investment goods), several data concerning the structure and costs for employees as well as R&D costs have to be defined. For depreciable assets, it is generally assumed that they are disposed at the end of their useful life and replaced by an identical asset. The replacement costs are thereby adjusted for inflation.
- 3) **Corporate Finance:** The initial financial resources consist of a mixture of debt and equity. After each period, a dividend is distributed to the shareholders. Undistributed after-tax profits are retained earnings and can also serve as a further source for acquiring new assets or financing the corporation in general

As the initial capital stock and the predefined parameters are the same for all countries, the corporations will have identical figures (balance sheet, profit- & loss-statement and liquidity) before applying any national tax code. Stated differently, the chosen approach assures that differences at the end of the ten periods are solely caused by different country-specific tax rules and are not affected by different country-specific non-tax data. This is a necessary and well-known assumption for all model comparisons of effective tax burdens. The implementation of a whole model corporation allows the consideration of progressive tax rates, other complex tax rules as interest deduction limitations and taxes that are based on a special tax base (e.g. real estate tax, payroll tax).

6.1.2. Effective average tax burden (corporate level)

The European Tax Analyzer can be used to calculate the pre-tax and post-tax value of the corporation at the end of each period. The value of the corporation is represented by the estimated cash flows and the value of the net assets at the end of the simulation period. Cash flow (liquidity) is defined as the net total of cash receipts (sales, interest, dividends and other) and cash expenses (material costs, salaries) in each period. The value of the assets has to be adjusted at the end of the simulation as during the ten periods, hidden reserves are accrued. The historical acquisition costs do not reflect the fair value of the assets and hidden reserves are added to the taxable in-

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come in period ten and taxed accordingly. Remaining loss carry forwards at the end of period ten also have a certain value for the corporation as they would lower the taxable income of future periods. As our simulation stops in period 10, we add 50% of the unused loss carry forwards to the equity value in countries without constraints to the utilization of losses. If there is, however, a constraint for loss carry forwards (e.g. if the loss carry forward is limited in time), we use a rate of 25%.

Pre-tax cash flow at the end of the simulation period
+ Value of the net assets at the end of the simulation period
<hr/>
= Pre-tax value of the enterprise at the end of the simulation period

The post-tax value is calculated in a similar way, but taking into account the different tax rules in each country. Tax liabilities are paid in the same period as they accrue and result in an immediate cash expense. The adjustment of the assets to their fair market value at the end of the simulation period can result in additional tax liabilities. The procedure can be summarised as follows:

Pre-tax cash flow at the end of the simulation period
- Tax liabilities in each period
<hr/>
= Post-tax cash flow at the end of the simulation period
+ Value of the net assets at the end of the simulation period
-/+ Tax liabilities/ tax refunds on hidden reserves
<hr/>
= Post-tax value of the enterprise at the end of the simulation period

The effective tax burden is determined by the difference of pre-tax and post-tax value of the corporation at the end of the ten years simulation period. This multi-period approach assures that the tax liability also includes effects which only arise in the long term (e.g. the consequences of different depreciation rules as well as liquidity and interest effects).

Pre-tax value of the enterprise at the end of the simulation period
- Post-tax value of the enterprise at the end of the simulation period
<hr/>
= Effective average tax burden on corporate level

6.1.3. Overall effective average tax burden (corporate and shareholder level)

The shareholder level is represented by different shareholders (single natural persons) with different participation quotas. Shareholders receive annual dividend payments from their participation in the corporation and interest payments from shareholder loans. The cash flow received in each period is assumed to be put into a bank account and earns an additional interest from savings. This accrued cash flow, the shareholding in the model corporation and the shareholder loan represents the total pre-tax value of wealth of the shareholders in the simulation.

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Similar to the effective average tax burden on corporate level, the post-tax value is calculated in the same manner and the cash flow is adjusted for the different tax rules in each country. Apart from PIT, we can also implement wealth taxes on shareholder level.

$$\begin{array}{l} \text{Pre-tax value of wealth of the shareholders at the end of the simulation period} \\ - \text{Post-tax value of wealth of the shareholders at the end of the simulation period} \\ \hline = \text{Effective average tax burden on shareholder level} \end{array}$$

The overall effective average tax burden is the sum of the effective average tax burden on corporate and shareholder level.

$$\begin{array}{l} \text{Effective average tax burden on corporate level} \\ + \text{Effective average tax burden on shareholder level} \\ \hline = \text{Overall effective average tax burden} \end{array}$$

6.1.4. Model corporations

The generation of the model corporations used in this study is a process with several steps and assumptions. Data from the AMADEUS database is the base for the modeling of the balance sheet and profit- and loss-statement in period 6 of the simulation.

The choice of period 6 can be explained by the following: As described in the previous subsection the European Tax Analyzer assumes a newly founded corporation with an initial capital stock at the beginning of the simulation (i.e. period 1). The data generated from AMADEUS, however, contains several positions that typically are results of an ongoing business activity (of an established enterprise). Therefore, we use a period quite in the middle of our total simulation period.

24 different model corporations have been generated for this study (see Section 6.1.1). They consist of the four size categories (large, medium-sized, small, and micro) described by EU recommendation 2003/361/EC with each category containing an average base case plus five sector-specific models (manufacturing, energy, construction, commerce, hotels & restaurants). Each corporation is based on aggregated enterprise data of all EU-28 Member States.

One should keep in mind that the calculated effective tax burden is only valid for the generated model corporation. For the validation of the results, a sensitivity analysis based on the four average base case model corporations is conducted in addition. Taking the figures of the average base case model corporation in period 6 as a starting point, the profitability, capital intensity, equity ratio and labour intensity are therefore modified separately. Each of these model corporations can be understood as distinct model corporations and the same calculations for the effective tax burden are analogously carried out compared to the average base case.

A detailed description of the process (model corporation generation and sensitivity analysis) as well as the final balance sheet and profit and loss account for the 24 model corporations can be found in Annex 1, section 5.1.

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6.2. Overview of tax incentives (R&D & SME incentives)

The different provisions for R&D and SME tax incentives which have been implemented in the European Tax Analyzer and are considered for the calculation of the effective tax burden are based on Section 5. They can be found with a detailed description in Annex 1 (sections 5.2 and 5.3). Both sections contain the rules for the tax years 2009 to 2013 and are separated by incentives related to the tax base (depreciation, allowances and deductions), the tax rate (special tax rates) and the tax liability (tax credits, temporary exemptions from tax). R&D related provisions are in most cases available for both LSEs and SMEs independent from size categories.

6.3. Comparison of effective tax burdens

The calculation of the effective tax burdens has been conducted for multiple cases (different size categories and sectors). This outline contains an overview of the details of our quantitative analysis with the European Tax Analyzer:

- We consider model corporations of 4 different size categories: a LSE as well as SMEs classified as medium-sized, small and micro.
- We regard the fiscal years 2009 to 2013.
- The implemented R&D and SME incentives are those outlined in Section 5.2 above and in Annex 1 (sections 5.2 and 5.3). We divide their overall effects into effects related to the tax base, the tax rate and the tax liability (tax credits).
- As regards the LSEs, we only calculate the effective tax burdens resulting at corporate level.
- For the SMEs, we compute both the effective tax burden at corporate level as well as the overall tax burden including shareholder taxes.
- This section focuses on the effective tax burdens for the base cases (large, medium-sized, small, and micro). The effective tax burdens for the sensitivity analyses and business sectors are contained in Annex 1 (sections 5.5 to 5.8) and show for the corporations of all regarded size categories how varying assumptions on the profitability, capital intensity, equity ratio, labour intensity and industry affiliation impact the effective tax burden at corporate level. Moreover, for the SMEs, a sensitivity analysis on how varying assumptions about the capital structure impact the overall tax burden (including shareholder taxation) is included.

It is important to highlight that the application of tax incentives for SMEs is based on the country-specific limitations and requirements (see Annex 1, sections 5.2 and 5.3). The EU recommendation 2003/361 was taken into account for the calculation of the model corporations described in Section 6.1 and Annex 1 (section 5.1).

The model corporations generated in Section 6.1 are used to compute the effective tax burden for each of the five different years and four enterprise sizes. As outlined above, this part of the report concentrates on the base cases.³⁴In most sections (large, small, micro), two kinds of tables will display the results of our calculations for

³⁴ The results of the sensitivity analyses (different industries, change of single corporate parameters such as capital structure) can be found in Annex 1 (sections 5.5 to 5.8).

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the corporate level: The first one provides an overview of the results applying the applicable tax rules of the fiscal year 2013 for all countries considered in this study. The second table will only contain some selected countries exhibiting interesting developments over the entire time period of 2009-2013 (i.e. applying the applicable tax rules for each of these five years in a row). The overall tax burden including shareholder taxes for the medium-sized, small and micro corporations is presented in a separate table for the fiscal year 2013.³⁵

In the following subsections, the results for the different size categories are presented. For a complete comparison and judgement, the following differences of implemented regulations have to be kept in mind:

1. The LSEs (only corporate level) is considered in a base case situation and is combined with specific R&D-incentives for each fiscal year. Those R&D incentives and their effects on the total tax burden are calculated in aggregate and are partitioned into tax base, tax rate and tax liability effects.
2. For SMEs (corporate level), four different cases have to be considered for each fiscal year. The first calculation is based on exactly the same tax code as applied to the LSEs and serves as a benchmark. This procedure assures that SME-specific tax incentives (e.g. reductions of tax bases, tax rates and tax liabilities) and their effects can be properly measured and related to the benchmark without any incentive. In a second step, the general tax codes are adjusted for SME-specific provisions. The application of the general tax code (benchmark case) in combination with all possible R&D incentives constitutes the third case. It includes general R&D-incentives available to all enterprises as well as SME-specific R&D incentives. This combination allows comparing the impact of R&D incentives for LSEs vs. medium-sized, small and micro corporations. In a final step, the SME-specific tax code (second case) is combined with R&D incentives to assess the total tax relief derived from a simultaneous application of both kinds of incentives. The effects of the final combination of SME and R&D-incentives are again analysed and divided in tax base, tax rate and tax liability effects.
3. The overall tax burden for SMEs (corporate and shareholder level) is presented in a slightly different manner. Here, four cases have to be distinguished. The first calculation contains the tax code applicable for LSEs and can be seen as a benchmark. In the second case, SME and R&D-incentives are included and the total effect of such provisions is calculated to analyse the impact of SME and R&D-incentives. Furthermore, the rank of the single countries in those two cases can be compared to the rank considering only the corporate level. Such a comparison aims at identifying countries having low taxes for corporations and higher individual taxes. As a third and fourth case, a sensitivity analysis focused on the equity ratio is conducted. The results for the extreme cases (an increase and decrease of 30% of the base case equity ratio) are presented and can be used to analyse the impact of different capital structures. This is especially important as SMEs often face more difficult access to external finance and have to rely more heavily on internal financing funds (i.e. retained earnings).

³⁵ Annex 1 (section 5.4: corporate level and section 5.9: overall level, i.e. corporate and shareholder levels) contains complete and very detailed tables for each year and size categories for the base cases.

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6.3.1. LSEs

6.3.1.1. Effective tax burden 2013 (corporate level)

Table 6.2 displays the effective tax burdens for a model LSE under the general tax code regimes as well as the combination of the general tax code and R&D incentives for the fiscal year 2013. The last columns contain a specific division in tax base and tax credit effects of the single R&D-provisions³⁶.

Table 6.2 Effective tax burden (10 periods, corporate level, model LSE, fiscal year 2013)

Country	General Tax Code (large) Tax Burden (€)	Rank	R&D Incentives						
			All incentives			Tax base incentives		Tax liability incentives	
			Tax Burden (€)	Total Effect	Rank	Tax Burden (€)	Isolated Effect	Tax Burden (€)	Isolated Effect
Austria	52,771,208	15	50,785,976	-3.76%	15	52,771,208	-	50,785,976	-3.76%
Belgium	54,168,834	17	53,126,038	-1.93%	16	53,126,038	-1.93%	54,168,834	-
Bulgaria	16,996,329	1	16,996,329	-	1	16,996,329	-	16,996,329	-
Croatia	32,564,895	6	27,634,341	-15.14%	6	27,634,341	-15.14%	32,564,895	-
Estonia	34,571,589	8	34,571,589	-	8	34,571,589	-	34,571,589	-
Finland	41,368,771	10	38,584,338	-6.73%	11	38,584,338	-6.73%	41,368,771	-
France	78,090,960	20	74,135,453	-5.07%	20	77,949,326	-0.18%	74,277,089	-4.88%
Germany	53,434,468	16	53,434,468	-	17	53,434,468	-	53,434,468	-
Greece	43,896,744	13	43,035,140	-1.96%	13	43,035,140	-1.96%	43,896,744	-
Ireland	22,501,512	2	20,390,438	-9.38%	2	21,671,664	-3.69%	21,220,289	-5.69%
Italy	56,573,404	18	54,073,193	-4.42%	18	56,162,562	-0.73%	54,484,035	-3.69%
Lithuania	28,234,532	5	22,745,714	-19.44%	3	22,745,714	-19.44%	28,234,532	-
Luxembourg	50,838,649	14	50,339,264	-0.98%	14	50,339,264	-0.98%	50,838,649	-
The Netherlands	41,515,570	11	38,930,286	-6.23%	12	40,186,253	-3.20%	40,259,602	-3.03%
Poland	32,877,089	7	32,877,089	-	7	32,877,089	-	32,877,089	-
Romania	27,413,142	3	25,914,327	-5.47%	5	25,914,327	-5.47%	27,413,142	-
Slovenia	27,954,026	4	24,201,738	-13.42%	4	24,201,738	-13.42%	27,954,026	-
Spain	58,129,031	19	54,944,564	-5.48%	19	57,945,188	-0.32%	55,128,410	-5.16%
Sweden	36,866,963	9	36,866,963	-	9	36,866,963	-	36,866,963	-
The UK	41,582,866	12	38,389,124	-7.68%	10	40,211,801	-3.30%	39,760,190	-4.38%

In the fiscal year 2013, 15 out of the 20 considered Member States provided specific R&D tax incentives which have been implemented in the European Tax Analyzer. Estonia, Germany and Sweden did not offer any R&D tax incentive at all; two other countries (Bulgaria, Poland) employed very limited R&D tax incentives that only applied in specific cases, i.e. their application is for instance restricted to certain geographical areas or the involvement of an external project partner (i.e. contract research). These incentives have not been implemented in the simulation. Almost all countries (14 of 15 countries) had a tax base incentive in place; Austria was the only country which solely offered a tax credit in 2013. In six countries (France, Ireland, Italy, the Netherlands, Spain, and the UK), combinations of tax base and tax liability incentives were available to LSEs. Tax rate incentives related to R&D were not offered in any country for the fiscal year 2013. Several countries (Belgium, France, Luxembourg, the Netherlands,

³⁶ There is no R&D tax rate incentive in place in 2013.

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Spain, and the UK) offer a reduced tax rate for income derived from intellectual property. It was, however, not possible to implement those rules in the simulation due to a lack of publicly available data on how many royalties and license fees an (average) enterprise in the EU derives from its intellectual property. Any estimation would have been arbitrary and would have distorted the effective tax burden calculations. The only tax rate incentive implemented in the simulation is the one operated in Croatia between 2009 and 2012.³⁷

The effective reduction in the tax burden by the use of R&D-incentives ranges from only 0.98% (Luxembourg) to almost 20% (Lithuania). The high reduction in Lithuania is related to the very generous deductibility of personnel and current R&D costs. In addition to the actual expense, 200% of personnel and current R&D costs can be deducted for tax purposes. Croatia and Slovenia have R&D-incentives in place that reduce the effective tax burden by more than 10%. Both countries have a provision similar to Lithuania and grant a super deduction for personnel and current R&D costs as well as for certain kinds of capital expenditures (Croatia: 125% plus actual expense; Slovenia: 100% plus actual expense).

The reduction of the effective tax burden by means of tax base incentives in the other countries is in many cases related to accelerated depreciation schemes only available for assets used in R&D (Belgium, Finland, France, Greece, Ireland, Spain, and the UK). The effect of those special schemes varies depending on the general depreciation rules in place. Irish enterprises can make use of an immediate 100% depreciation for all assets solely used in R&D, whereas enterprises in Luxembourg only benefit from a slightly increased depreciation rate (40% declining balance instead of 30% declining balance) which is moreover restricted to machinery and equipment. As a result of these differing regulations, the tax reducing effect in Ireland is about three times higher than in Luxembourg. Other tax base incentives are currently in place in Belgium, the Netherlands and Finland. In Belgium and the Netherlands, these cover an increased deduction for capital expenditures in newly acquired tangible and intangible assets (Belgium 14.5%, the Netherlands 54%). In the Netherlands, therefore, the effective tax burden is reduced by 3.20%. Finland offers – apart from accelerated depreciation for R&D buildings – a 100% additional deduction with regard to salaries paid to R&D employees, yielding a total tax base-related reduction of the tax burden of 6.73%.

Available incentives relating to the tax due, i.e. tax credits are mostly related to personnel and current R&D expenses. As mentioned above, these incentives can be found in countries which also offer tax base incentives (apart from Austria). However, the results reveal that the combination of tax base and tax credit incentives does not necessarily imply a higher reduction of the effective tax burden compared to an exclusive application of a tax base incentive. A very generous tax base incentive (e.g. as in Lithuania, Croatia and Slovenia) might have a much higher impact on the effective tax burden than a combination of two rather narrow tax base and tax credit incentives. The actual effect of a tax credit depends on a number of different factors (credit rate; volume-based or incremental character) and thus varies considerably. The Irish tax credit incorporates a combination of volume-based and incremental incentive related to capital expenditures (25%). As Table 6.2 shows, this tax credit features the largest effect of all regarded tax credits (-5.69%). The ranking of the countries considering the general base case compared to the ranking in the case where R&D tax incentives are considered remains almost constant. Only three countries (Belgium, Lithuania and

³⁷ For details see next section.

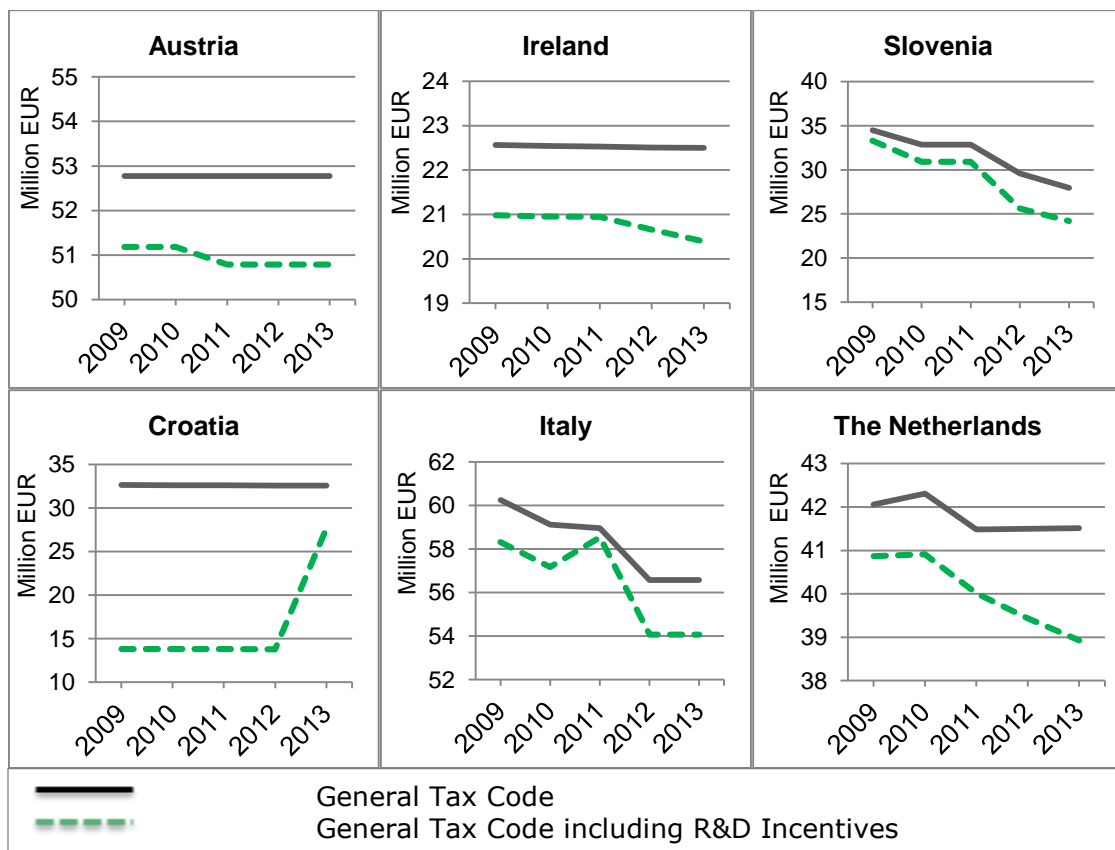
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the UK) improve slightly in the ranking with R&D-incentives. Remarkably, those countries which already have low general tax burdens also seem to offer the most tax attractive R&D environment. The leading positions in the ranking contain all countries with a 10% or even higher reduction of the effective tax burden by adding R&D-incentives to the general tax code.

6.3.1.2. *Development of effective tax burdens in selected countries (corporate level)*

The following graphs in Figure 6.1 display the development of the general tax burden and the respective tax burden with R&D incentives for the entire period from 2009 to 2013 for selected countries. We selected nine countries which exhibit interesting trends and changes in their tax codes. In particular, the development of the distance between the tax burden in the general case and the tax burden in case R&D tax incentives are considered can be used to derive an increasing or diminishing significance of R&D-related provisions for tax purposes.³⁸

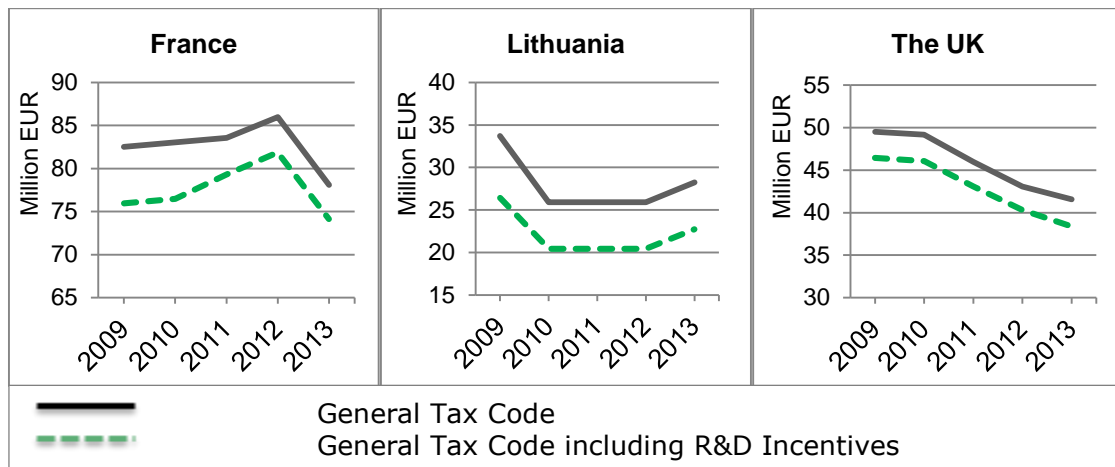
Figure 6.1 Development of effective tax burden (corporate level) from 2009 to 2013 for selected countries (model LSE)



³⁸ The detailed results for every country and year can be found in Annex 1 (Table 5.20).

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From the nine countries selected here, only Croatia shows a diminishing significance of R&D-incentives at a large scale. From 2009 to 2012, Croatia had a rule in place which reduced the general CIT rate from 20% to 10% if an investor fulfilled certain investment thresholds for R&D capital expenditures. The reduced 10% rate was granted if the R&D capital expenditures exceeded EUR 100,000. In 2013, this specific R&D incentive was replaced by a general investment incentive scheme.

In Lithuania and the UK, the distance between the effective tax burden considering only the general tax code and the effective tax burden including R&D incentives remains almost constant over time. The previously mentioned super deduction in Lithuania has been unchanged since 2009 and reduces the effective tax burden by around 20% in every year. Likewise, R&D incentives in the UK (immediate depreciation for certain R&D assets, deduction of an additional 30% of R&D personnel and current costs) have not been modified since 2009. In 2013, however, the deduction was replaced by a 10% tax credit giving rise to a slightly higher reduction of the effective tax burden compared to the previous combination of immediate depreciation and deduction.

Also, France and Italy are both showing interesting developments. Until 2011 (Italy) and 2012 (France), the reduction of the effective tax burden by R&D-incentives was diminishing. In France, the tax credit rate available for certain R&D expenses was reduced from 50% (first year) and 40% (second year) to 40% and 35% respectively. This reduction is only available in the first two years for a newly founded corporation. The strong decline of the effective tax burden in the general case and the effective tax burden considering R&D-incentives in 2013 can be explained by a newly introduced general tax credit in relation to the personnel expenses of an enterprise. Likewise, Italy has undertaken some changes to its R&D tax incentives in the last years. The tax credit (10% of R&D-related capital expenditure, personnel costs and current costs) was abolished in 2010. The possibility to deduct R&D-related personnel costs for the special Italian tax on the net production value ("IRAP"), however, has not been modified. The increasing distance in the fiscal year 2012 is related to a newly introduced tax credit amounting to 35% of R&D-related personnel costs up to a maximum of EUR 200,000 per year. This tax credit reduces the effective tax burden by 3.69%.

Austria, Ireland, the Netherlands and Slovenia expanded their tax incentives for R&D in the period from 2009 to 2013. In Austria, the tax credit rate for R&D expenses (capital expenditures, personnel costs, current costs) has been increased from 8% to 10% since 2011, leading to a higher reduction of the effective tax burden by 0.75%.

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The Irish tax credit for R&D expenses only applied on an incremental basis from 2009 to 2011. In 2012, a volume-based component has been introduced which allowed for crediting 25% of R&D expenses up to EUR 100,000 against the CIT liability. This volume based amount was increased to EUR 200,000 in 2013, implying a tax credit of max. EUR 50,000 (25% x EUR 200,000). The provision for the incremental relief has not been changed since 2009.

Since 2012, Dutch enterprises benefit from a newly introduced super deduction which amounts to 40% (2012) resp. 54% (2013) of capital expenditures and current R&D costs. The effective tax burden in the Netherlands is reduced by 2.37% (2012) and 3.03% (2013) due to this provision. For Slovenia, the steadily increasing effect of R&D provisions can be explained by the increasing rate of the super deduction for certain R&D expenditures. Starting in 2009 at 20%, the rate was increased to 40% for 2010-2011 and has been further increased to 100% since 2012.

6.3.1.3. Sensitivity analysis (corporate level)

In the following, it will be assessed how varying assumptions on the profitability, capital intensity, equity ratio, labour intensity and industry affiliation impact the effective tax burden and the effect of R&D incentives at corporate level. To this end, we analyse how the reduction of the effective tax burden resulting from R&D-incentives in the base case relates to the respective reduction in case we modify the above described parameters.³⁹

The influence of R&D incentives on the effective tax burden remains fairly stable if assumptions on the profitability of the corporation considered in the base case are modified: deviations from the effect found for the base case largely range around 1-2 percentage points only. These deviations tend to be more pronounced in countries with high shares of profit-related taxes (e.g. Lithuania, Croatia), as a change of profitability results in a larger change of the effective tax burden in these cases. (We therefore conclude that profitability does influence the effectiveness of R&D incentives, yet the scale of the reducing effect still is comparable to that found for the base case).

Likewise, a change in the capital intensity of the model corporation implies very small deviations from the base case of mostly less than one percentage point in terms of the effect of R&D incentives. Here, the impact on the effective tax burden is related to the countries' depreciation scheme: the more favourable the depreciation scheme, the larger is the effect on the effective tax burden of a change in capital intensity. Again, Lithuania and Croatia are examples for countries with very beneficial depreciation schemes.

Comparably small deviations of mostly less than one percentage point with regard to the effect of R&D incentives on the effective tax burden can also be found for variations of the equity ratio and labour intensity.

We thus conclude that our results are robust with regard to changes in the underlying assumptions on the model corporation.

In the next step, we examine whether our findings for the base case are valid with regard to different industry sectors. The results reveal that the impact of R&D tax in-

³⁹ The detailed results for the sensitivity analysis of the profitability, capital intensity, equity ratio and labour intensity can be found in Annex 1 (section 5.6). In the same section, the results for the industry-specific model corporations are presented.

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centives on the effective tax burden strongly depends on the specific industry sector. Since industry sectors strongly differ with regard to the extent of their R&D activities this result is not surprising. The construction, commerce and hotel sector for instance are comparably little engaged in R&D. Therefore, R&D spending and, thus, the effect of R&D tax incentives is much smaller than e.g. in the manufacturing sector.

To conclude, our results are largely robust with regard to the underlying assumptions on profitability, capital intensity, equity ratio and labour intensity. However, R&D intensity is of course a decisive factor for the impact of R&D tax incentives. Therefore, their effect differs across industry sectors.

6.3.1.4. Conclusions

The assessment of R&D tax incentives for corporations of large size has yielded five major results:

- First, R&D incentives are very common. 15 out of the 20 considered Member States provide such specific R&D incentives. Most prevalent are incentives related to the tax base.
- Second, the effective reduction of the tax burden resulting from R&D tax incentives range from 0.98% (Luxembourg) to roughly 20% (Lithuania). The country ranking, however, remains almost constant.
- Third, there is a tendency for an expansion of R&D tax incentives in the years 2009 to 2013.
- Fourth, the results are largely robust to differing assumptions on profitability, capital intensity, equity ratio, and labour intensity. By contrast, R&D intensity reveals a considerable impact on the effective tax burden.
- Fifth, variations of effective tax burdens across industries can be explained foremost by industry specific R&D intensities.

6.3.2. Medium-sized corporations

6.3.2.1. Effective tax burden 2013 (corporate level)

The following assesses the prevalence, scope and effectiveness of tax incentives designed to provide relief to SMEs. In a first step, a model corporation exhibiting the characteristics of a corporation of medium size (as defined by the European Commission⁴⁰) is regarded.⁴¹

Table 6.3 displays the effective tax burdens for the four different cases explained above (see Section 6.3.1) in four columns:

- First column: No incentives, i.e. application of the same general tax code as for the LSE.
- Second column: Only specific SME incentives are applied.
- Third column: R&D incentives are combined with the first case (general tax codes without SME incentives).
- Fourth column: Application of both SME and R&D incentives.

⁴⁰ See Commission Recommendation 2003/361/EC.

⁴¹ A detailed table on the separated effects of SME and R&D effects and their subcomponents is provided in Annex 1 (section 5.4)

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First of all, it stands out that in none of the countries – apart from the UK – SME incentives have any reducing effect on the effective tax burden for the considered medium-sized corporation. The reason for that is that these incentives are tied to specific size thresholds, e.g. with regard to the corporation's turnover or profit, balance sheet total or number of employees, which the medium-sized corporation does not satisfy.⁴²

The only effective SME incentive is the progressive CIT rate scheme in the UK: In 2013, instead of the normal rate of 23%, a 21% rate is in force up to a taxable income of GBP 300,000; marginal relief is available if income lies between GBP 300,000 and GBP 1,500,000. Only beyond that amount (GBP 1,500,000) the 23% normal rate applies. However, the relief obtained from this SME incentive (-0.61%) is fairly low compared to the effect induced by the R&D incentives in place (-16.93%), yielding an overall reduction of 18%. That is because the medium-sized corporation only qualifies for the marginal relief bracket as it does not have income below GBP 300,000 in any of the 10 simulation periods.⁴³

Table 6.3 Effective tax burden (10 periods, corporate level, model medium-sized corporation, fiscal year 2013)

Country	General Tax Code (large) Tax Burden (€)	Rank	SME specific tax code			General Tax Code and R&D Incentives			SME specific Tax Code and R&D Incentives		
			Tax Burden (€)	Total Effect	Rank	Tax Burden (€)	Total Effect	Rank	Tax Burden (€)	Total Effect	Rank
Austria	5,535,665	17	5,535,665	-	17	5,349,599	-3.36%	16	5,349,599	-3.36%	16
Belgium	5,453,582	16	5,453,582	-	16	5,351,627	-1.87%	17	5,351,627	-1.87%	17
Bulgaria	1,699,083	1	1,699,083	-	1	1,699,083	-	2	1,699,083	-	2
Croatia	3,261,631	6	3,261,631	-	6	2,802,246	-14.08%	6	2,802,246	-14.08%	6
Estonia	3,440,541	8	3,440,541	-	8	3,440,541	-	8	3,440,541	-	8
Finland	4,136,579	11	4,136,579	-	12	3,875,510	-6.31%	12	3,875,510	-6.31%	12
France	7,462,469	20	7,462,469	-	20	7,048,155	-5.55%	20	7,048,155	-5.55%	20
Germany	5,279,368	15	5,279,368	-	15	5,279,368	-	15	5,279,368	-	15
Greece	4,360,005	13	4,360,005	-	13	4,278,726	-1.86%	13	4,278,726	-1.86%	13
Ireland	2,234,652	2	2,234,656	-	2	1,670,627	-25.24%	1	1,670,630	-25.24%	1
Italy	5,754,110	18	5,754,110	-	18	5,360,271	-6.84%	18	5,360,271	-6.84%	18
Lithuania	2,851,156	5	2,851,156	-	5	2,336,714	-18.04%	3	2,336,714	-18.04%	3
Luxembourg	5,069,557	14	5,069,557	-	14	5,022,551	-0.93%	14	5,022,551	-0.93%	14
The Netherlands	4,050,031	10	4,050,031	-	10	3,732,677	-7.84%	11	3,732,677	-7.84%	11
Poland	3,290,040	7	3,290,040	-	7	3,116,102	-5.29%	7	3,116,102	-5.29%	7
Romania	2,744,562	3	2,744,562	-	3	2,604,070	-5.12%	5	2,604,070	-5.12%	5
Slovenia	2,782,195	4	2,782,195	-	4	2,430,377	-12.65%	4	2,430,377	-12.65%	4
Spain	5,784,801	19	5,784,801	-	19	5,496,368	-4.99%	19	5,496,368	-4.99%	19
Sweden	3,681,747	9	3,681,747	-	9	3,681,747	-	10	3,681,747	-	10
The UK	4,180,444	12	4,155,099	-0.61%	11	3,472,871	-16.93%	9	3,428,102	-18.00%	9

Aside from the UK, 15 out of the 20 sample countries have R&D incentives in place that are also or exclusively available for SMEs (in total: 16 countries). Overall, the

⁴² Details about the threshold for single incentives can be found in Annex 1 (Table 5.19).

⁴³ In addition, the difference between the normal (23%) and reduced rate (21%) is not particularly pronounced. This, however, only fully comes into effect in case of the small and micro enterprise as far as these fall into the lowest income bracket.

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effects (in terms of the scale of reduction) are similar and comparable to the effects found for the LSE in most countries. For ten countries, the reduction of the tax burden is slightly smaller for the medium-sized corporation as compared to the LSE. In seven countries the effects are more pronounced for the medium-sized corporation. In some of these countries, this can be attributed to the fact that the scope and effectiveness of the relevant incentives is size-dependent: In Ireland for instance, where the overall reduction amounts to 25.24% compared to 9.38% for the LSE, this result is driven by the nature of the R&D tax credit. This credit for qualifying R&D expenses is volume-based up to EUR 200,000 but becomes incremental beyond. The LSE has R&D expenses in excess of EUR 200,000, whereas the medium-sized corporation does not reach this threshold and can therefore fully deduct all relevant expenses. Similarly, a tax credit for R&D-related personnel costs is available in Italy, which is, however, restricted to a total of EUR 200,000. Again, the medium-sized corporation does not become subject to this restriction, yet the large one does.⁴⁴ Likewise, the Netherlands offer a credit for R&D-related personnel costs with a rate of 38% applying up to expenses of EUR 200,000 and with a rate of 14% beyond EUR 200,000. Again, the medium-sized corporation does not reach this threshold (total relief: 7.84%), whereas the LSE does, yielding a relatively smaller tax credit (total relief: 6.23%).

A particular case is constituted by Poland which exhibits a tax burden reduction of 5.29%, whereas the LSE does not benefit from any relief. This can be attributed to an R&D incentive which is solely available for SMEs: accordingly, SMEs may credit against their CIT liability 75% of the amount invested in qualifying R&D.

Finally, the UK employs different R&D incentive regimes for LSEs vs. SMEs: As of 2013, LSEs are subject to a 10% tax credit on qualifying R&D expenditure. No such credit is available for SMEs, which, however, have at their disposal a more generous super deduction of 125% (i.e. a total of 225% of qualifying R&D expenditures may be deducted). Hence, the relief from R&D incentives amounts to 16.93% compared to 7.68% for the LSE.

Table 6.3 also provides information on the implied country ranking position for each of the computed cases. Overall, the ranking remains quite stable. Compared to the base case (i.e. application of the general tax code), the UK can make up one position if the SME tax rate incentive is applied. If R&D incentives are additionally taken into consideration, the UK even improves by three positions and moves from the 12th to the 9th rank. Ten countries in the sample hold their positions, the remaining countries change their ranking by at most two positions. Interestingly, Ireland with its very generous R&D incentives even takes the first rank and thus supersedes Bulgaria, which is ranked first in the base case without R&D incentives.

We also explore how changes in the assumptions on the profitability, capital intensity, equity ratio and labour intensity of the model corporation influence the effective tax burden and the impact of SME and R&D incentives.⁴⁵ The results are again robust and the effects are comparable to those found for the LSE. We therefore refer to the previous section (LSE) for a more extensive discussion. Likewise, it can be confirmed again that the impact of SME and R&D tax incentives is strongly related to the industry affiliation.

⁴⁴ Hence, the tax burden is reduced by 6.84% (medium) vs. 4.42% (large).

⁴⁵ The detailed results for the sensitivity analysis of the profitability, capital intensity, equity ratio and labour intensity can be found in Annex 1 (section 5.6). In the same section, the results for the industry-specific model corporations are presented.

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6.3.2.2. Effective tax burden 2013 (overall level: corporation and shareholder)

The following extends the analysis conducted for the effective tax burden at the corporate level to the overall level by including the taxation at the shareholder level.⁴⁶

Table 6.4 displays the effective tax burdens for the four different cases explained above (see Section 6.3.1) in four columns:

- First column: no incentives, i.e. application of the same general tax code as for the LSE.
- Second column: specific SME and R&D incentives are applied.
- Third column: SME and R&D incentives are combined with a modified medium-sized model corporation (only equity ratio is decreased; everything else is kept constant).
- Fourth column: combined SME and R&D incentives and a higher equity ratio compared to the base case corporation are applied.

Table 6.4 Effective tax burden (10 periods, corporate and shareholder level, model medium-sized corporation, fiscal year 2013)

Country	General Tax code		SME specific Tax Code and R&D-Incentives								
	Base case		Base case			Equity Ratio -30%			Equity Ratio +30%		
	Tax burden (€)	Rank	Tax Burden (€)	Total Effect	Rank	Tax Burden (€)	% change compared to Base Case	Rank	Tax Burden (€)	% change compared to Base Case	Rank
Austria	8.220.423	14	8.080.874	-1,70%	15	7.930.931	-1,86%	15	8.232.459	1,81%	15
Belgium	8.331.972	15	8.255.502	-0,92%	16	8.179.042	-0,93%	16	8.418.063	1,91%	16
Bulgaria	2.512.262	1	2.512.262	-	1	2.436.911	-3,00%	1	2.587.559	2,91%	1
Croatia	5.416.448	4	5.019.124	-7,34%	4	4.955.915	-1,26%	5	5.083.631	1,18%	3
Estonia	3.588.808	2	3.588.808	-	2	3.507.301	-2,27%	2	3.670.290	2,22%	2
Finland	7.969.722	12	7.798.127	-2,15%	13	7.773.647	-0,31%	13	7.948.368	1,85%	13
France	11.118.533	20	10.851.017	-2,41%	20	10.617.268	-2,15%	20	11.105.485	2,24%	20
Germany	8.593.981	17	8.593.981	-	17	8.360.050	-2,72%	17	8.836.381	2,74%	17
Greece	7.652.044	10	7.591.086	-0,80%	11	7.415.209	-2,32%	11	7.771.593	2,30%	9
Ireland	9.338.112	18	8.967.317	-3,97%	18	8.810.454	-1,75%	18	9.210.666	2,54%	18
Italy	8.339.155	16	8.030.526	-3,70%	14	7.876.021	-1,92%	14	8.185.450	1,82%	14
Lithuania	5.529.482	5	5.117.933	-7,44%	5	4.865.555	-4,93%	4	5.370.311	4,36%	5
Luxembourg	7.520.762	9	7.483.928	-0,49%	9	7.199.313	-3,80%	9	7.779.584	3,78%	10
The Netherlands	7.204.366	8	6.968.254	-3,28%	8	6.832.028	-1,95%	8	7.116.699	2,02%	8
Poland	5.910.413	6	5.769.528	-2,38%	6	5.574.422	-3,38%	6	5.964.592	3,19%	6
Romania	5.039.271	3	4.921.258	-2,34%	3	4.753.422	-3,41%	3	5.089.448	3,23%	4
Slovenia	6.338.658	7	6.074.797	-4,16%	7	5.877.358	-3,25%	7	6.272.364	3,02%	7
Spain	9.407.531	19	9.207.666	-2,12%	19	9.293.830	0,94%	19	9.594.504	3,95%	19
Sweden	7.696.183	11	7.696.183	-	12	7.459.529	-3,07%	12	7.932.783	2,98%	12
The UK	8.111.342	13	7.588.882	-6,44%	10	7.391.179	-2,61%	10	7.787.755	2,39%	11

⁴⁶ Table 5.44 in Annex 1 contains detailed calculation results for all years and the impact of a changing equity ratio in a more detailed manner.

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As regards the country ranking obtained from assessing effective tax burdens at corporate level (Table 6.3) and in total (corporate and shareholder level, Table 6.4), it becomes evident that in most countries the ranking changes by at most two positions and thus remains fairly constant. However, the comparison also reveals that a countries' rank can change in particular if country specific taxation at the shareholder level is either more or less favourable compared to the corporate level. This finding refers to both the base case and the case of applying SME and R&D incentives.

Ireland constitutes the most extreme case in that regard. Compared to the corporate level, Ireland loses 16 (base case) resp. 17 (R&D and SME incentives considered) positions in the country ranking. The reason for this is that Ireland imposes comparably high taxes at shareholder level: dividends and interest from shareholder loans are effectively subject to progressive rates of up to 41%, interest from bank loans is taxed at a rate of 33%. Consequently, the relief of 25.24% obtained from tax incentives at the corporate level is reduced to 3.97% only at the overall level. Similarly, Slovenia loses 3 positions with the effect of tax incentives shrinking from 12.65% to 4.16% as a result of a flat 25% tax on all sources of income without any exemptions at shareholder level. On the other side, countries such as Luxembourg and Estonia operate comparably favourable shareholder taxation regimes⁴⁷ and therefore improve by 5 resp. 6 positions in the country ranking.

Therefore, in total, it can be concluded that the effect of R&D and SME tax incentives is also influenced by the level of shareholder taxation. The beneficial effect of incentives may become much smaller if both levels of taxation are considered. Above all, this result can be traced back to high PIT at the shareholder level in different countries. Comparing the impact of SME and R&D-tax incentives on the effective tax burden at the corporate and the overall level, it is remarkable that in most countries the impact is reduced by roughly 50%.

Finally, Table 6.4 analyses the effect of varying assumptions about the capital structure on the overall tax burden. It becomes evident that a decreasing share of equity (i.e. an increase in debt) reduces the effective tax burden, since more interest can be deducted from taxable profits. Unlike interest payments, dividends do not reduce taxable income, but have to be paid from after-tax profits. Moreover, dividends are – at least to some extent – subject to PIT at the level of the shareholder. As a result, equity financing results in double taxation of profits and implies that a higher share of equity compared to debt-financing increases the overall tax burden. However, increased debt financing potentially comes along with detrimental effects as well. First of all, thin capitalization rules may become effective and limit the deductibility of interest payments on shareholder loans at corporate level. In that case, the tax benefit of debt financing at corporate level is reduced. Moreover, at shareholder level, interest income from shareholder loans in most countries is subject to progressive income taxation, whereas dividends are predominantly taxed at lower proportional rates. After all, the observed tax advantage of debt versus equity financing at the corporate might be reversed if we take into account PIT at the shareholder level.

Still, as the results in Table 6.4 display, debt financing turns out to be more tax efficient than equity financing. Since SMEs face capital market constraints, a tax relief from an increased debt financing is less likely for SMEs compared to LSEs. This disad-

⁴⁷ In Luxembourg, interest from bank accounts for instance is subject to a 10% final withholding tax rate. Other sources of income are effectively taxed at progressive rates, however, the top rates only apply at fairly high income levels. In Estonia, interest from bank accounts is not taxed at all, dividends are not subject to taxation at shareholder level as well.

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vantage could be reduced by eliminating the discrimination between debt and equity financing in tax codes. In most of the countries considered in the study, this discrimination is given as interest payments are fully tax deductible and no relief for equity financing is offered. Exceptions are Belgium and Italy that both have implemented an allowance for corporate equity.⁴⁸

6.3.2.3. Conclusions

The assessment of tax incentives for corporations of medium size has yielded five major results:

- First, medium-sized corporations hardly qualify for specific SME tax relief due to size restrictions which the corporation does not satisfy. The UK constitutes the only exception.
- Second, similar results like for the assessment of the LSE have been obtained with regard to R&D tax incentives. In a couple of countries, those R&D incentives incorporate certain threshold provisions. For these cases, higher reductions for medium-sized corporations than for LSEs can be observed.
- Third, R&D benefits may apply for SMEs exclusively. Such rules can be found in France, Poland and the UK.
- Fourth, the effect of R&D incentives diminishes by roughly 50% if the overall level (corporate and shareholder level) is considered.
- Fifth, SMEs might face a competitive tax disadvantage as tax codes favour debt over equity financing and SMEs face difficulties in obtaining debt.

6.3.3. Small corporations

6.3.3.1. Effective tax burden 2013 (corporate level)

The calculation of the effective tax burdens for the model small enterprise follows the procedure for the model medium-sized enterprise. In the previous section, the four different cases considered have been described in detail (first column no incentives, second column only SME incentives, third column only R&D incentives, fourth column combination of R&D and SME incentives). The results for these four cases for the model small enterprise are displayed in Table 6.5.⁴⁹

⁴⁸ See Zangari (2014) for a detailed overview of the differences between the Belgian and the Italian allowance for corporate equity.

⁴⁹ A more detailed table on the separated effects of SME and R&D effects and their subcomponents is provided in Annex 1 (section 5.4).

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Table 6.5 Effective tax burden (10 periods, corporate level, model small corporation, fiscal year 2013)

Country	General Tax Code Tax burden (€)	Rank	SME specific Tax Code			General Tax Code and R&D Incentives			SME specific Tax Code and R&D Incentives		
			Tax Burden (€)	Total Effect	Rank	Tax Burden (€)	Total Effect	Rank	Tax Burden (€)	Total Effect	Rank
Austria	1,512,187	16	1,512,187	-	18	1,466,642	-3.01%	15	1,466,642	-3.01%	16
Belgium	1,533,802	17	1,494,804	-2.54%	17	1,509,038	-1.61%	18	1,469,347	-4.20%	17
Bulgaria	486,286	1	486,286	-	1	486,286	-	1	486,286	-	2
Croatia	936,131	6	936,131	-	6	823,021	-12.08%	6	823,021	-12.08%	6
Estonia	981,644	8	981,644	-	8	981,644	-	8	981,644	-	9
Finland	1,183,714	11	1,183,714	-	13	1,119,822	-5.40%	12	1,119,822	-5.40%	13
France	1,852,668	20	1,782,597	-3.78%	20	1,751,422	-5.46%	20	1,681,351	-9.25%	20
Germany	1,480,901	15	1,480,901	-	16	1,480,901	0.00%	16	1,480,901	-	18
Greece	1,246,258	13	1,246,258	-	14	1,226,346	-1.60%	13	1,226,346	-1.60%	14
Ireland	636,567	2	588,305	-7.58%	2	498,531	-21.68%	2	446,061	-29.93%	1
Italy	1,603,376	18	1,603,376	-	19	1,507,156	-6.00%	17	1,507,156	-6.00%	19
Lithuania	813,281	5	813,280	-	5	687,372	-15.48%	3	687,372	-15.48%	3
Luxembourg	1,456,114	14	1,456,114	-	15	1,444,617	-0.79%	14	1,444,617	-0.79%	15
The Netherlands	1,088,987	10	1,088,987	-	10	1,011,885	-7.08%	9	1,011,885	-7.08%	10
Poland	941,007	7	941,007	-	7	898,431	-4.52%	7	898,431	-4.52%	7
Romania	785,565	3	785,565	-	3	751,182	-4.38%	5	751,182	-4.38%	5
Slovenia	797,236	4	797,236	-	4	711,133	-10.80%	4	711,133	-10.80%	4
Spain	1,655,304	19	1,167,502	-29.47%	12	1,585,975	-4.19%	19	1,105,021	-33.24%	12
Sweden	1,054,122	9	1,054,122	-	9	1,054,122	-	11	1,054,122	-	11
The UK	1,193,995	12	1,095,785	-8.23%	11	1,020,840	-14.50%	10	931,307	-22.00%	8

Compared to the results for the model medium-sized corporation, there are now five countries (Belgium, France, Ireland, Spain, the UK) where specific SME incentives are applicable for the implemented small corporation. As mentioned in the previous section, this can be explained by the fulfilment of rule-specific thresholds (turnover, profit, balance sheet total or number of employees) that are not satisfied by the medium-sized corporation model. In three of the countries with applicable SME incentives (France, Ireland and the UK), the effect of R&D tax incentives remains higher than the reduction caused by SME incentives. For Belgium and especially Spain, SME incentives have a higher impact on the reduction of the effective tax burden.

In Belgium, the reduction of the effective tax burden by 2.54% is due to two different SME incentives. First of all, Belgium offers a notional interest deduction at a rate of 3% available for all corporations. For corporations with less than 50 employees and a turnover below EUR 6,250,000 this rate is increased by 0.5%, which leads to an isolated reduction of the effective tax burden by 1.84%. The second effect is the application of a lower progressive tax rate schedule if the income is below EUR 322,500 instead of the general proportional tax rate of 33%. For the model corporations considered here, this schedule implies a reduction of the effective tax burden by 0.65%.

The reduction of the effective tax burden in France by 3.78% is related to different tax rate incentives available for small corporations. For corporations with a turnover below EUR 7,630,000 the first EUR 38,120 of income are taxed at a reduced rate of 15% (income above this threshold is taxed at 33.33%). Additionally, the French government imposes a tax of 0.16% on turnover if total turnover exceeds EUR 7,630,000.

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The small enterprise model does not meet this threshold and thus does not become subject to this tax, whereas the medium-sized enterprise model does.

Ireland offers a special tax relief scheme for the first three periods of operation for newly founded enterprises. As this relief is tied to specific thresholds, it constitutes an SME incentive as well. In detail, the CIT liability is in a first step calculated with the standard rate of 12.5%. If this liability is below EUR 40,000, no tax has to be paid. For an income tax liability between EUR 40,000 and EUR 60,000, a marginal relief applies in the first three years. For the model corporation considered here, this provision is fulfilled in two simulation periods and explains the reduction of the effective tax burden by 7.58%.

Spain employs several incentives targeted at small and micro enterprises. Thus, the effective tax burden is reduced at a large scale by almost 30%. Spain is the only country which offers tax base, tax rate and tax credit incentives at the same time for small and micro corporations. The highest impact is attained by the reduced tax rate scheme: Instead of the normal tax rate of 30%, a progressive schedule with reduced tax rates (first EUR 300,000: 20%; above EUR 300,000: 25%) applies, if the enterprise has less than 25 employees and if turnover does not exceed EUR 5,000,000. A tax credit for small and micro enterprises amounting to EUR 3,000 per employee under 30 years and per period is granted since 2012 and reduces the effective tax burden by 10.67%. The tax base is reduced by an increased depreciation scheme that allows depreciation at 200% of the normal rates, yielding an isolated tax reducing effect of 3.08%.

The significance of the reduced tax rate system in the UK is increasing for the small model enterprise. Instead of a rather small reduction of 0.61% for the medium-sized enterprise, the effective tax burden is now reduced by 8.23%. In contrast to the medium-sized enterprise, the threshold for the turnover of GBP 300,000 is not exceeded and thus, the reduced CIT rate of 21% is applicable in all simulation periods for the model corporation considered here.

The country ranking remains considerably stable again. However, an exception is constituted by Spain: With the very generous incentives available for small and micro corporations, Spain improves from position 19 to position 12. The application of specific incentives in Belgium, France and Ireland has no effect on the position in the country ranking. Only the UK can improve its position by one rank.

Concerning the third case (combination of general tax code and R&D incentives), exactly the same rules which are applied to the medium-sized enterprise are implemented. If one compares the effects of the R&D regulations for the medium-sized and the small corporation model, it becomes apparent that those provisions have comparable effects without major differences.⁵⁰

Finally, the combination of SME and R&D incentives yields further interesting results. In seven countries, the effective tax burden is now reduced by more than 10% in comparison to the application of the general tax code for LSEs. Ireland is replacing Bulgaria at the top of the ranking with a reduction of the effective tax burden by 29.93%. In comparison to the case with SME incentives only, the position of Spain remains stable. Spain exhibits the largest reduction of the effective tax burden

⁵⁰ The slight differences are due to the model setup and the different structure of the model enterprises.

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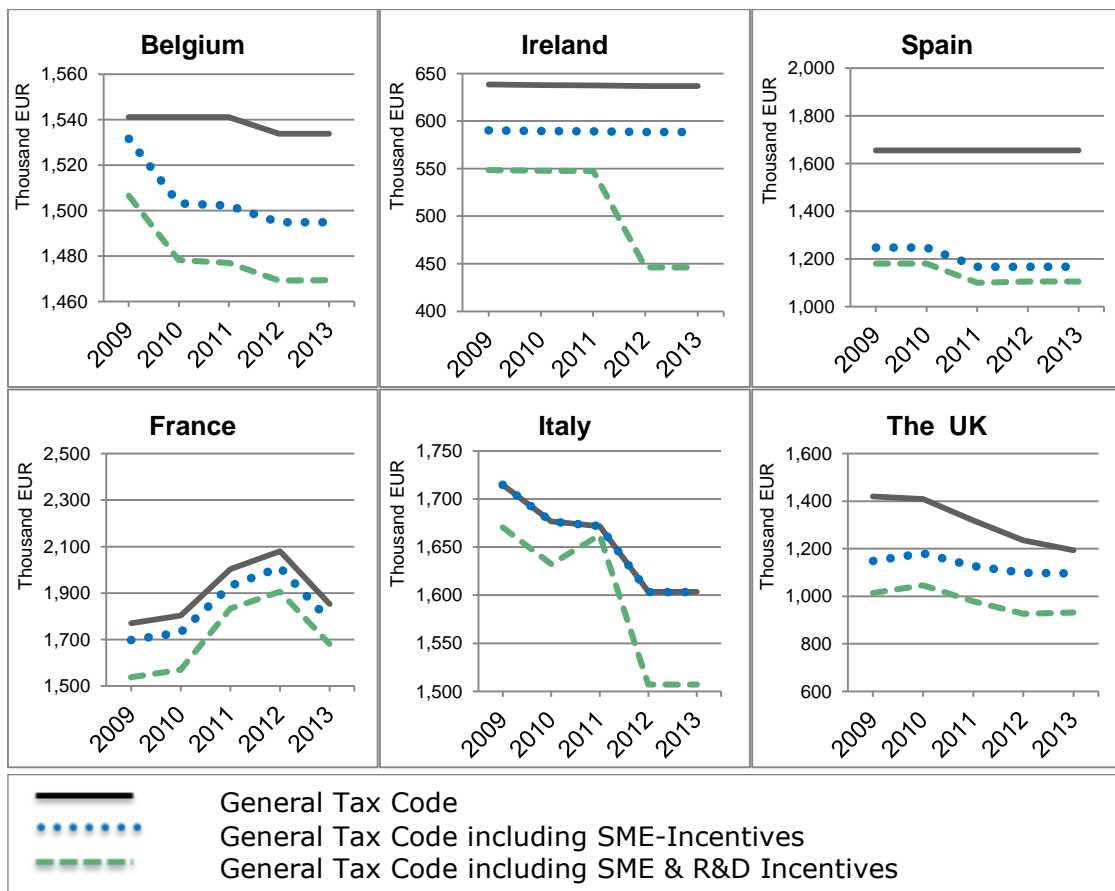
(33.24%) of all considered countries for the combined case of SME and R&D incentives.

Again, several sensitivity analyses have been conducted to consider differing assumptions on the profitability, capital intensity, equity ratio and labour intensity of the model corporation.⁵¹ . As for other size categories, the results remain robust and the effects are comparable to those found in the previous section.

6.3.3.2. *Development of effective tax burdens in selected countries (corporate level)*

As for the LSE, the most striking developments over the entire time period (2009-2013) are displayed for six selected countries to highlight trends. Each graph contains three lines (general tax code, only SME incentives, combination of SME and R&D incentives).⁵²

Figure 6.2 Development of effective tax burden (corporate level) from 2009 to 2013 for selected countries (model small corporation)



⁵¹ The detailed results for the sensitivity analysis of the profitability, capital intensity, equity ratio and labour intensity can be found in Annex 1 (section 5.7). In the same section, the results for the industry-specific model corporations are presented.

⁵² The detailed results for every country and year can be found in Annex 1 (Table 5.22).

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In Belgium, the distance in case of the general tax code, the tax code with SME incentives and the tax code in case SME and R&D tax incentives are applied in combination is considerably increasing from 2009 to 2013. The strong decline of the effective tax burden for the cases with implemented SME incentives can be explained by the introduction of an increased notional interest deduction rate (3.5% instead of 3%). In contrast to the medium-sized model corporation, the small model corporation fulfils the prerequisites.⁵³ In the following years, the distances remain stable and the developments are mainly caused by changes in the general tax code as for R&D provisions, only some minor changes occur.

The French tax system and the distance between the three different lines remains stable over time. Since the implemented SME incentives do not change from 2009 to 2013, most of the developments can be explained by changes in the general tax code. The slight decrease between the combined SME and R&D line and the other two lines is caused by a reduction of a specific R&D incentive.⁵⁴

Ireland shows no change in the distance between the two upper lines whereas the distance to the combined SME and R&D line is increasing at a large scale from 2012 on. This is related to the introduction of a volume-based tax credit as mentioned above.

Italy has no special incentive for SMEs in place and should therefore serve as a counterexample to the other countries displayed in the graph that all apply a certain kind of SME incentives. The development of the lower line from 2009 to 2013 is completely related to changes of R&D tax provisions and has been already explained before. Especially the tax credit for R&D-related personnel costs up to a maximum of EUR 200,000 per year at an amount of 35% which has been introduced in 2012 results in a reduction of the effective tax burden by 5.41%.

The tax incentives for SMEs in place in Spain are the most generous among the countries covered in this study and have the highest impact on the effective tax burden. Starting from 2009 with a reduction of 24.61%, this has been increased to a reduction of the effective tax burden by 29.47% (only SME incentives taken into account). The reason for the changes is a newly introduced tax credit and the extension of the applicability of the reduced tax rate from EUR 102,202.41 to EUR 300,000.

The UK likewise shows a very interesting pattern as the distance between the effective tax burdens in case of the general tax code and the consideration of SME specific provisions is diminishing. The reason for this development is the standard CIT rate which has been reduced since 2009 in several steps from 28% (2009) to 23% (2013) whereas the reduced tax rate for SMEs has been only decreased from 21% (until 2010) to 20% (2011-2013). Starting from March 2015 onwards, the divergence of the tax rates will completely dissolve and a uniform tax rate of 20% will apply for LSEs and SMEs. The increasing distance between SME tax code and combined SME and R&D incentives case can be explained by higher rates for the super deduction for personnel and current costs in R&D (2009-2010: 75%, 2011: 100%, 2012-2013: 125% on top of the actual expenses).

⁵³ Two of the following three criteria must be met: employees \leq 50; turnover \leq EUR 6,250,000; balance sheet total \leq EUR 3,125,000.

⁵⁴ The same effect occurs for the LSE.

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6.3.3.3. Conclusions (corporate level)

The assessment of tax incentives for corporations of small size can be summarized in three major results:

- First, compared to corporations of medium size, SME incentives become effective more often for small corporations. The effective tax reduction due to SME incentives ranges from 2.54% (Belgium) to 29.47% (Spain).
- Second, the country ranking again is fairly unaffected by tax incentives. Spain, however, offering a very generous SME incentives scheme, constitutes an exception.
- Third, the effects of R&D incentives are comparable to those found for the medium-sized corporation.

6.3.3.4. Effective tax burden 2013 (overall level: corporation and shareholder)

The following extends the analysis to the overall tax burden including shareholders taxes. Again, we consider four different cases displayed in Table 6.6 (first column no incentives, second column SME and R&D incentives, third and fourth column effect of SME and R&D incentives if the equity ratio is changed).⁵⁵

Table 6.6 Effective tax burden (10 periods, corporate and shareholder level, model small corporation, fiscal year 2013)

Country	General Tax Code		SME specific Tax Code and R&D-Incentives								
	Base case		Base case			Equity Ratio -30%			Equity Ratio +30%		
	Tax Burden (€)	Rank	Tax Burden (€)	Total Effect	Rank	Tax Burden (€)	% change compared to Base Case	Rank	Tax Burden (€)	% change compared to Base Case	Rank
Austria	2.268.519	14	2.234.360	-1,51%	15	2.186.741	-2,13%	15	2.284.589	2,17%	14
Belgium	2.335.738	15	2.287.397	-2,07%	17	2.251.455	-1,57%	17	2.332.334	1,88%	16
Bulgaria	709.212	1	709.212	-	1	684.926	-3,42%	1	733.486	3,31%	1
Croatia	1.512.115	4	1.415.021	-6,42%	4	1.393.972	-1,49%	5	1.436.086	1,37%	3
Estonia	1.008.234	2	1.008.234	-	2	981.963	-2,61%	2	1.034.508	2,54%	2
Finland	2.201.452	12	2.160.174	-1,88%	12	2.131.114	-1,35%	13	2.239.830	3,49%	12
France	2.927.942	20	2.804.911	-4,20%	20	2.729.346	-2,69%	20	2.897.616	3,07%	20
Germany	2.407.589	17	2.407.589	-	18	2.328.783	-3,27%	18	2.496.869	3,58%	18
Greece	2.146.030	10	2.131.096	-0,70%	11	2.071.081	-2,82%	11	2.191.118	2,72%	10
Ireland	2.617.021	18	2.478.645	-5,29%	19	2.397.117	-3,29%	19	2.600.190	4,51%	19
Italy	2.343.112	16	2.269.224	-3,15%	16	2.217.593	-2,28%	16	2.321.695	2,19%	15
Lithuania	1.573.605	5	1.472.878	-6,40%	5	1.391.525	-5,52%	4	1.554.217	4,91%	5
Luxembourg	2.125.732	9	2.116.741	-0,42%	10	2.025.722	-4,30%	10	2.213.681	4,36%	11
The Netherlands	1.996.229	8	1.938.865	-2,87%	8	1.896.373	-2,19%	8	1.983.300	2,18%	8
Poland	1.669.355	6	1.634.869	-2,07%	6	1.571.998	-3,85%	6	1.697.749	3,63%	6
Romania	1.423.983	3	1.395.100	-2,03%	3	1.340.921	-3,88%	3	1.449.321	3,67%	4
Slovenia	1.786.828	7	1.722.251	-3,61%	7	1.658.825	-3,68%	7	1.785.747	3,43%	7
Spain	2.584.018	19	2.224.543	-13,91%	14	2.159.350	-2,93%	14	2.338.390	4,20%	17
Sweden	2.168.854	11	2.168.854	-	13	2.092.593	-3,52%	12	2.245.118	3,40%	13
The UK	2.263.905	13	2.081.485	-8,06%	9	2.019.036	-3,00%	9	2.144.179	2,69%	9

⁵⁵ Table 5.45 in Annex 1 contains detailed calculation results for all years and the impact of a changing equity ratio in a more detailed manner.

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Concerning the combined effective tax burden (shareholder and corporate level), similar conclusions for the small corporation as for the medium-sized corporation can be drawn. As pointed out above, Ireland and Slovenia combine a low tax burden on corporate level (Table 6.4) with comparably high PIT on dividend income. The latter reduces the impact of SME and R&D-tax incentives on the effective tax burden.⁵⁶ On the other hand, Estonia and Luxembourg improve in the country ranking due to their comparably low PIT.

As for the medium-sized corporation, the effect of SME and R&D-incentives is reduced by roughly 50% in most countries. The variation in the equity ratio yields comparable results as for the medium-sized corporation.

6.3.4. Micro corporations

6.3.4.1. Effective tax burden 2013 (corporate level)

Finally, financial data for a model micro corporation is considered. Again, we consider the above described four cases (no incentives, only SME incentives, only R&D incentives, combination of R&D and SME incentives), as displayed in Table 6.7.⁵⁷

Table 6.7 Effective tax burden (10 periods, corporate level, model micro corporation, fiscal year 2013)

Country	General Tax Code Tax burden (€)	Rank	SME specific Tax Code			General Tax Code and R&D Incentives			SME specific Tax Code and R&D Incentives		
			Tax Burden (€)	Total Effect	Rank	Tax Burden (€)	Total Effect	Rank	Tax Burden (€)	Total Effect	Rank
Austria	272,763	14	272,763	-	17	266,066	-2.46%	14	266,066	-2.46%	17
Belgium	298,891	17	262,134	-12.30%	16	295,180	-1.24%	18	258,524	-13.51%	16
Bulgaria	94,666	1	94,666	-	4	94,666	-	1	94,666	-	4
Croatia	179,309	6	89,611	-50.02%	3	162,749	-9.24%	6	81,250	-54.69%	3
Estonia	191,108	9	191,108	-	10	191,108	-	9	191,108	-	10
Finland	230,005	11	230,005	-	13	220,605	-4.09%	11	220,605	-4.09%	13
France	322,756	20	246,895	-23.50%	15	307,834	-4.62%	19	231,973	-28.13%	14
Germany	286,898	16	286,498	-0.14%	19	286,898	-	16	286,498	-0.14%	19
Greece	242,676	13	242,676	-	14	239,481	-1.32%	13	239,481	-1.32%	15
Ireland	125,756	2	77,179	-38.63%	2	105,408	-16.18%	2	56,830	-54.81%	1
Italy	303,414	18	303,414	-	20	289,269	-4.66%	17	289,269	-4.66%	20
Lithuania	163,287	5	76,669	-53.05%	1	144,782	-11.33%	4	70,471	-56.84%	2
Luxembourg	274,267	15	274,267	-	18	272,547	-0.63%	15	272,547	-0.63%	18
The Netherlands	186,401	8	186,401	-	9	175,850	-5.66%	7	175,850	-5.66%	8
Poland	184,766	7	184,405	-0.20%	8	178,508	-3.39%	8	178,143	-3.58%	9
Romania	154,053	3	154,053	-	6	148,997	-3.28%	5	148,997	-3.28%	6
Slovenia	154,239	4	149,788	-2.89%	5	141,562	-8.22%	3	137,163	-11.07%	5
Spain	321,052	19	164,769	-48.68%	7	311,536	-2.96%	20	155,643	-51.52%	7
Sweden	204,894	10	204,894	-	11	204,894	-	10	204,894	-	11
The UK	237,622	12	211,816	-10.86%	12	232,888	-1.99%	12	207,695	-12.59%	12

⁵⁶ For Ireland, the effect of SME and R&D-incentives shrinks from 29.93% (Table 6.5) to 5.29% (Table 6.6). In Slovenia, the effect is reduced from 10.80% to 3.61%.

⁵⁷ A more detailed table on the separated effects of SME and R&D effects and their subcomponents is provided in Annex 1 (section 5.4).

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Ten countries have SME tax incentives in place that become effective for the micro model corporation (small corporation: 5 countries with effective incentives) whereas 16 countries have implemented R&D tax incentives. In other words, SME tax incentives are less commonly applied. However, SME incentives tend to provide much higher relief than do R&D incentives: In all of the countries that have both R&D and SME incentives in place – apart from Poland and Slovenia – SME incentives have substantially larger reducing effects. The highest relief comes along with the SME incentive in Lithuania (-53.05%), but also Croatia (-50.02%), Ireland (-38.63%), France (-23.50%) and Spain (-48.68%) apply similarly effective incentives. By contrast, the highest tax reduction induced by R&D incentives amounts to only 16.18% (Ireland).

The following provides a more detailed discussion of the SME incentives and highlights their reducing effect on the effective tax burden for micro corporations compared to small corporations.

First of all, it becomes evident that micro corporations benefit to a much larger extent from tax rate incentives that are constructed as progressive rate schemes.⁵⁸ Compared to the medium-sized and small corporation, a larger portion of their taxable profits is taxed in the lowest income bracket, such that relatively larger relief is obtained. In Belgium for instance, the reduction from applying the progressive scheme amounts to 10.29% vs. 1.84% for the small case. Similarly, in France, where the first EUR 38,120 are taxed at 15% and the exceeding amount at 33.33% beyond that amount, the reductions total 23.50% (micro) resp. 3.78% (small). The respective numbers for the tax rate incentive in Spain are 46.68% (micro) and 29.47% (small), and 10.86% (micro) resp. 8.23% (micro) in the UK.

As described in the previous section on the small corporation, Ireland offers a special tax relief scheme for the first three periods of operations for newly founded corporations. Since the micro enterprise has a tax liability below EUR 40,000 in all three periods, it attains full exemption from CIT. Thus, the relief implied by this incentive amounts to 38.63%. The small corporation, however, only obtains a 7.58% reduction.

In five further countries, SME incentives are operated that exclusively benefit the micro corporation. In Lithuania, the 15% CIT rate is reduced to 5% if the SME has a taxable income below LTL 1,000,000 (ca. EUR 290,000) and less than 11 employees. These prerequisites are only fulfilled by the micro corporation. As outlined above, the associated significant reduction totals 53.05%.

Germany offers increased straight line depreciation at a rate of 20%, if the enterprise's net assets do not exceed EUR 235,000. Again, only the micro enterprise satisfies this condition, yet the implied relief is rather small (0.14%). Likewise, immediate depreciation up to EUR 50,000 is available in Poland if turnover is smaller than EUR 1,200,000. Again, however, the tax burden is only slightly (0.2%) reduced.

Slovenia applies a lump-sum deduction from the tax base of 70%, if the tax base is smaller than EUR 50,000. The micro corporation satisfies this condition in only one simulation period; the inherent relief amounts to 2.89%.

Finally, Croatia taxes income from investment into micro enterprises at a reduced rate of 10% (instead of 20%) since 2012. Consequently, the tax burden relief resulting from this generous incentive is substantial (50.02%).

⁵⁸ See Annex 1 (Table 5.23) for an overview of the isolated effects of the respective incentives.

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In addition, it is interesting to see how the respective tax incentives affect the country ranking. First of all, the exclusive application of R&D incentives comes along with only small changes to the base case ranking (general tax code); changes of at most 2 positions can be observed (3rd column of Table 6.7).⁵⁹

By contrast, Table 6.7 unfolds that SME incentives change the country ranking at large scale. Spain attains the largest improvement and makes up 12 positions moving from rank 19 to rank 7. As outlined above, Spain operates a broad range of SME incentives of different types. The largest isolated effect of these incentives can be attributed to the reduced progressive tax rate scheme. Effective tax rate incentives also explain the considerable improvements of France (five ranks), Lithuania (four ranks) and Croatia (three ranks). Lithuania thus supersedes Bulgaria and becomes ranked first. Ireland, however, yields a substantial tax burden reduction (-38.63%), yet remains second in the ranking. On the other hand, countries without incentives or just little effective SME incentives deteriorate; six countries lose three positions in the ranking.

Similar movements can be observed if both SME and R&D incentives are considered for the computations. In four countries (Croatia, Ireland, Lithuania and Spain), the total relief is larger than 50%. Ireland, having both attractive R&D and SME incentives, even becomes first in the country ranking. Apart from that, the ranking is virtually the same like in the case of SME incentives only.

The sensitivity analyses considering the impact of differing assumptions on the profitability, capital intensity, equity ratio and labour intensity on the effective tax burdens for the micro corporation are conducted in the same manner like for the other size categories (large, medium-sized, small).⁶⁰ Again, as for other size categories, the results remain robust and the effects are comparable to those found in the previous section. For a more extensive discussion we refer to the previous sections (LSE).

6.3.4.2. Development of effective tax burdens in selected countries (corporate level)

Similar to the analysis conducted for large and small corporations, the development of the effective tax burdens for micro corporations from 2009 to 2013 will be presented for some selected countries.⁶¹

Figure 6.3 Development of effective tax burden (corporate level) from 2009 to 2013 for selected countries (model micro corporation)

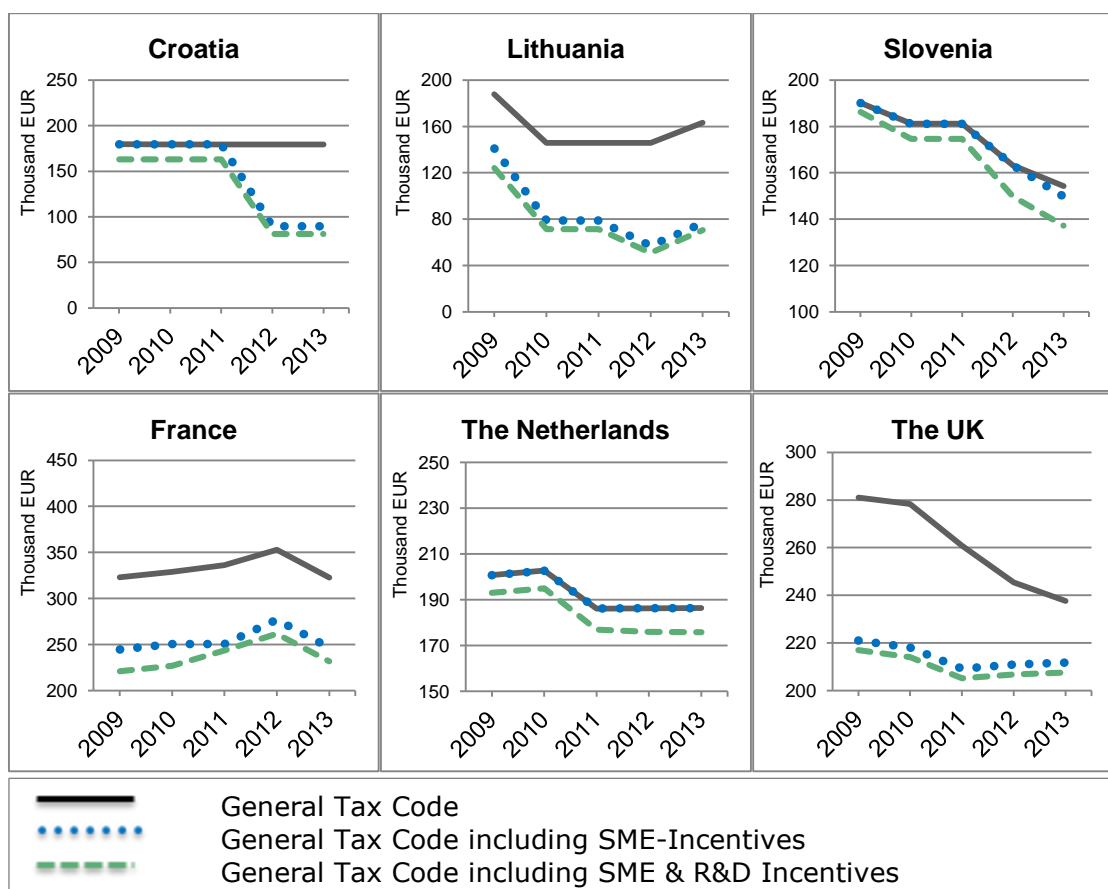
⁵⁹ As regards the effect of R&D incentives on the tax burden, comparable results as for the small and medium case are obtained.

⁶⁰ The detailed results for the sensitivity analysis of the profitability, capital intensity, equity ratio and labour intensity can be found in Annex 1 (section 5.8). In the same section, the results for the industry-specific model corporations are presented.

⁶¹ The detailed results for each country and year can be found in Annex 1 (Table 5.23).

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In Croatia, the considerable reduction of the effective tax burden of more than 50% (50.02%) for micro corporations starting in 2012 has been described in the previous section and can be traced back to the investment incentive specifically targeting micro corporations in that year. The implemented R&D incentives remain constant from 2009 to 2013 and include a super deduction of 125% for personnel costs, current costs and depreciation related to R&D.

For France, the results display a reduction between effective tax burdens according to the general tax code and effective tax burdens taking into account the SME specific case and the combination of SME and R&D tax incentives. As for the other size categories (large, medium-sized, small), the reduction of the rate of the R&D tax credit (available for personnel and current costs) reduces the impact of these incentives (2010: -7.05%; 2011: -4.12%) on the effective tax burden. From 2012 onwards, there are no further changes concerning the relative distances between the different scenarios.

Lithuania only provides a SME specific tax rate which has been expanded between 2009 and 2012 in different ways. In 2010, the lower tax rate for corporations with less than 11 employees and taxable income below LTL 500,000 (ca. EUR 145,000) was reduced from 13% to 5%, whereas the head-line CIT rate was reduced from 20% to 15% only. As a result, the reduction of the effective tax burden caused by the SME tax scheme increased from 24.91% to 46.01%. Since 2012, the taxable income threshold has been increased from LTL 500,000 (ca. EUR 145,000) to LTL 1,000,000 (ca. EUR 290,000) and has led to a further reduction of the comparative effective tax burdens to 60.89%.

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The Netherlands have no special tax incentive for SMEs in place and therefore serve as a counterexample to the other countries displayed. The reduction in the comparative effective tax burdens is only caused by the available R&D tax incentives.

Slovenia has introduced a new micro tax regime in 2013. Accordingly, if the annual revenue is below EUR 50,000, corporations are entitled to a lump-sum deduction of 70% of taxable income. For the model corporation considered here, this prerequisite is only fulfilled in one of the ten simulation periods and thus, the reduction of the effective tax burden amounts to 2.89% only. The impact of R&D tax incentives increases from 2009 to 2013 since the applicable rate for the deduction of R&D-related capital expenditure, personnel costs and current costs has been gradually increased from 20% (2009) to 40% (2010-2011) and 100% (2012-2013).

The effective tax burdens for the UK show a similar pattern as already described for the small corporation. As the difference between the standard CIT rate and the reduced tax rate applicable to SMEs is diminishing, the differences for the effective tax burdens become smaller as well (2009: -21.34%; 2013: -10.86%).

6.3.4.3. Effective tax burden 2013 (overall level: corporation and shareholder)

The following extends the analysis to the overall tax burden including shareholders taxes. Again, we consider four different cases displayed in Table 6.8 (first column no incentives, second column SME and R&D incentives, third and fourth column effect of SME and R&D incentives if the equity ratio is changed).⁶²

⁶² Table 5.46 in Annex 1 contains detailed calculation results for all years and the impact of a changing equity ratio in a more detailed manner.

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Table 6.8 Effective tax burden (10 periods, corporate and shareholder level, model micro corporation, fiscal year 2013)

Country	General Tax Code		SME specific Tax Code and R&D-Incentives								
	Base case		Base case			Equity Ratio -30%			Equity Ratio +30%		
	Tax Burden (€)	Rank	Tax Burden (€)	Total Effect	Rank	Tax Burden (€)	% change compared to Base Case	Rank	Tax Burden (€)	% change compared to Base Case	Rank
Austria	395.147	14	390.124	-1,27%	11	378.633	-2,95%	11	408.388	4,42%	11
Belgium	454.687	15	424.410	-6,66%	16	417.563	-1,61%	15	434.266	2,11%	15
Bulgaria	138.189	1	138.189	-	1	132.751	-3,94%	1	143.639	3,79%	1
Croatia	290.673	4	206.426	-28,98%	3	206.722	0,14%	3	206.174	-0,09%	3
Estonia	197.056	2	197.056	-	2	191.161	-2,99%	2	202.959	2,91%	2
Finland	428.105	12	421.841	-1,46%	15	418.064	-0,90%	16	430.895	2,07%	13
France	525.344	20	464.061	-11,67%	19	446.420	-3,80%	19	482.784	3,43%	18
Germany	459.092	17	458.804	-0,06%	18	439.341	-4,24%	18	483.627	5,13%	19
Greece	418.210	10	415.815	-0,57%	12	402.356	-3,24%	12	429.265	3,12%	12
Ireland	509.956	18	466.498	-8,52%	20	448.222	-3,92%	20	484.774	3,47%	20
Italy	447.060	16	436.083	-2,46%	17	424.313	-2,70%	17	447.897	2,57%	17
Lithuania	309.369	5	235.117	-24,00%	4	221.546	-5,77%	4	248.697	4,15%	4
Luxembourg	383.813	9	382.451	-0,35%	10	359.850	-5,91%	10	406.177	5,82%	10
The Netherlands	331.319	8	323.468	-2,37%	7	302.131	-6,60%	6	344.807	6,05%	7
Poland	326.062	6	320.699	-1,64%	6	306.607	-4,39%	7	334.804	4,15%	6
Romania	277.995	3	273.747	-1,53%	5	261.616	-4,43%	5	285.910	4,19%	5
Slovenia	346.197	7	333.391	-3,70%	8	319.456	-4,18%	8	347.358	3,87%	8
Spain	468.168	19	347.743	-25,72%	9	344.874	-0,83%	9	365.103	3,53%	9
Sweden	421.702	11	421.702	-	14	404.607	-4,05%	13	438.815	3,90%	16
The UK	441.442	13	420.659	-4,71%	13	407.115	-3,22%	14	434.214	2,97%	14

The effects with regard to the overall tax burden for micro corporations are again very similar to those found in previous sections (medium-sized and small corporations). Interestingly, Ireland can now be found at the end of the ranking in Table 6.8. Apart from Ireland and Slovenia, the effect of SME and R&D-incentives on the corporate level is reduced by roughly 50% if the overall level is considered.

Differing financing structures have only a minor impact on the effective tax burden (columns 3 and 4). For Croatia, an opposite pattern compared to the other countries can be observed. With a decreasing equity ratio (resulting in higher interest payments on corporate level and higher interest income on shareholder level), the overall tax burden is increasing and vice versa. This can be explained by the low tax rate on corporate profits (10%) and a high PIT rate on interest income (40%). A shift of corporate profits to the shareholder by using a shareholder loan leads to a higher tax burden in this case.

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6.4. Summary

The effects of R&D and SME tax incentives on the effective tax burdens for the fiscal year 2013 are summarized in the following. We differentiate between the effective tax burdens for the corporate level and the overall level (corporate and shareholder level) and the results of the sensitivity analyses.

6.4.1. Corporate level

- Broadly applicable R&D incentives are more common than SME incentives. Most countries apply many types of R&D tax incentives, the application of SME incentives, however, is less prevalent. These findings refer to the results of the qualitative analyses conducted in the previous Section (6.3) of the report.
- Smaller SME corporations benefit to a greater extent from SME tax incentives. Many SME tax incentives do not apply for medium-sized and/or small corporations, but exclusively for micro corporations. The reason for that are certain prerequisites and thresholds relating for instance to the size of profits which are only satisfied by micro corporations.
- Likewise, as far as R&D tax incentives are tied to certain threshold provisions, smaller corporations derive a larger benefit in terms of a reduction of the effective tax burden.
- With regard to SME and R&D tax incentives, it can therefore be concluded that especially smaller SMEs tend to benefit from lower taxation levels than LSEs.
- However, LSEs are able to derive tax benefits from international tax planning strategies, which SMEs usually cannot draw on. This argument will be elaborated in the following Section 7.
- Moreover, SMEs often face more difficult access to debt financing, which we find to be more tax efficient than equity financing. Still, we cannot conclude that SMEs pay more taxes than LSEs in general.
- Some R&D incentives exclusively apply for SMEs.
- For most countries considered in this study, an increasing significance (in terms of the tax burden reducing effect) of R&D and SME incentives can be observed over time. Exceptions to this are France, Lithuania and the UK which have not increased their incentives regimes between 2009 and 2013. Therefore, there is no clear evidence for SME-related tax competition among Member States.
- The LSEs benefits from tax reductions in the different countries considered in this study between 0.98% (Luxembourg) and roughly 20% (Lithuania) by applying R&D tax incentives. However, the country ranking remains largely unchanged if these R&D tax incentives are taken into consideration.
- The medium-sized corporation virtually does not benefit from SME tax incentives in the countries considered in this study (apart from the UK). This is due to size restrictions which the medium-sized corporation does not satisfy. Reductions in effective tax burdens here can be mainly traced back to R&D tax incentives. These reductions (only R&D incentives) range between 0.93% (Luxembourg) and 25.24% (Ireland).
- In case of a small corporation, SME incentives become effective with respect to five countries (i.e. Belgium, France, Ireland, Spain and the UK). The reductions in effective tax burdens which can be solely attributed to SME tax incentives range between 2.54% (Belgium) and 29.47% (Spain). Again, the impact on the country ranking is rather limited.
- Substantial effects of SME tax incentives have been found for the micro corporation. The largest tax relief was computed for Lithuania (-53.05%). Overall, tax relief provided by SME incentives turns out to be much larger than the relief derived from R&D incentives. In particular, SME incentives implying reduced tax rates and/or progressive rate schemes are very effective in reducing the tax

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burden. Moreover, SME incentives substantially change the country ranking in the micro case.

6.4.2. Overall level (corporate and shareholder level for medium-sized, small and micro corporations)

If shareholder taxation is taken into account in addition, the following conclusions can be drawn:

- For the three considered size categories (medium-sized, small, and micro), the country ranking of the 20 Member States remains fairly constant. The effect of SME and R&D-incentives diminishes by roughly 50% in most of the countries.
- Some countries, however, lose positions in the country ranking due to comparably high PIT. High PIT may imply that the effect of SME and R&D-incentives is shrinking at a large scale.
- Therefore, the beneficial effect of incentives provided on corporate level may become much smaller if both levels of taxation are considered.

6.4.3. Sensitivity analysis

To verify the robustness of our conclusions, several sensitivity analyses have been conducted. We calculate the effective tax burdens for the different model corporations if assumptions on the profitability, capital intensity, equity ratio or labour intensity are modified (corporate level). Additionally, industry-specific model corporations are used for further robustness checks (only corporate level). For the overall level, sensitivity analyses are limited to the variation of the equity ratio. We thus aim to demonstrate the impact of different capital structures.

- The results are again largely robust with regard to differing assumptions on profitability, capital intensity, equity ratio, and labour intensity (corporate level).
- The effect of R&D and SME incentives highly differs across industries. This can be explained foremost by industry specific R&D intensities (corporate level).
- The sensitivity analysis (equity ratio) for the overall tax burden unfolds that a lower equity ratio (= higher debt share) reduces the tax burden on corporate level. This reduction can, however, be countered for instance by unfavourable taxation (progressive taxation) of shareholder interest income on shareholder level. Yet, overall one can conclude that debt financing is tax favoured. Due to capital market constraints, however, SMEs usually face difficulties with obtaining debt and are therefore less likely to benefit from this kind of tax advantage.

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7. COMPARISON OF EFFECTIVE TAX RATE OF SMES AND CROSS-BORDER INVESTMENT OF LSES

7.1. Tax planning opportunities of multinational enterprises

Recent media reports have drawn attention to the fact that some highly profitable multinational corporations seem to pay almost no CIT on host country income. The effective tax rates on foreign profits of Google Inc. and Apple Inc., for example, have been reported to be 3% and 1%, respectively.⁶³ This has triggered an intense public and scientific debate about profit shifting and tax avoidance by multinational enterprises.⁶⁴ The G20 leaders stressed the need to take action against multinational profit shifting and tax avoidance. This has led to the Base Erosion and Profit Shifting (BEPS) initiative of the OECD.⁶⁵ The final reports on these works are expected to be released in September 2015.⁶⁶ At the European level, the European Commission came up with an Action Plan in 2012 setting out over 30 measures to combat tax fraud and tax evasion⁶⁷ that includes concrete steps to help protecting Member States' tax revenues against tax havens and unfair competition⁶⁸ as well as against aggressive tax planning⁶⁹. Finally, the European Commission has released a package to increase transparency in 2015.⁷⁰ Recently, the debate has once more been intensified by the so-called Luxembourg Leaks which disclosed that the tax regime in Luxembourg is very beneficial for group finance corporations.⁷¹

The following highlights the tax planning opportunities of multinational enterprises.

The foundation of such tax planning opportunities is based on the allocation of taxing rights between jurisdictions. Such taxing rights differ with respect to the type of income. Generally, business profits are taxed at source whereas factor remunerations like interest and royalty payments are deductible at source and taxed in the residence country of the recipient. This gives rise to tax planning opportunities for multinational enterprises, as it allows multinationals to choose between the tax rate applicable at source and at residence. For example, it is tax-efficient for multinationals to finance group corporations in high-tax countries with intra-group debt from affiliates residing in low-tax countries. Another tax planning strategy is to locate intangible property in a group corporation resident in a low-tax country and license it to group corporations residing in high-tax countries. As nominal tax rates differ significantly across important business locations, the tax advantage arising from profit shifting is often substantial. Sometimes multinational enterprises may even push their overall tax burden to levels close to zero.⁷² They can achieve this, for instance, by locating financing cor-

⁶³ See Sullivan (2012), p. 655.

⁶⁴ See Fuest/Spengel/Finke/Heckemeyer/Nusser (2013) and Fuest et al. (2014) for two policy oriented papers on tax planning by multinational corporations and possible reform options. The explanations in this subsection are directly borrowed from these two papers.

⁶⁵ See OECD (2013a) and OECD (2013b).

⁶⁶ The OECD action plan on base erosion and profit shifting as well as all other documents released by the OECD so far can be found here: <http://www.oecd.org/tax/aggressive/>.

⁶⁷ See European Commission (2012a).

⁶⁸ See European Commission (2012b).

⁶⁹ See European Commission (2012c).

⁷⁰ See European Commission (2015).

⁷¹ See the Luxembourg Leaks database: <http://www.icij.org/project/luxembourg-leaks>.

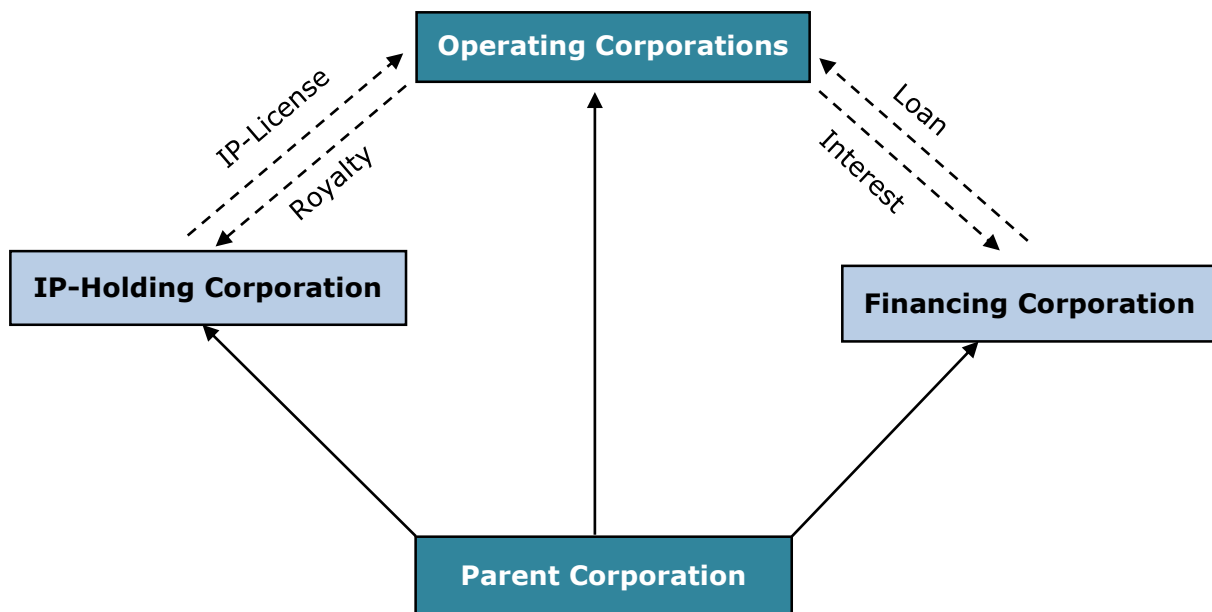
⁷² Google or Amazon can be named as prominent examples. For an overview of effective tax rates of prominent multinationals, see Sullivan (2012), p.655; for a detailed description of Google's tax planning structure, see Kleinbard (2011) and Sandell (2012). Amazon applies a tax structure comparable to the IP-Holding structure depicted in Fuest/Spengel/Finke/Heckemeyer/Nusser (2013), p. 312-313.

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porations and IP-Holdings in typical tax havens that do not levy corporate income tax.⁷³ By shifting profits of operating corporations as interest and royalty payments to these financing and IP-Holding corporations, the profits remain de facto untaxed or are subject to very low taxation. Alternatively, financing corporations and IP-Holdings can be situated in countries that generally levy (high) profit taxes but offer special tax rules resulting in far lower effective tax rates for interest and royalty income. Examples for the latter are intellectual property (IP) Box regimes⁷⁴ or the notional interest deduction regime in Belgium.⁷⁵

Figure 7.1 displays the structure of a financing corporation and an IP-Holding corporation.⁷⁶ A financing corporation (IP-Holding corporation) provides loans (licences IP) to operating corporations which belong to the same group of corporations. The remunerations for the loan (IP-licence) - i.e. interest (royalty) payments - reduce the profits of the operating corporations and are taxed at very low rates or are even untaxed at the level of the financing corporation (IP-Holding corporation). The described profit shifting strategies can be extended to other group activities such as shared services for, e.g., re-invoicing, factoring and insurance activities. Profits can also be shifted via transfer prices such as management fees to group shared service corporations located in low tax jurisdictions.⁷⁷ The area of transfer prices is the predominant route used to shift profits to low tax jurisdictions in multinational groups of corporations.⁷⁸

Figure 7.1 Tax planning with IP-Holding and Financing Corporations



⁷³ For this, also see Fuest/Spengel/Finke/Heckemeyer/Nusser (2013), p. 313.
⁷⁴ For an overview of IP Box regimes in Europe, see Evers/Miller/Spengel (2014).
⁷⁵ See also Kalloe (2011), p. 506.
⁷⁶ For this, also see Fuest/Spengel/Finke/Heckemeyer/Nusser (2013), p. 313.
⁷⁷ See Jacobs (2011), p. 1078 ff.
⁷⁸ See Heckemeyer/Overesch (2013).

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Several attempts have been made to clarify how relevant the problem of tax avoidance really is and to find a proxy for the scale of base erosion and profit shifting behaviour.⁷⁹ Given that true profit margins (i.e. before any avoidance strategy that affects actually reported profits) are not observable by country, the clear identification of tax avoidance from available data is challenging and existing approaches differ fundamentally. To be very clear at the beginning: there exists evidence that profit shifting takes place. There is, however, no accurate estimate of the amount of profits shifted.

On the one hand, there is a small number of rather rough estimates which try to derive the volume of profit shifting from aggregate statistics or similar sources. Although these studies receive great attention in public debate, their results have to be treated with caution, as we will explain below. On the other hand, there is a broad strand of academic research investigating corporate tax avoidance. The main evidence provided by this strand of literature will also be summarized below.

Starting with some stylized numbers from public debates, Richard Murphy (adviser to the Tax Justice Network and director of Trades Union Councils) claimed in his report *The Missing Billions* that GBP 12 billion of corporate income tax is lost each year due to tax avoidance by the 700 largest enterprises in the United Kingdom.⁸⁰ For developing countries Oxfam, a non-profit organization, attributes a revenue loss of USD 50 billion to tax avoidance of multinationals.⁸¹ Although the question of how much revenue is lost due to profit shifting is highly interesting for the public, methodological flaws underlying the estimates prevent them from being very reliable. For instance, taxable income or tax payments, respectively, in absence of tax avoidance are approximated by using profits from financial accounts multiplied by the statutory tax rate⁸² or foreign capital stocks multiplied by a deemed return and an average tax rate.⁸³ Comparing taxable profits with these inadequate benchmarks reveals conceptual differences between the underlying statistics rather than the scale of profit shifting activity.

Nevertheless, a wealth of empirical research studies assesses the significance of corporate tax avoidance and its sensitivity with respect to international tax incentives. Turning to this broad group of empirical approaches, two different strands of literature can be distinguished. The first strand of studies provides rather general evidence of profit shifting by asking how tax rate differentials affect reported pre-tax profits. In their seminal work, Grubert and Mutti (1991) as well as Hines and Rice (1994) show for the United States that there is indeed an empirical relationship between the profitability reported by US multinationals' foreign affiliates and respective host country tax rates.⁸⁴ Huizinga and Laeven (2008) provide evidence that reported profits of European subsidiaries depend on their specific tax incentives and profit shifting potential given the structure of the whole multinational group.⁸⁵ Also for Europe, Egger et al.

⁷⁹ See Dharmapala (2014) for a recent review of the empirical literature on BEPS. Even if volumes and the dominant channels of profit shifting were known, it would still be difficult to draw the line between "acceptable" profit shifting activity and "aggressive" tax planning. Exploiting international tax differentials cannot be considered aggressive per se, as the underlying structures are not necessarily artificial.

⁸⁰ See Murphy (2008).

⁸¹ See Oxfam International (2000), available online from <http://oxfamlibrary.openrepository.com/oxfam/bitstream/10546/114611/1/bp-tax-havens-010600-en.pdf>.

⁸² This approach of Richard Murphy was discussed by the Oxford University Centre for Business Taxation in its report "The Tax Gap for Corporation Tax" pointing out that this approach rather captures differences between financial and tax accounting, see Oxford University Centre for Business Taxation (2012), available online from http://www.sbs.ox.ac.uk/centres/tax/Documents/reports/TaxGap_3_12_12.pdf.

⁸³ The shortcomings of this approach are discussed by Fuest/Riedel (2010), who argue that, among other critical assumptions, the role of tax incentives and tax base regulations is neglected in these estimations. See Fuest/Riedel (2010).

⁸⁴ See Grubert/Mutti (1991) and Hines/Rice (1994).

⁸⁵ See Huizinga/Laeven (2008).

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(2010) directly compare tax payments of multinational enterprises and a group of domestic enterprises using propensity score matching and find that multinational enterprises incur substantially lower tax payments.⁸⁶ Dharmapala and Riedel (2013) use a novel identification strategy by asking how a shock in earnings at the parent's level transmits to group entities located in high or low tax countries.⁸⁷ Fuest et al. (2011) study income shifting through debt. They find that financing structures of multinational entities in developing countries react more sensitively to tax differences than in developed countries, suggesting that developing countries with high taxes may be more vulnerable to tax planning.⁸⁸

The findings of these scientific studies strongly support the idea that multinational groups reallocate profits globally as to minimize the overall tax burden. Several other studies corroborate this conclusion although the estimated effect size differs according to the employed profit variable, the measure of the tax incentive and the econometric approaches. A recent quantitative survey of this literature is provided by Heckemeyer and Overesch (2013).⁸⁹ Given the general finding that profits are shifted within multinationals, the question arises which strategies to reallocate profits within the group can be identified empirically. This is the focus of the second strand of literature. In principle, profits earned in high tax countries can be channelled to lower taxed group entities via debt financing or via non-financial strategies such as transfer pricing and licensing of IP.⁹⁰ With respect to debt financing, Desai et al. (2004) provide empirical evidence that multinationals use intra-corporation loans to mitigate tax payments of subsidiaries in high tax locations.⁹¹ We take this into account in the next subsection and quantify how the EATR of LSEs (which are supposed to be multinationals) is affected by their optimizing financing strategies. Although there are good reasons to believe that transfer pricing and licensing of IP represent the predominant routes used to shift profits abroad,⁹² the empirical evidence is not clear cut. Evaluating the general evidence for profit shifting, Heckemeyer and Overesch (2013) indeed corroborate the expectation of non-financial profit shifting techniques to play the most important role. Results by Dharmapala and Riedel (2013) instead suggest a larger effect of debt-financing whereas the results of Grubert (2003) point to equal shares.⁹³ Finally, it has been shown in more recent empirical literature based on new and richer sources of data that the magnitude of BEPS is smaller than that found in earlier studies.⁹⁴

To conclude, empirical evidence on corporate tax avoidance is robust and significant. Moreover, it is clearly shown that licencing and transfer-pricing as well as group financing strategies are used to reallocate profits within the group. Profit shifting may distort the capital allocation because it distorts competition between enterprises with different opportunities to avoid taxes. Typically, SMEs have less or even no opportunities to shift profits compared to LSEs.

⁸⁶ See Egger/Eggert/Winner (2010).

⁸⁷ See Dharmapala/Riedel (2013).

⁸⁸ See Fuest/Hebous/Riedel (2011).

⁸⁹ See Heckemeyer/Overesch (2013).

⁹⁰ Clausing (2003) shows that intra-company transfer prices for intra-group transactions are sensitive to international tax rate differentials. Furthermore, there is robust evidence that tax considerations are important for the intra-company allocation of intangible property. Desai/Foley/Hines (2006) show that large international corporations with extensive intra-company trade and high R&D intensities are the most likely to use tax havens.

⁹¹ See Desai/Foley/Hines (2004).

⁹² The interest rate on intra-group loans can be directly compared to the market interest rate, profit shifting thus being limited to it, whereas there is, in principle, more discretion in setting transfer prices on highly specific group transactions as pointed out by Overesch/Schreiber (2010).

⁹³ See Dharmapala/Riedel (2013) and Grubert (2003).

⁹⁴ For a literature review, see Dharmapala (2014), pp. 439-441.

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In the next subsection, we focus on group financing strategies and determine quantitatively to which extent multinational corporations can lower their tax burden compared to SMEs which are only assumed to operate domestically.

7.2. Setup of the Devereux-Griffith Model

The intention of the application of the Devereux-Griffith approach is to reflect the effective average tax rate (EATR) for cross-border investments of multinationals and compare this to the EATRs of corporations which operate only domestically. In our simulation we take into account that multinationals arrange their investments cross-border, and therefore the corporation which carries out an investment, i.e. the subsidiary, and the parent corporation are located in different jurisdictions. In this scenario we are able to take into account the possibility of splitting profits between different jurisdictions and shifting profits (i.e. via intra-group debt financing) of multinationals. By doing so, we aim at comparing the competitive situation of SMEs only operating in domestic markets and LSEs. R&D tax incentives are not considered in this part of the study.

In contrast to the tax planning opportunities described in Section 7.1, the Devereux-Griffith model considers only direct (non-intermediated) holding structures. The model therefore disregards the use of triangular structures involving financing or IP-Holding corporations located in no or low tax jurisdictions. Nevertheless, even under a direct holding structure, home or source country tax may be avoided by inter-corporation financing.

The methodology of Devereux and Griffith⁹⁵ provides reliable information on our subject of investigation and is therefore relied on in this section of the report.⁹⁶ This approach allows computing the EATR on a hypothetical investment project of a corporation both for domestic and cross-border investments. They are modelled to be carried out in the 20 selected Member States (Austria, Belgium, Bulgaria, Croatia, Estonia, Finland, France, Germany, Greece, Ireland, Italy, Lithuania, Luxembourg, the Netherlands, Poland, Romania, Slovenia, Spain, Sweden and the UK).

Compared to the European Tax Analyzer, some differences occur with respect to the implemented incentives:

- The size of a corporation cannot explicitly be modelled in the Devereux-Griffith framework.
- The computations reflect a model investment rather than a model corporation. Therefore, we generally implement the most generous SME tax incentive if incentives differ with respect to the three subgroups of SMEs.⁹⁷ R&D tax incentives are not considered in the model.
- The main reason for this study to make use of the Devereux-Griffith model is to complement the results from a cross-border perspective.

When computing the EATR in the Devereux-Griffith model, the most important regulations of the tax regimes are accounted for. Besides the regulations which determine

⁹⁵ See Devereux/Griffith (1999), Devereux/Griffith (2003) and Schreiber/Spengel/Lammersen (2002).

⁹⁶ The model is derived from the neoclassical investment theory and has been successfully used by ZEW for other projects with the European Commission (TAXUD/2005/DE/310, TAXUD/2008/CC/099 and TAX/2013/CC/120) and publications. For an example see Endres/Fuest/Spengel (2010). For the general explanations of the model and its mechanisms we partly borrow formulations from these studies.

⁹⁷ The implemented incentives are explicitly stated in Table 7.2. and in Annex 1 (section 6.1).

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the domestic tax burden⁹⁸ borne in the potential locations of the subsidiary, country specific withholding taxes on profit repatriation and methods for avoiding international double taxation in the home country of the parent corporation are accounted for in the calculations. In the following, we briefly outline the setup of our analysis, the underlying assumptions on investment and financing strategies and the tax provisions covered by the model.

Figure 7.2 Devereux-Griffith model

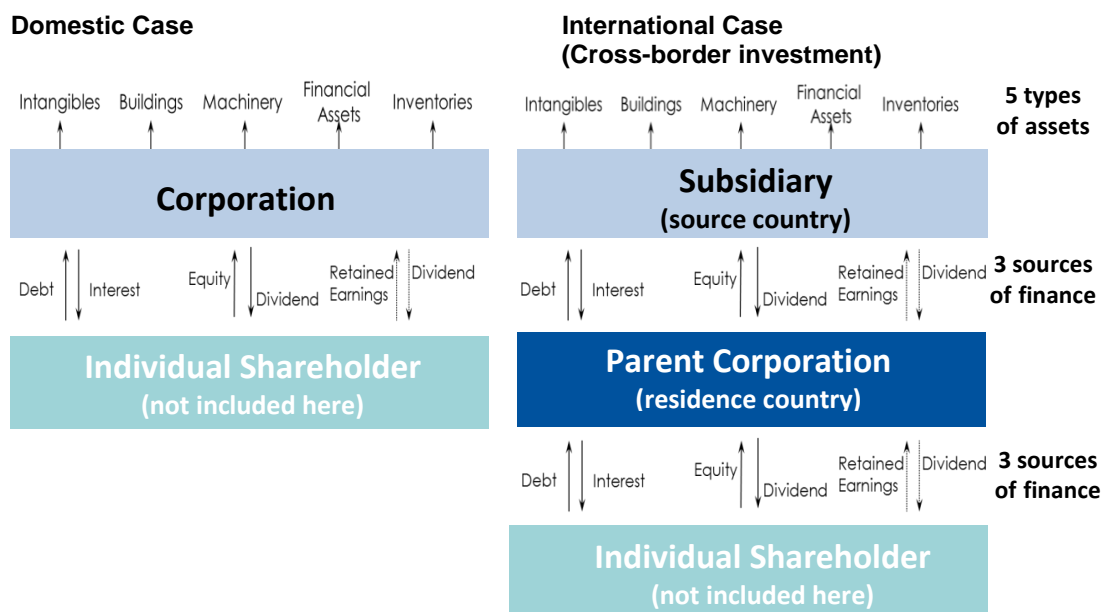


Figure 7.2 illustrates the set-up of the model investment. In general, we differentiate between two cases. In one case we assume a domestic stand-alone corporation (left part of Figure 7.2) and in the other case we assume a cross-border investment i.e. an LSE (right part of Figure 7.2).⁹⁹

In the domestic case we assume the existence of corporations located in a specific country (conducted for all selected countries) and suppose that they are operating only in this country. In our setup this means that we model corporations which are not owned by a parent corporation located abroad. We call these SMEs and LSEs stand-alone corporations. The enterprises considered are always separate legal entities, i.e. they are corporations. It is assumed that the respective corporation invests into five different assets with equal weights (i.e. intangibles, industrial buildings, machinery, financial assets, and inventories account for 20% each). The investments are financed either by new equity, retained earnings and debt. The relative weights for these sources of finance amount to 10% for new equity, 55% for retained earnings and 35%

⁹⁸ The relevant measure for the tax burden in this section (Section 7) is always the EATR. Sometimes the more general term "tax burden" is used for more general explanations for example with respect to tax planning strategies which reduce the "tax burden" of corporations. However, all computations refer to the effective average tax rate.

⁹⁹ Please note that in reality there exists a variety of possible tax planning structures. For example, multinationals can make use of holding corporations as described in section 7.1. The Devereux-Griffith model abstracts from such holdings and simulates a more direct way of profit shifting by financing.

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for debt. In the following, we use weighted averages over assets and sources of finance for the computation of the EATRs. Underlying these domestic results are calculations for each asset type and each way of financing ($3 \times 5 = 15$ cases). The domestic case is split between two scenarios.

In the first scenario we determine the EATR of an investment not considering special tax incentives for SMEs in any of the countries.

The second scenario implements the SME tax incentives which exist in the countries of investigation and which are technically possible to be mapped into the model. The two scenarios allow us to identify countries in which SMEs benefit in particular from SME tax incentives and the extent to which the tax burden is reduced. The calculations presented in this section reflect the tax regulations of the year 2013.¹⁰⁰ Since there is no underlying model corporation type in the Devereux-Griffith Model, we do not explicitly assume a certain type of corporation in the sense that we would explicitly model the size of the corporation, instead we use a model investment. This is where this model differs from the European Tax Analyzer. However, we will implicitly refer to different corporations by implementing tax rules which only apply to corporations which qualify as SMEs on the one hand and on the other hand by implementing the rules which apply to corporations which cannot make use of special SME tax provisions. With respect to SMEs we generally implement the most generous incentive if tax incentives differ with respect to the three subgroups of SMEs.¹⁰¹

In the international case it is assumed that the parent corporation an LSE (i.e. a corporation) of the subsidiary i.e. an SME is resident in one of the selected 20 Member States.¹⁰² We additionally include the USA, Canada, China, Japan, and Switzerland as possible Non-EU locations of the parent. Within the selected Member States, we consider all possible combinations of subsidiary and parent locations.¹⁰³ As for the domestic case, the model enterprise has the legal form of a corporation. Again, it is assumed that the subsidiary invests into five different assets with equal share. The funds to finance the investment of the subsidiary are provided by the parent corporation.

In the initial benchmark case i.e. year 1, these funds equally consist of retained earnings, new equity and debt (i.e. sources of finance account for 33.33% each). The refinancing of the parent itself is assumed to consist of 55% retained earnings, 10% new equity and 35% debt. In total, for each jurisdiction where an investment is carried out, we aggregate 45 individual investments (5 different assets at the level of the subsidiary, 3 kinds of inter-corporation finance between parent and subsidiary and 3 kinds of refinancing the parent); the following reports the weighted averages of the EATR on these investments at the corporate level.¹⁰⁴

It is assumed that profits earned by the subsidiary are entirely repatriated to the parent. In case of the investment being financed by retained earnings, this means that retained profits are distributed in subsequent periods. In case of debt financing, it is

¹⁰⁰ Additionally, the results for the years 2009 to 2012 are displayed in Annex 1 (section 6.2).

¹⁰¹ Thus, the analysis reduces to a comparison of SME vs. LSE and there are no further differentiations with respect to the SMEs.

¹⁰² The main additional benefit which the Devereux-Griffith Model provides compared to the European Tax Analyzer computations arises from the implementation of cross-border investments (international case).

¹⁰³ Taxation at the shareholder level of the parent corporation is abstracted from in our analysis within the Devereux-Griffith framework. Furthermore, we do not simulate the case of subsidiaries being located in one of these non-EU countries.

¹⁰⁴ Please take into account that shareholder taxes on the dividends and the remunerations from contractual relations are ignored here.

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assumed that the subsidiary pays interest to the parent at a fixed rate and distributes the remaining profits as dividends. Under these assumptions, profits derived from investment by the subsidiary may be taxed at two different levels. Firstly, the earnings are taxed at the level of the subsidiary. And secondly, the parent might face an additional tax burden when profits are repatriated.¹⁰⁵

In combination with the domestic case the model enables us to answer the following questions:

1. What is the competitive situation with regard to SMEs compared to multinationals i.e. LSEs making use of profit shifting strategies?
2. Do SMEs or LSEs face a higher effective average tax rate?
3. Do tax incentives for SMEs make up the international tax planning advantages of multinationals?

Table 7.1 summarizes the most important model assumptions of the following calculations.

Table 7.1 Devereux-Griffith assumptions (manufacturing sector)

Assumptions about assets, financing, and shareholders			
Types of assets	Intangibles (20%), industrial buildings (20%), machinery (20%), financial assets (20%), inventories (20%)		
Sources of finance			
<i>1. Domestic Case</i>	<u>Corporation:</u> retained earnings (55%), new equity (10%), debt (35%)		
<i>2. International Case (cross-border investment)</i>	<u>Subsidiary:</u> retained earnings (33.33%), new equity (33.33%), debt (33.33%)		
	<u>Parent:</u> retained earnings (55%), new equity (10%), debt (35%)		
Assumptions about depreciation, inflation, and pre-tax return			
True economic depreciation (declining balance)	Intangibles 15.35%	Buildings 3.1%	Machinery 17.5%

¹⁰⁵ More explanations on the international tax law which is reflected in the modelling and the optimal choice of the financing structures are provided in Annex 1 (section 6.5).

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Lifetime (for tax purposes)	10 years	25 years	7 years
Inflation rate	2%		
Real interest rate	5%		
Pre-tax rate of return	20%		

The assumptions correspond to the respective assumptions applied in the surveys of the European Commission (see Devereux et al. (2008)¹⁰⁶ and European Commission (2001)¹⁰⁷). Hence, the results derived in this study are directly comparable to earlier studies and are not sensitive to specifics of the recent crisis.¹⁰⁸

The approach applied in this section covers the most relevant tax provisions of the national tax systems. With regard to the taxation of corporate profits, it considers nominal corporation tax rates i.e. CIT, regional taxes on profits, surcharges as well as some special rates for particular types of income and expenditure. Moreover, real estate taxes, property and net-wealth taxes are accounted for. For LSEs, the calculations assume that the top bracket of profit tax rates applies. For SMEs, it is assumed that profits fall within the lowest bracket of the tax rate schedule. Regarding the determination of the tax base, the calculations incorporate the relevant rules concerning depreciation and amortization for three types of assets (buildings, intangibles acquired from third parties and machinery), the valuation method for inventories and the extent of interest deductibility in case of debt financing. If these rules differ for SMEs, the differentiations are considered. Table 7.2 lists all existing SME incentives in the considered countries which are possible to be mapped into the model of Devereux and Griffith. These incentives partly differ to the ones presented in section 5.¹⁰⁹ If regulations are of optional character, the most tax efficient possibility is chosen. With respect to the repatriation of profits in a cross-border setting, country specific withholding taxes and the method to avoid international double taxation at the level of the parent corporation are taken into account. Unlike in the European Tax Analyzer, the size of a corporation cannot be modelled explicitly in the Devereux-Griffith framework. Thus, we generally implement the most generous incentive if incentives differ with respect to corporation size. This is why we conduct very detailed computations with the European Tax Analyzer and use the Devereux-Griffith model to complement the results from a cross-border perspective. Thus, the comparability of the results of the two models is limited since the two models are not identical and serve different purposes. The Devereux-Griffith model is applied to quantify tax minimizing strategies by multinationals which the European Tax Analyzer is not able to do.¹¹⁰

¹⁰⁶ See Devereux/Elschner/Endres/Heckemeyer/Overesch/Schreiber/Spengel (2008).

¹⁰⁷ See European Commission (2001).

¹⁰⁸ Nevertheless, we provide a sensitivity analyses in Annex 1 (section 6.3) with respect to the inflation rate, the real interest rate and the pre-tax rate of return.

¹⁰⁹ Analogous tables for the years 2009-2012 are provided in Annex 1 (section 6.1). Compared to the presented SME incentives in Section 5 (Analysis of SME-specific provisions and R&D incentives in national tax codes) fewer incentives are implemented in this section. The SME incentives presented in section 5 are very comprehensive (Table 5.4). Some of them only apply in specific cases as indicated by the corresponding legend of Table 5.4. For example, there are incentives which only apply in specific economic areas (e.g. the accelerated depreciation in Finland). Other incentives only apply for certain activities (e.g. investment deduction on education and training in Croatia) which cannot be reflected in the Devereux-Griffith model.

¹¹⁰ If incentives only apply to new companies, these are implemented in the European Tax Analyzer but not in the Devereux-Griffith Model (e.g. in Ireland). This is due to the assumptions of the models. The European Tax Analyzer assumes a newly started company whereas the Devereux-Griffith model does not. Further-

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Table 7.2 Overview of implemented SME tax incentives for 2013 (Devereux-Griffith model)

Country	Reduction in tax base (depreciation, allowances and deduction)	Reduction in tax rate (special tax rates)	Reduction in tax liability (tax credits, temporary exemptions from tax)
Austria	-	-	-
Belgium	notional interest deduction increased by 0.5%	Lowest tax bracket in progressive schedule: 24.25%	-
Bulgaria	-	-	-
Croatia	-	-	-
Estonia	-	-	-
Finland	-	-	-
France	-	15% instead of 33.33%; no additional surcharge of 5% no CET (CFE and CVAE)	-
Germany	20% additional depreciation on machinery in the first year; 40% investment reserve for machinery	-	-
Greece	-	-	-
Ireland	-	-	-
Italy	-	-	-
Lithuania	-	5% instead of 15%	-
Luxembourg	-	20% instead of 21%	-
The Netherlands	Investment deduction of 28% for machinery	20% instead of 25%	-
Poland	Immediate deduction of machinery	-	-
Romania	Micro enterprises obliged to be taxed on turnover (3%) under certain conditions. We do not model this regime in the standard results. ¹¹¹		
Slovenia	Micro enterprise regime under which taxpayers may apply a lump-sum deduction for expenses (70%) under certain conditions. We do not model this regime in the standard results. ¹¹²		
Spain	Ordinary depreciation rate multiplied by factor 2 for machinery and buildings and by factor 1.5 for intangibles 70% depreciation limit is only applied to LSEs	20% instead of 30%; exemption from local business tax (IAE)	-
Sweden	-	-	-
The UK	-	20% instead of 23%	-

more, in the Devereux-Griffith Model we do not implement incentives which request a build-up of employment (e.g. in Croatia). This is due to the fact that the Devereux-Griffith Model cannot specify employment figures and that a build-up of staff appears as a too strict condition in this context. If an incentive is only conditioned on the staff number not being reduced, we model the incentive. There are explicit micro regimes in Romania and Slovenia. We do not model them in the main results but provide results in Annex 1 (section 6.4).

¹¹¹ However, we provide results for this in Annex 1 (section 6.4).

¹¹² However, we provide results for this in Annex 1 (section 6.4).

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7.3. Effective average tax rate - national investments of stand-alone corporations

This section presents estimates of EATRs for stand-alone corporations which are not part of a parent-subsidiary relationship. It is assumed that the corporation invests into five different assets with equal share as described above. This national analysis differentiates between two scenarios:

- In the first scenario we determine the EATR of the investment not considering special tax incentives for SMEs in any of the countries.
- The second scenario implements the SME tax incentives which exist in the countries of investigation and which are technically possible to be mapped into the model (see Table 7.2 in Section 7.2).
- The two scenarios allow us to identify countries in which SMEs benefit in particular from SME tax incentives and the extent to which EATR are reduced.

Figure 7.3 Domestic EATR (with and without SME-specific Tax Incentives) for Stand-alone Corporations (i.e. SMEs and LSEs)

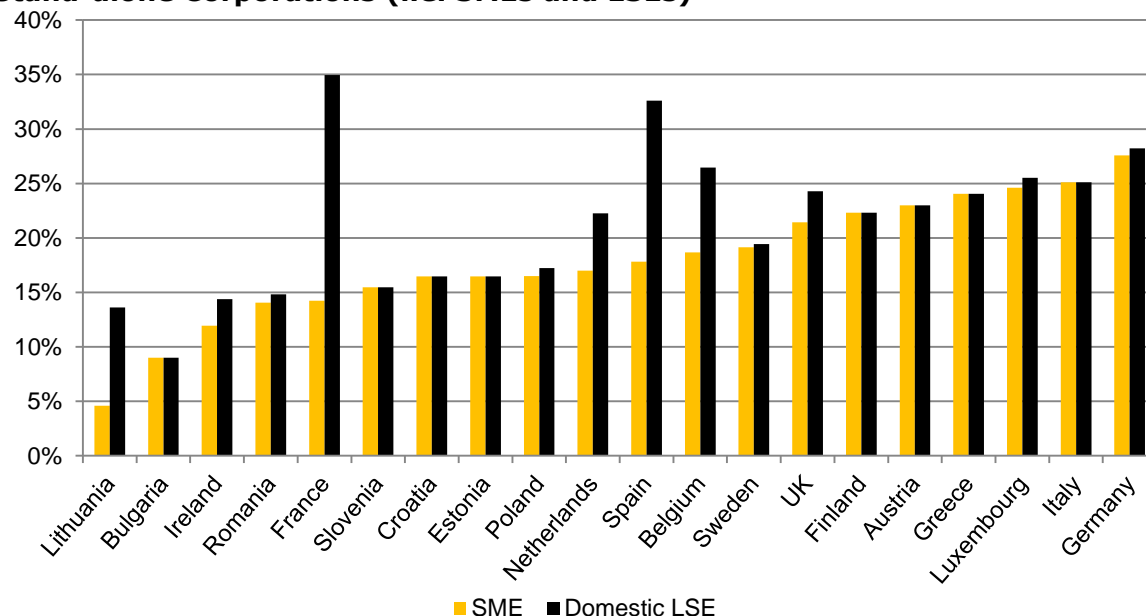


Table 7.3 exhibits the results for 2013 of the modelling with the Devereux-Griffith approach. Throughout this section, we will make use of various graphs to further illustrate these results. The remarks in this subsection on domestic investments of stand-alones are reflected in columns 1 and 2 of Table 7.3. They show the results of the two scenarios described above. Figure 7.3 illustrates these results (see Table 7.3 columns 1 and 2) and ranks the countries according to their tax levels for SMEs from the lowest to the highest. The eastern Member States clearly tend to have a low level of CIT both for SMEs and LSEs. Lithuania even exhibits an EATR which is below 5% for SMEs. Although Lithuania belongs to the countries which in general have a relatively low level of taxation, the reduction to below 5% for SMEs is remarkable. Within the group of the founding Member States, France, the Netherlands and Belgium show a clear reduction of the EATR for SMEs compared to LSEs. The case of France is especially noteworthy since the EATR for LSEs amounts to 35% but only to 14.2% for SMEs. This makes France to one of the most tax favourable environments for SMEs. Similarly, in Spain the EATR for SMEs is reduced to 17.8% compared to 32.6% for LSEs.

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Table 7.3 Effective Average Tax Rates in % for 2013 (Domestic Investments and Cross-border Inbound Investments)

Country	Year	Domestic ¹¹³		Cross-border ¹¹⁴					
		LSE	SME	subsidiary: LSE			subsidiary: SME		
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
		mix of financing	mix of financing	mix of financing	efficient financing ¹¹⁵	efficient financing and location ¹¹⁶	mix of financing	efficient financing	efficient financing and location
Austria	2013	23.0	23.0	24.8	23.2	19.6	24.8	23.2	19.6
Belgium	2013	26.5	18.7	27.5	26.3	24.0	20.1	18.2	15.7
Bulgaria	2013	9.0	9.0	12.1	9.9	5.0	12.1	9.9	5.0
Croatia	2013	16.5	16.5	21.4	19.5	15.3	21.4	19.5	15.3
Estonia	2013	16.5	16.5	19.2	13.8	10.9	19.2	13.8	10.9
Finland	2013	22.3	22.3	24.4	22.7	19.1	24.4	22.7	19.1
France	2013	35.0	14.2	36.1	33.9	30.3	16.5	14.9	10.8
Germany	2013	28.2	27.6	30.1	28.2	24.3	29.5	27.5	23.7
Greece	2013	24.1	24.1	26.6	24.7	20.4	26.6	24.7	20.4
Ireland	2013	14.4	11.9	16.5	14.8	10.6	14.2	12.3	7.9
Italy	2013	25.1	25.1	27.1	25.5	21.5	27.1	25.5	21.5
Lithuania	2013	13.6	4.6	15.8	14.1	10.7	7.8	5.1	0.6
Luxembourg	2013	25.5	24.6	26.9	24.8	21.2	26.0	24.0	20.5
The Netherlands	2013	22.3	17.0	24.0	22.4	18.9	19.0	17.6	14.3
Poland	2013	17.2	16.5	20.1	18.4	14.0	19.4	17.7	13.7
Romania	2013	14.8	14.1	17.4	15.7	11.5	16.7	15.0	10.7
Slovenia	2013	15.5	15.5	18.2	16.4	12.0	18.2	16.4	12.0
Spain	2013	32.6	17.8	34.8	32.3	28.1	20.7	18.8	15.2
Sweden	2013	19.4	19.1	21.1	19.6	16.6	20.8	19.3	16.3
The UK	2013	24.3	21.4	25.9	24.3	21.3	23.2	21.7	18.2

¹¹³ Investment is financed by retained earnings (55%), new equity (10%) and debt (35%).

¹¹⁴ The investment is conducted by a subsidiary located in one of the European countries on the left hand side. As parent location of this subsidiary, we model all other 19 selected Member States and the five Non-European countries (hence, 24 cases). Over all these cases (given a specific way of financing) we take the average which results in the mean EATR for the cross-border investment. In columns (5) and (8) the EATR does not represent an average over all possible parent locations but the EATR for the most tax efficient parent location.

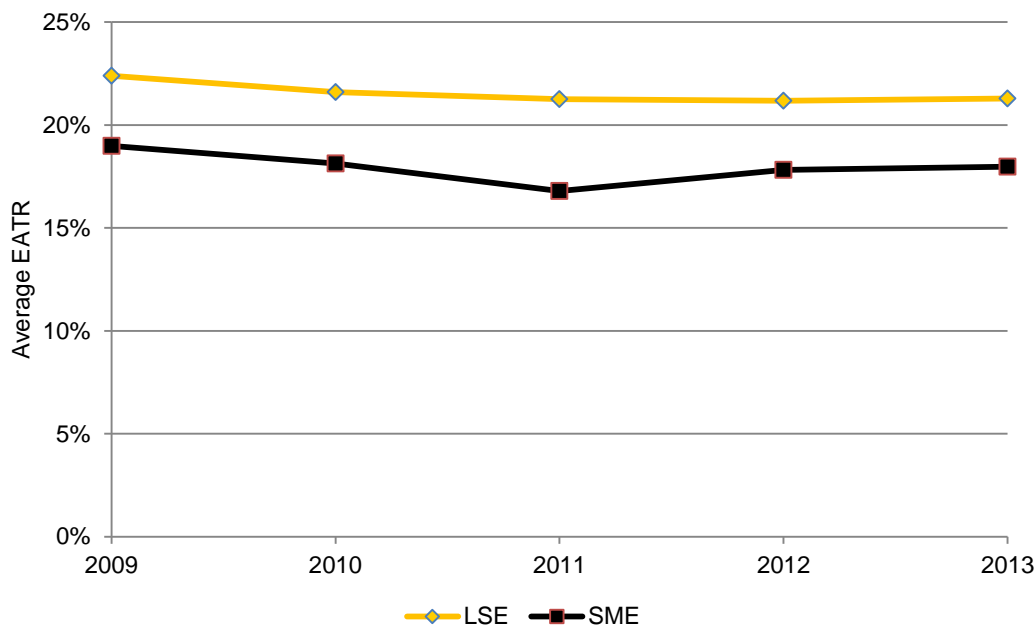
¹¹⁵ The EATR reflects an average of all possible 24 parent locations. For each constellation the most tax efficient way of financing the subsidiary is chosen (according to the reasoning in subsection 7.3). Afterwards, the mean over all possible parent locations is computed to receive one cross-border EATR. The same logic applies for column (7).

¹¹⁶ Parent location with lowest resulting inbound EATR is chosen (out of the 24 parent locations). Thus, this column shows the result for an investment when optimizing both the financing structure and the parent location. It reflects a distinct parent location and is not an average over locations. The same logic applies for column (8).

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All computations reflected in Table 7.3 were also conducted for the years 2009-2012.¹¹⁷ Overall, the average EATR in the 20 Member States considered in this study amounts to 18.2% for SMEs and to 21.5% for LSEs in 2013. For both size categories of corporations the EATR is slightly lower in 2013 compared to 2009. Nevertheless, Figure 7.4 shows no clear time trend for the EATRs of LSEs and SMEs and thus neither for the difference between the two.

Figure 7.4 Development of EATR for SMEs and LSEs averaged over the 20 selected Member States



7.4. Effective average tax rate - cross-border investments

The main additional benefit which the Devereux-Griffith model provides compared to the European Tax Analyzer computations arises from the implementation of cross-border investments. So far, a missing aspect of our analyses is that LSEs typically tend to be part of a multinational group. If this is the case, corporations are able to reduce their tax burdens on investments by making use of intra-group debt financing. Therefore, just comparing the EATR of national investments conducted by SMEs and LSEs without considering the possibility of international tax planning advantages of multinationals tends to overestimate the tax benefit which SMEs receive in some countries. This section aims at complementing the existing results by adding the described cross-border perspective.

Columns 3 to 5 in Table 7.3 model a cross-border investment and show the corresponding EATRs. The investment is conducted by a LSE which is a subsidiary of a parent corporation which is located in a different country. The investment is carried out by the LSE (i.e. subsidiary) in the respective country which is listed on the left hand side of the table. From the perspective of the respective country where the subsidiary is located, we speak of an "inbound investment". As possible locations for the parent corporation of the subsidiary, we model all other 19 selected Member States and the 5

¹¹⁷ These results are delivered in Annex 1 (section 6.2).

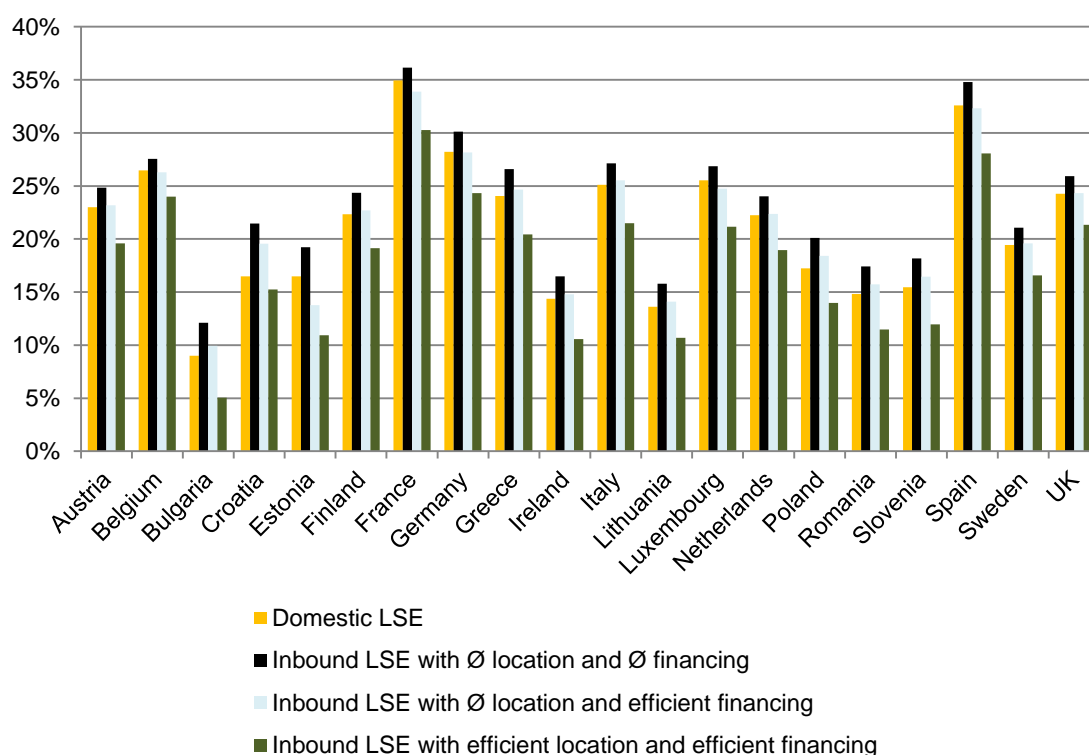
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Non-European countries. Over all these combinations (given a specific way of financing) we compute the mean EATR for the cross-border investment (column 3 and 4 in Table 7.3). Column 3 assumes that the subsidiary is financed by retained earnings (33.33%), new equity (10%) and debt (35%). This does not vary depending on the locations and thus, no tax minimizing behaviour by the multinational is assumed.¹¹⁸

The results in Table 7.3 show that for all investment locations, the stand-alone LSE (column 1 of Table 7.3) bears a lower tax burden (i.e. EATR) than the multinational (column 3 of Table 7.3). This is due to the following reasons:

- Firstly, we do not assume any tax minimizing financing behaviour by the multinational.
- Secondly, most of the 25 countries apply the exemption method and therefore, given the non-tax-minimizing financing strategy of the subsidiary, the EATR cannot be lowered relatively to the national stand-alone investment (even when the parent is located in a low tax jurisdiction).
- Thirdly, many of the countries applying the exemption method only exempt 95% of the dividend. 5% of the dividend payments are subject to additional taxation which does not occur in the purely domestic case.

Figure 7.5 Comparisons of Effective Average Tax Rates for domestic and cross-border investments conducted by LSEs



¹¹⁸ Column 3 therefore reflects quite a number of computed cases: this is $5 \times 3 \times 3 \times 20 \times 24 = 21600$ (5 assets, 3 ways of financing the subsidiary, 3 ways of refinancing the parent, 20 subsidiary locations, 24 parent locations). Note that this figure multiplies by factor 5 due to the computations for the other four years (2009-2012).

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The negative picture with respect to EATRs for cross-border investments changes when assuming that for a given cross-border constellation the most tax efficient way of financing the subsidiary is chosen. This is assumed for the investments underlying the results in column 4 of Table 7.3 (or third bar of Figure 7.5). Again, investments are conducted in the countries on the left hand side of the table. Investments can be financed from parents who are located in all selected 24 countries. For each constellation the most tax efficient way of financing the subsidiary is chosen, i.e. the way of financing which leads to the lowest possible EATR. This is either financing by new equity, retained earnings or debt. Afterwards, the mean over all possible parent locations is computed in order to receive one cross-border EATR (inbound). One can see that the possibility of choosing the most tax efficient way of financing reduces the EATR (column 4 of Table 7.3) compared to the fixed mix of financing (column 3 of Table 7.3). This can also be seen in Figure 7.5. Logically, this is necessary to hold for all countries.

Furthermore, always choosing the most tax efficient way of financing does result in an EATR for cross-border investments (column 4 of Table 7.3) which is lower than for the corresponding domestic investment (column 1 of Table 7.3) for some countries (i.e. Belgium, Estonia, France, Germany¹¹⁹, Luxembourg and Spain). This is also illustrated in Figure 7.5 when comparing the first and third bar. In France the EATR for an investment conducted by a purely domestic LSE amounts to 35.0% whereas the average inbound investment which is financed efficiently is taxed at a rate of 33.9%. Also, in Spain the average inbound EATR amounts to 32.3% in case the most tax efficient way of financing is chosen whereas the national LSE faces an EATR of 32.6%.

The figures shown in column 4 of Table 7.3 (or third bar in Figure 7.5) are averages over all 24 inbound investments. This means that for a given subsidiary, we calculate 24 EATRs as there are 24 possible parent locations. For all 24 inbound investments we assume the most tax efficient financing. Finally, the figures in column 4 average over all 24 inbound EATRs. Unlike column 4, column 5 (or the fourth bar in Figure 7.5) is not an average EATR over all 24 parent locations. Instead, it chooses the parent location which results in the lowest inbound EATR (out of the 24 parent locations). Thus, column 5 of Table 7.3 shows the result for the inbound investment when optimizing both the financing structure and the parent location. It reflects a distinct parent location and is not an average over locations. Clearly, the measured EATRs in column 5 have to be lower than the ones measured in column 3 and 4. It turns out that the inbound EATR which is now efficient with respect to the location choice and the way of financing (column 5 of Table 7.3) is lower than the one of the domestic LSE (column 1) for all countries. This can also be seen when comparing the first and fourth bar in Figure 7.5. This last result does not follow deterministically and shows the scope of the advantage which multinationals might gain from optimal intra-group financing and location decisions.

In the following, an additional dimension is added, namely the various tax incentives which SMEs qualify for in the different Member States of the EU

¹¹⁹ For Germany the difference is very small though (EATR for domestic investment: 28.22%; for cross-border investment: 28.16%)

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Figure 7.6 Comparisons of Effective Average Tax Rates in % for SMEs and LSEs

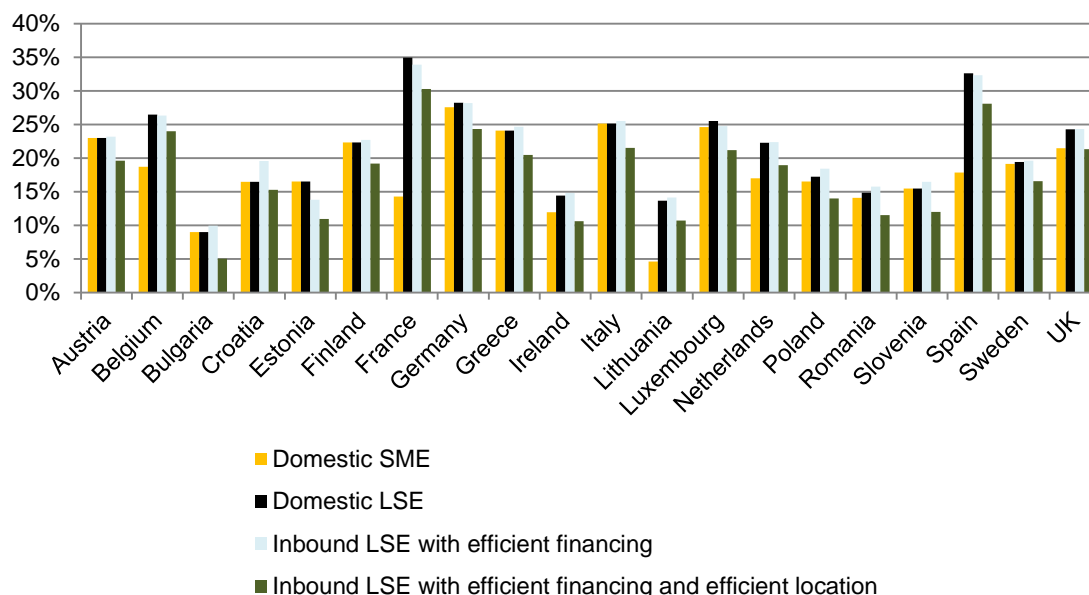


Figure 7.6 gives an overview of the relevant numbers for the comparison between SMEs and LSEs. The first bar reflects the EATR for investments of domestic SMEs, the second bar the EATR for domestic LSEs. The third bar reflects the EATR for investments of multinationals which choose the most tax efficient way of financing. Finally, the fourth bar displays the EATR for investments when optimally choosing the way of financing and the location for the parent.¹²⁰

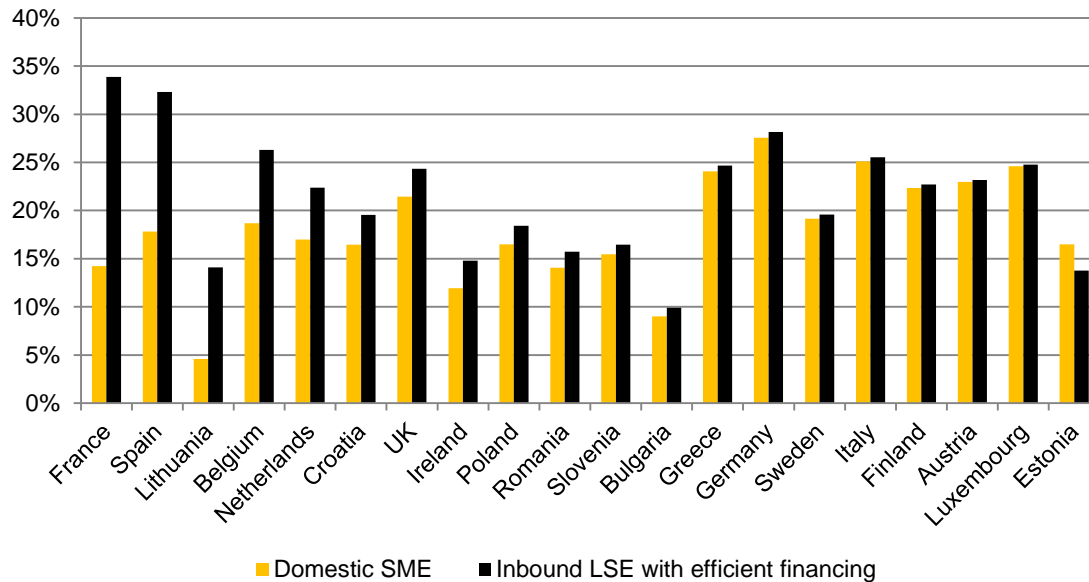
From the analysis in the previous section on LSEs we already know that in most of the countries inbound investments are not better off than domestic investments as long as no optimizing behaviour with respect to the parent location is considered. This pattern is confirmed when zooming in Figure 7.6 by mapping the first and the third bar in a separate graph in Figure 7.7.

In Figure 7.7 the first bar reflects the EATR for investments of domestic (stand-alone) SMEs (column 2 of Table 7.3). The second bar reflects the EATR for investments of multinationals which choose the most tax efficient way of financing (column 4 of Table 7.3). The countries are ranked according to the difference between the EATR for an investment conducted by an SME and an investment conducted by an average multinational LSE assuming a tax efficient way of financing (but no tax efficient choice of the parent's location). It becomes evident that the advantages which stand-alone SMEs experience compared to LSEs "survive" even when assuming international tax planning (without optimizing location decisions). Figure 7.7 shows for example, that the incentives which SMEs receive in France and Spain still outweigh the tax advantages which LSEs can make use of. Evidence for a clear promotion of SMEs in several Member States remains robust in this international perspective. Only Estonia shows a lower EATR for the considered average multinational than for the stand-alone SME (domestic).

¹²⁰ The figures provided are taken from Table 7.3: The first bar reflects column 2, the second bar reflects column 1, the third bar reflects column 4 and the third bar reflects column 5.

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Figure 7.7 Comparisons of Effective Average Tax Rates for SMEs and multinational LSEs with most tax efficient way of financing



Multinationals, however, are able to further minimize the EATR on the investment when the parent's location is an optimal fit to the subsidiary's location. This is illustrated in Figure 7.8 which again ranks countries according to the difference between the EATR for an investment conducted by SMEs and an investment conducted by a LSE which is part of a multinational group assuming the most tax efficient way of financing and the most tax efficient location of the parent corporation.¹²¹

From the results displayed in Figure 7.8 it is possible to identify countries where the tax environment is clearly advantageous for SMEs even if multinationals simultaneously optimize both their location and financing decisions. In this light, the incentives for SMEs in France, Spain, Belgium, Lithuania and the Netherlands turn out to indeed privilege SMEs. Within these countries the EATR is lower for SMEs than for LSEs even when considering tax minimizing possibilities of multinationals.¹²²

However, for the majority of countries, it turns out that SMEs are not necessarily better off than LSEs if tax minimizing strategies are taken into account. Figure 7.8 shows that in 75% of the selected countries multinationals face a lower EATR than SMEs when considering such tax minimizing strategies (i.e. financing of subsidiary and location of parent corporation).¹²³ This result is straight forward and not surprising for

¹²¹ The figures provided are taken from Table 7.3: The first bar reflects column 2 and the second bar column 5 of Table 7.3.

¹²² This does not mean that the EATR for SMEs is the lowest in these countries compared to other countries (for that see subsection 7.3. and the computations conducted with the European Tax Analyzer). However, it means that within these countries there is a favourable environment for SMEs compared to LSE.

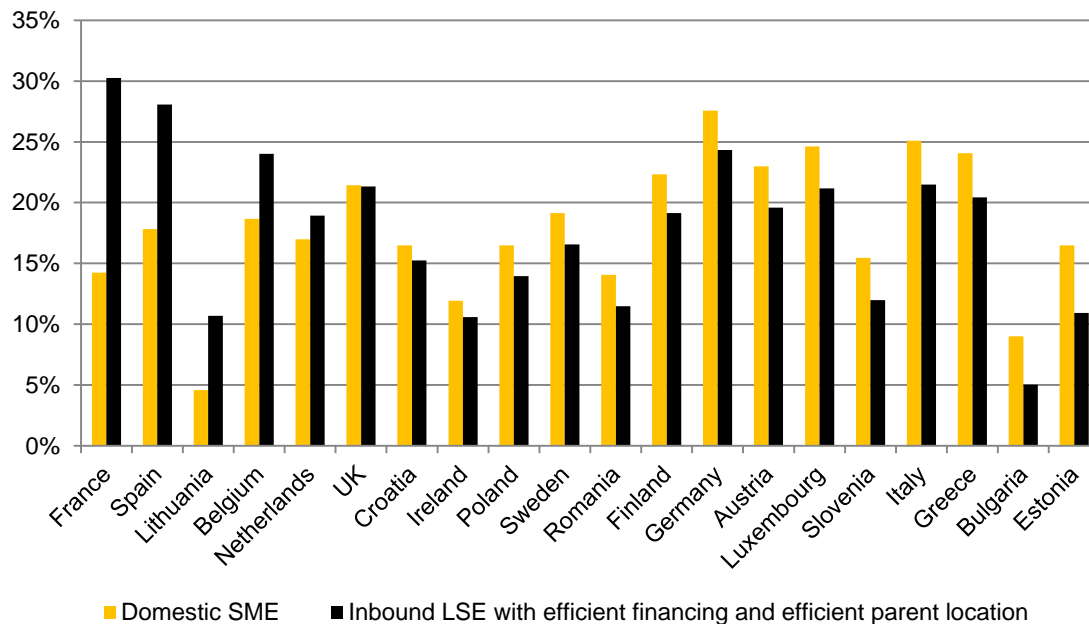
¹²³ Please note again, that anti-avoidance provisions such as thin capitalization rules or earnings-stripping rules which limit the deductibility of interest payments at the level of subsidiary were not taken into account for the computation of the EATRs. If these rules would be applied, profit shifting activities would be limited and the relevant level of taxes would be the one displayed in column 3 of Table 7.3. Please also note that multinationals have additional profit shifting channels such as transfer prices and licence fees which are not captured in the model. These channels would lower the EATR of multinationals.

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countries without tax incentives for SMEs. However, countries like Ireland, Romania and the UK which appeared to be favourable environments for SMEs turn out to rather favour LSEs from this perspective.

Figure 7.8 Comparisons of Effective Average Tax Rates for SMEs and multinational LSEs with tax efficient way of financing and tax efficient location of the parent



7.5. Summary of results

The results of the analysis carried out in this section are:

- LSEs locate their activities in different countries. Therefore, LSEs benefit from cross-country tax differentials compared to SMEs which operate domestically. This is a key competitive advantage of the international tax system for LSEs.
- LSEs can further reduce their effective average tax burdens by allocating functions in the areas of financing and intellectual property.
- The key competitive advantage from CIT for SMEs follows from specific SME tax incentives and lower tax rates.
- Thus, the analysis conducted with the Devereux-Griffith approach examines how the competitive situation of SMEs compares to the situation of LSEs when taking into account that multinationals can make use of tax minimizing strategies (i.e. intra-group financing and location decisions). Consequently, the results suggest a more tax friendly environment for LSEs in the selected countries than the results of the European Tax Analyzer (Section 6).
- Considering tax-minimizing strategies, LSEs in 75% of the sample countries face a lower EATR than SMEs. In this sense, SMEs have a competitive disadvantage concerning taxation compared to LSEs. However, there might be anti-abuse provisions that limit the possibilities of cross-border profit shifting by multinationals. Such provisions were not taken into account in the analysis.
- Nevertheless, even when assuming unrestricted tax optimizing strategies by LSEs, France, Spain, Belgium, Lithuania and the Netherlands provide lower effective tax rates for SMEs compared to LSEs.
- In order to verify the robustness of the results, several sensitivity analyses are conducted. The EATR is computed for different levels of the economic parame-

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ters of the model (real interest rate, inflation rate and pre-tax rate of return). The results turn out to be robust to the changes of these parameters.¹²⁴

¹²⁴ The detailed results for the sensitivity analysis are delivered in Annex 1 (section 6.3).

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8. IMPACT OF CIT ON SMES AND LSES ACROSS THE COMPANY LIFE-CYCLE

This part of the study complements the results of the financial ratios, qualitative research and tax modelling by providing further insight on the entrepreneurs' perception of the impact of CIT on companies.

To do this, the research team first conducted extensive desk research on particular issues of interest at different points of a company's lifecycle from entrepreneurship to choice of legal form, finance and company growth.

Case studies

Desk based research was complemented by a vast programme of empirical research directly with individual companies located in the 20 countries under in-depth study. A total of 95 interviews with companies were carried out over the course of the study. The table below shows the breakdown of the interviews by country.

Table 8.1. Breakdown of interviews by country

Country	Number of interviews
Austria	9
Belgium	13
Bulgaria	1
Estonia	3
Finland	3
France	5
Germany	12
Ireland	8
Italy	5
Lithuania	1
Luxembourg	7
Netherlands	5
Poland	3
Romania	6
Slovenia	3
Spain	6
UK	5
Total	95

Tax adviser survey

Finally, because smaller companies tend to outsource compliance with CIT to external advisers due to a lack of internal capacity, an online survey questionnaire was distributed among tax advisers across the EU-28 Member States to gather their perceptions on the impact of specific characteristics of the CIT regime on smaller companies. A total of 487 responses were received.

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Table 8.2. Breakdown per country of survey responses

Country	Number of valid responses
Austria	75
Belgium	18
Bulgaria	14
Croatia	9
Estonia	7
Finland	8
France	11
Germany	35
Greece	9
Ireland	75
Italy	18
Lithuania	16
Luxembourg	5
Netherlands	25
Poland	12
Romania	75
Slovenia	33
Spain	10
Sweden	7
UK	25
Total	487

This section presents the results of this large empirical research effort.

8.1. Overall comparison of tax rates between LSEs and SMEs

In most countries covered in this study, SMEs and LSEs tend to be subject to the same tax rates, as shown in Table 5.4, though there are special tax incentives for smaller companies in the UK, France, Belgium, Lithuania, Luxembourg, the Netherlands and Spain.

Table 8.3 compares CIT rates (the World Bank uses the term “profit tax” in the table) with other types of taxes that companies are subject to. The table shows that CIT tends to be much less important in terms of its share of corporate income than other taxes such as labour taxes and social security contributions. This was the case in all countries under this study except for Germany, the UK and the Netherlands. Labour and social security contributions are generally input taxes, i.e. taxes levied on the use of resources by the company to produce outputs. As such they are payable irrespective of the profitability of the company and they are therefore, generally of much larger concern to SMEs and LSEs than CIT which is levied on profit only.

As a result, when queried about taxation as part of this study, the majority of companies suggested that CIT was not a major concern for them. Instead, most companies

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are more interested in other types of taxes, which they perceive as having a greater impact on their business.

Table 8.3: Tax rates across 20 countries under study

Country	Profit tax (%)	Labour tax and contributions (%)	Other taxes (%)	Total tax rate (% profit)
Austria	15.3	34.7	2.4	52.4
Belgium	6.4	50.3	0.7	57.5
Bulgaria	4.9	20.2	2.6	27.7
Croatia	0	17.9	1.9	19.8
Estonia	8.1	39.4	2	49.4
Finland	14.1	24.5	1.2	39.8
France	8.7	51.7	4.3	64.7
Germany	23	21.8	4.6	49.4
Greece	11.2	32	0.7	44
Ireland	12.3	12.1	1.3	25.7
Italy	20.3	43.4	2	65.8
Lithuania	6	35.2	1.9	43.1
Luxembourg	4.1	16	0.5	20.7
The Netherlands	20.8	18.2	0.3	39.3
Poland	14.1	26	1.5	41.6
Romania	10.3	31.5	1.1	42.9
Slovenia	12.9	18.2	1.4	32.5
Spain	21.2	36.8	0.6	58.6
Sweden	16	35.5	0.6	52
The UK	21.6	10.6	1.7	34

Source: *World Development Indicators 2014, The World Bank, 2014*

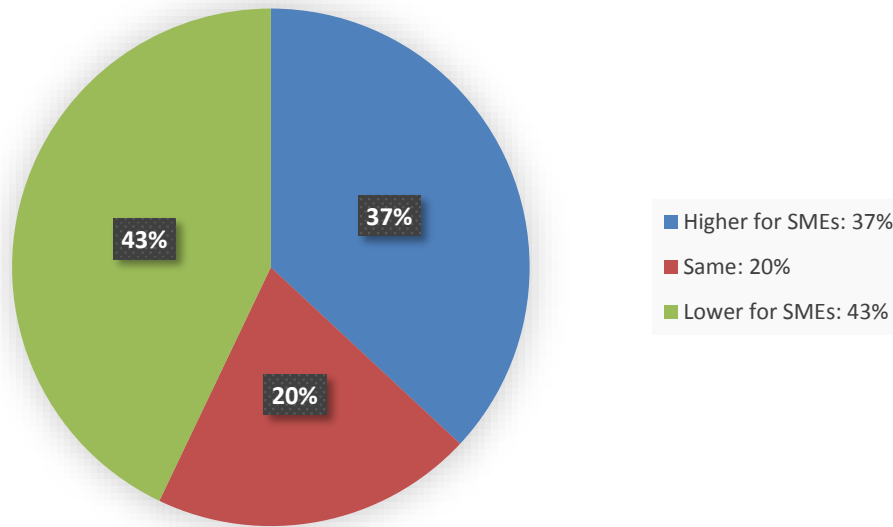
In addition to comparing the tax rates themselves, we also conducted a pan-European survey of tax advisors to identify their perception of the impact of CIT rates on SMEs compared with LSEs.

As Figure 8.1 shows, at an aggregate EU level that tax advisers from across Europe were quite divided with regard to the impact of CIT rates on different size of companies. While 43% of tax advisers thought the impact of CIT lower for SMEs than for LSEs, 20% did not see a difference based on company size and 37% thought CIT rates led to higher tax payments for SMEs than for LSEs.

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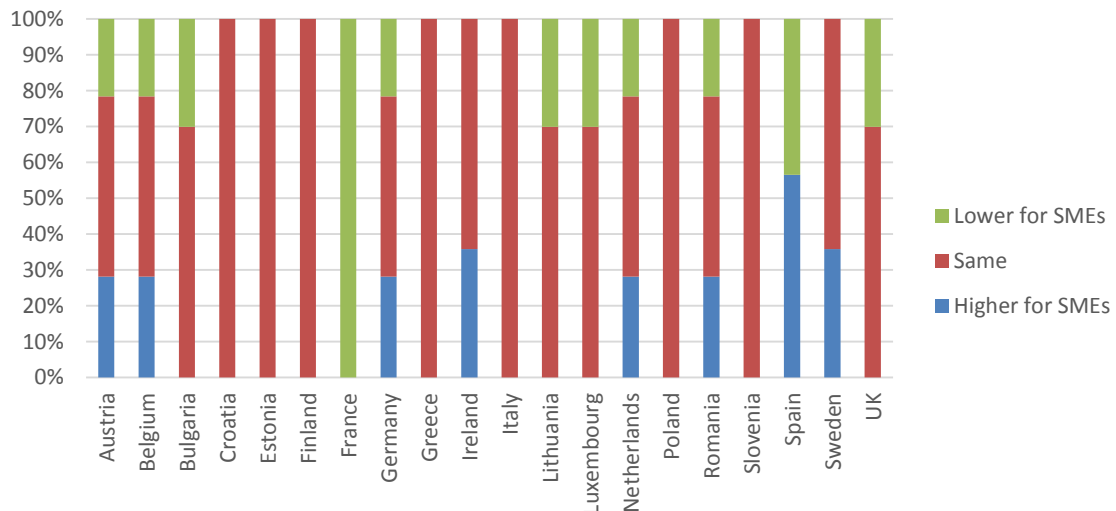
Figure 8.1: How do CIT levels compare between SMEs and larger companies in your country? (171 respondents)



Source: Tax Advisers Survey

Figure 8.2 shows the breakdown of these responses by country and it indicates significant differences between countries. For instance in France, which has a special CIT rate for smaller companies, all respondents considered that SMEs had a more favourable regime than LSEs, whereas the opposite was true in Finland, Estonia, Croatia, and Greece. At the same time, there was also significant divergence in opinions among tax advisers within countries. For instance in Germany, Austria, Belgium, and some others respondents (11 of 20) suggested that SMEs paid lower taxes, others (3 of 20) thought there was no difference and yet others (1 of 20) thought SMEs were disadvantaged in terms of their tax bills compared with LSEs.

Figure 8.2: How do CIT levels compare between SMEs and larger companies in your country? Responses by country (171 respondents)

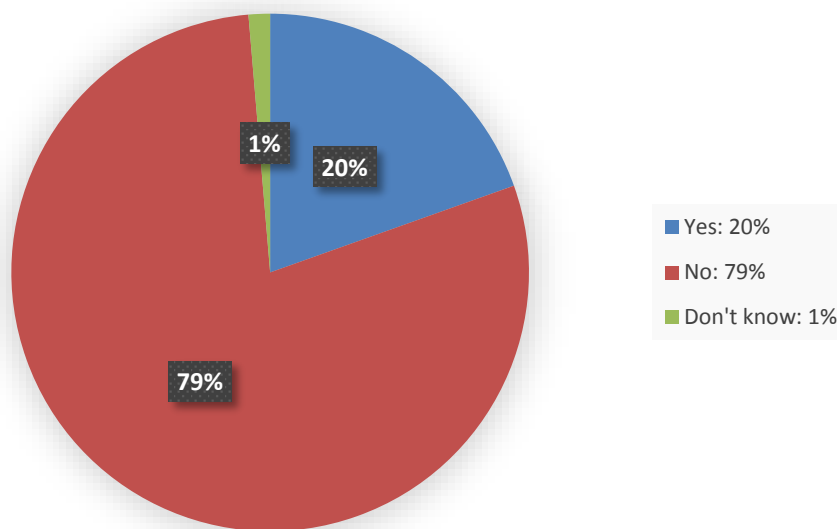


Source: Tax Advisers Survey

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Finally, Figure 8.3 reports responses from tax advisers on potential differences in behaviour depending on the sector of the company. According to the respondents in our sample, the vast majority of tax advisers (79%) consider there to be no differential impact on the behaviour of companies across sectors as a result of special CIT rates.

Figure 8.3: Do you believe that special tax rates influence the overall behaviour of SMEs differently depending on which sector they operate in? (194 respondents)



Source: Tax Advisers Survey

In general terms, no clear pattern seems to emerge from the above analysis. This suggests that perceptions of tax treatment between SMEs and LSEs are influenced by a multitude of factors including the prevailing tax regime, the economic make-up of the economy and the personal experiences of individual tax advisers. Generally, CIT is seen as one of many tax and non-tax related factors that impact on entrepreneurial activity and business performance. However, compared with other types of taxes, companies of different sizes tend to be less worried about CIT than about input taxes such as labour or social security contributions.

8.2. Impact of CIT on entrepreneurial activity levels

The effect of CIT on innovation and entrepreneurship is one of the central questions in public finance¹²⁵. This effect matters not only for the evaluation and design of tax policy, but also for thinking about economic growth¹²⁶.

In theory, lower CIT rates should, everything else being constant, increase the potential returns from starting a business and therefore have a positive impact on entrepreneurship. A growing consensus in the literature suggests that tax rate increases reduce entrepreneurial entry, growth, hiring, investment, and survival. In general, the

¹²⁵ See Djankov/Ganser/McLiesh/Ramalho/Shleifer (2010).

¹²⁶ See Barro (1991), DeLong/Summers (1991) and Baumol/Litan/Schramm (2007).

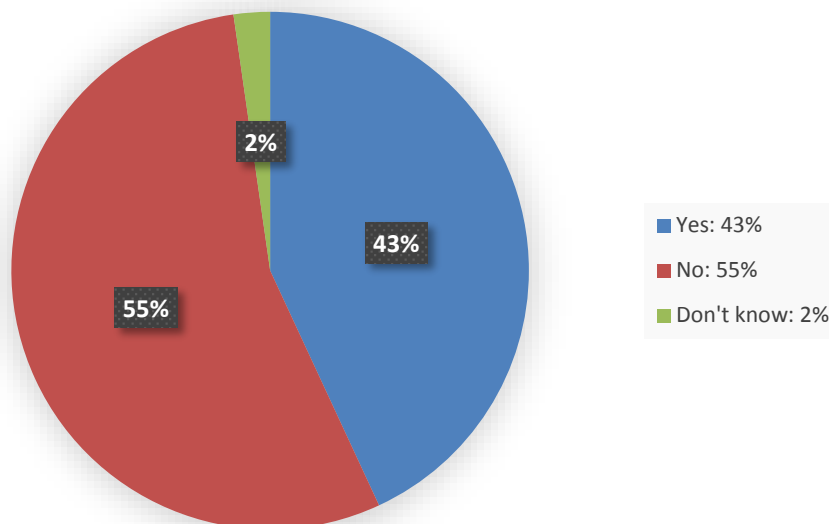
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literature shows a negative correlation between increasing CIT rates and economic growth and between tax structure (how progressive it is) and entrepreneurship¹²⁷.

8.2.1. Prevalence of special CIT provisions for entrepreneurship

At EU level, our survey of tax advisers across Europe shows that a majority of countries do not provide special CIT provisions for start-ups. At the same time, as shown in Figure 8.4, 43% of respondents to the survey suggested that such special provisions existed in their country. Interviews suggest the same result. An entrepreneur for example stated that: "At the time of establishment in 1997 there were no special start-up provisions and I am not aware of any existing at the moment".

Figure 8.4: Does the fiscal system in your country have special CIT provisions for start-ups? (139 respondents)



Source: Tax Advisers Survey

Though they may not be very prominent, there are nevertheless several countries across the EU which have put in place special tax provisions for start-ups. Indeed, a 2013 European Commission report¹²⁸ on tax reforms in Member States highlights that "several Member States introduced tax measures aimed at incentivising entrepreneurial activity and investment in small unquoted companies". For instance, some Member States introduced or expanded their existing tax incentives for start-ups and entrepreneurs (e.g. Belgium, Ireland, Spain, Italy and Hungary). Italy introduced a set of regulatory and tax-related measures aimed at facilitating the emergence and growth of innovative start-ups. R&D-intensive start-ups will be subject to favourable tax treatment and individual and corporate investors will receive tax incentives to provide equity to such start-ups. In Spain, corporate start-ups will be subject to a 15 % tax rate on their annual profits under 300 000 EUR, and 20 % on the excess as of the first and second year in which profits arise. Individual entrepreneurs will also be able to

¹²⁷ See Balamoune-Lutz/Garello (2014).

¹²⁸ See European Commission (2013).

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deduct 20 % of their positive net income. In 2013, Hungary introduced two optional tax schemes for small companies¹²⁹: a lump sum tax for micro-businesses (KATA) and a flat-rate tax for small companies (KIVA). In Luxembourg, a new minimum CIT rate applies to small companies¹³⁰.

8.2.2. Impact of CIT on entrepreneurship

In practice, there are many factors that drive or impede people from becoming entrepreneurs and it is impossible, within the context of this study to identify the impact of taxation on the decision to start a business. Desk research for this study has found mixed evidence regarding the impact of CIT rates on entrepreneurial activity levels. For instance, Belgium has very low entrepreneurial rates and one of the highest CIT in the EU¹³¹, while France has a high entrepreneurship and a high CIT¹³² and the Netherlands has a middle range level of entrepreneurship and a middle range level of CIT¹³³.

In addition, CIT is only one of the tax instruments that new corporations are subject to and, arguably, one of the less important ones due to the likely low profitability of the company in its first years of operation. As company interviews for this study confirmed, other taxes, (e.g. input based taxes such as labour, or social security taxes) are likely to be of greater importance to entrepreneurs than statutory CIT. For instance, rather than CIT on its own, it is the difference between PIT including dividends and CIT, which determines the financial incentive to incorporate. Indeed, simple correlation analysis for this study (section 8.4) indicates that there is a (weak) association between the differential of PIT and CIT and the entrepreneurship rate. An entrepreneur when asked whether the decision of establishing his enterprise had been affected by the presence of favourable tax schemes stated that: "While we did benefit from that favourable tax scheme, the fact that I knew of its presence before starting the business did not influence my decision to start the business at all".

The relatively weak correlation between CIT and entrepreneurship levels is also confirmed by the tax adviser survey conducted for this study. Indeed, Figure 8.5 shows that tax advisers responding to our survey do not perceive these special provisions as having a significant impact on entrepreneurial behaviour. In particular, 40% of advisers in our sample thought that there was no impact on start-up activity and about one in three respondents did not discern an impact on access to finance for start-ups. Only one in four respondents to the survey suggested that special provisions for start-ups, where they exist, had an impact on the success rate of new companies. Among those respondents who did identify a positive impact of these special provisions for start-ups, the magnitude of that impact was generally considered relatively small. This was especially the case for the overall success rate where almost half of respondents considered the impact as small.

¹²⁹ See <http://eugo.gov.hu/doing-business-hungary/taxation>.

¹³⁰ See European Commission (2013).

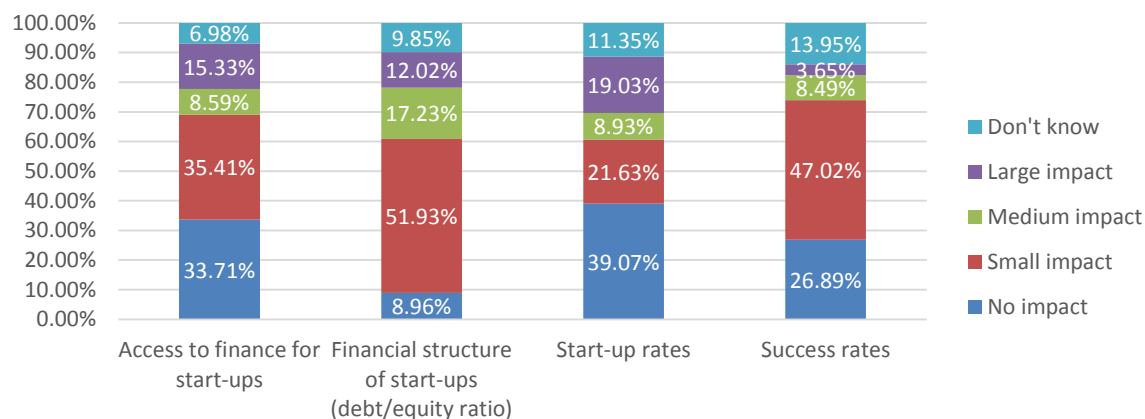
¹³¹ See <http://www.investinlanders.be/EN/Sector/ICT/chapter/Setting-up-your-business/page/Business-incentives>.

¹³² See <http://www.entreprises.cci-paris-idf.fr/web/reglementation/creation-entreprise/fiscalite-entreprise>.

¹³³ See <http://www.answersforbusiness.nl/subsidies>.

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Figure 8.5: What is your perception of the impact of CIT provisions regarding investment in start-ups using different financing vehicles on the following? (125 respondents)



Source: Tax Advisers Survey

While the example cited above suggests that some Member States see CIT rates are important determinants of entrepreneurship, “the benefits of introducing reduced CIT rates for specific enterprises need to be weighed against the potentially increased costs in terms of tax compliance and possible disincentives to grow.”¹³⁴ Furthermore, special CIT rates can distort behaviour in ways that are not necessarily beneficial. For instance, although many Member States have introduced special tax measures to support self-employment (as a proxy for “entrepreneurship”) these provisions could lead to differential and unequal fiscal treatment of essentially similar activities.¹³⁵ Preferential treatment for the self-employed might create a financial incentive for enterprises, for tax reasons, to outsource their employees, resulting in the substitution of employees by ‘fake’ self-employed people, who are physically and functionally part of the business. Thus, as a 2013 European Commission report¹³⁶ concludes, it is important to point out that supporting entrepreneurship first and foremost requires a well-functioning and stable business tax environment.

The only area where a very large share of survey respondents identified an impact is the decision on the financial structure of the new company (i.e. its debt/equity ratio). More than half of respondents thought that there was indeed a small impact of special CIT provisions on the mix between debt and equity among new companies.

In sum, it is not possible, in the context of this study, to identify the impact that CIT has on the decision to start a new company, considering that there are many factors that drive or impede people from becoming entrepreneurs. The desk research conducted for this study has found mixed evidence regarding the impact of CIT rates on entrepreneurial activity levels. In addition, CIT is only one of the tax instruments that new company are subject to and one of the less important ones due to the likely low profitability of the company in its first years of operation.

¹³⁴ See European Commission (2013), p. 24.

¹³⁵ See European Commission (2013), p. 61.

¹³⁶ See European Commission (2013), p. 24.

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8.3. Impact of CIT rates on the financial structure of companies

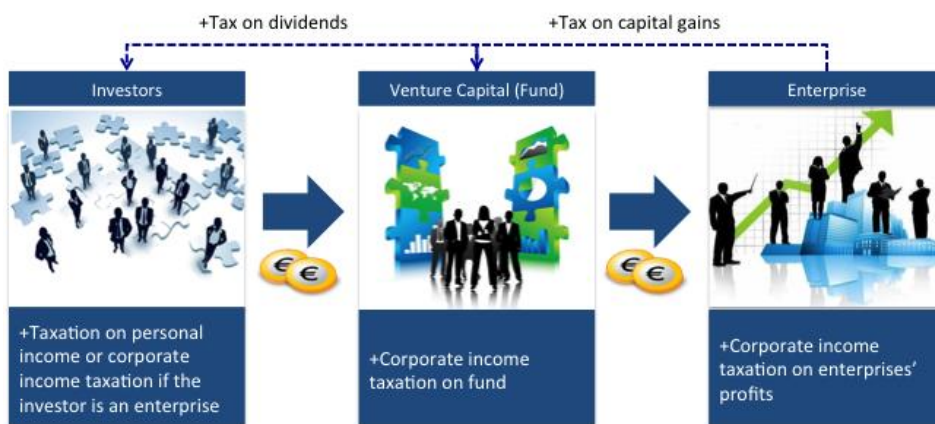
Tax systems might have an influence on the financial structure of start-ups, favouring equity investments when CIT rate is low and bank loans when taxation is higher. In addition, tax rates may affect not just the mix of financing instruments for start-ups but also their access to finance (e.g. ability to access bank loans or private equity investment).

8.3.1. CIT rates and venture capital finance

Any investment decision made by a venture capital company (VCs) is subject to a due diligence process in which the target company is evaluated from several points of view including the market that the company operates in, legal and fiscal aspects related to its operation and, most importantly the value and the profitability of the enterprise for a future disinvestment strategy.

In this context, a higher tax rate influences the cost of capital (higher tax rates reduce the cost of capital because of the deduction of interest) and at the same time it influences the value of the activities of a potential investee. In countries where CIT is higher, the effect is double: first, a higher tax rates decreases the value of discounted cash flows; second, enterprises are incentivised to finance their activities using debt instead of equity. Figure 8.6 outlines schematically the impact of taxation on investors, funds and the investee.

Figure 8.6: CIT for investors, venture capital funds and enterprises



Source: own depiction

The objective of VCs is to collect funds and target their investments where the potential return is the highest supporting the target company to develop its potential. In this process, not only CIT is relevant to VCs. Indeed, rather than CIT rates, capital gains taxation and taxation of VC funds themselves have the largest impact on VC investment. As one interviewee suggested: "a reduction of the burden of CIT would certainly be beneficial [...] being honest, our priority is to find funds and capital gains taxation has a much stronger influence in our job". For instance, asymmetries in capital gains taxation across Member States might create multiple points of taxation causing double or triple taxation of the post-tax returns of an investment and reduce, consequently, the attractiveness of foreign investments.

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While CIT rates do not have a direct and significant impact on the investment choices of VC funds in a single jurisdiction, they are more relevant when assessing the relative attractiveness of multiple investments across tax jurisdictions. Indeed, two identical assets subject to different CIT regimes would have a different value and thus a different attractiveness to VCs. However, EVCA (European Venture Capitals Association) statistics show that cross-border investments are relatively low in comparison to investments in the home country of the VC fund.

Thus, from the perspective of this study, the following conclusions emerge:

- CIT rates per se do not have a direct and significant influence on investment decisions made by VCs. This is especially the case when the VC operates only in one country, which is the case for most VC investments to date.
- CIT (and other tax) rates have an indirect impact on the value of the company and this influences cross-border investments.
- Capital gains tax, CIT and administrative red tape have a combined impact on the development of a dynamic cross-country VC market in Europe.

8.3.2. CIT rates and debt/equity mix

Generally, CIT systems that allow the deduction of interest costs favour financing by debt versus equity. Where there is no similar treatment for equity, the result is a bias which gives companies an incentive to take on debt.¹³⁷

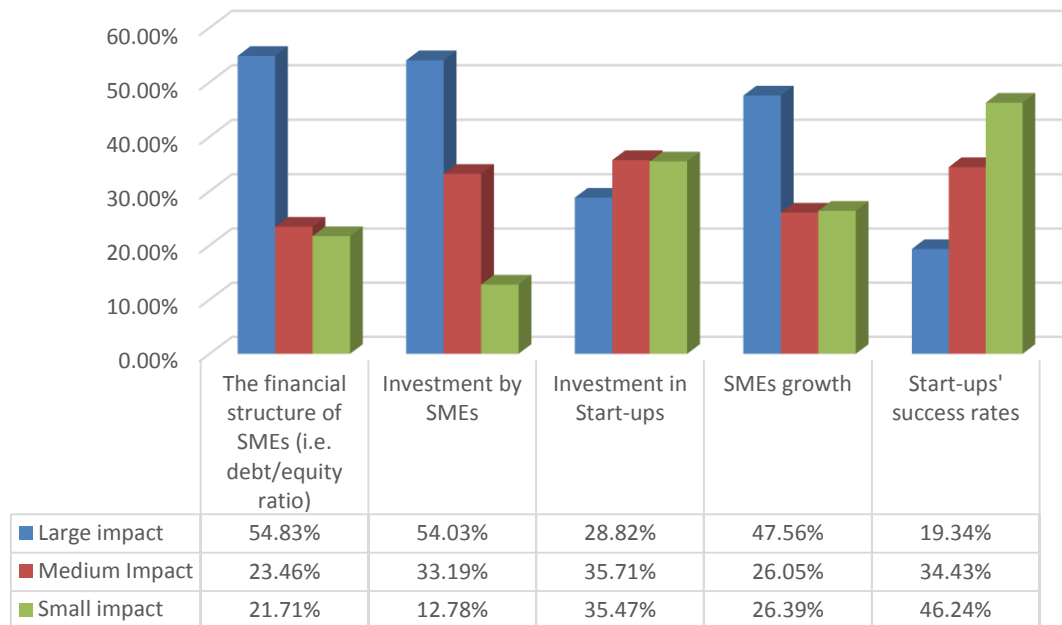
This debt bias introduced by the application of CIT is also reflected in responses received from our sample of tax advisers through the online survey. Figure 8.7 shows that more than half of respondents considered that CIT provisions had a large impact on the financial structure of SMEs (i.e. their debt/equity mix), compared with e.g. less than 20% who thought that this also translated into a large impact on the success rate of these companies. On the other hand, 46% thought that CIT provisions did not influence the success rate of SMEs.

¹³⁷ It may also erode the tax base through international profit shifting and the use of hybrid instruments.

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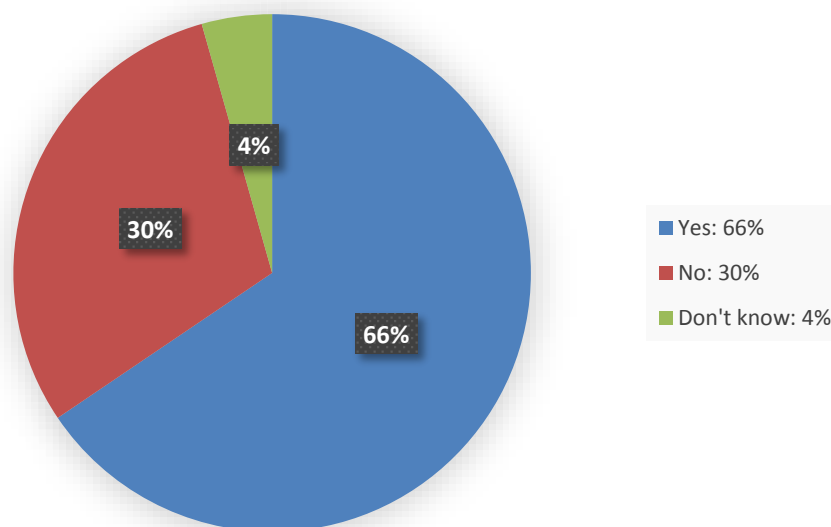
Figure 8.7: Which of the following aspects are influenced by CIT provisions on profits, retained earnings and dividends? (90 respondents)



Source: Tax Advisers Survey

Figure 8.8 shows that, when probed further, respondents also suggested that CIT provisions had a larger effect on SMEs than on LSEs with 66% suggesting that this was the case, compared with only 30% seeing no difference in impact according to company size.

Figure 8.8: Do you believe that CIT provisions regarding profits, retained earnings and dividends affect SMEs differently to LSEs? (136 respondents)



Source: Tax Advisers Survey

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At the same time, it should be noted that the case study interviews did not produce clear evidence that companies (especially the smallest companies) base their decisions regarding financing structure on CITs. Some interviewees suggested that they had actively chosen between different financing options on the basis of a rational assessment. For instance, one company stated that "we used an Adjusted Present Value approach, choosing a debt ratio that could maximize the value of our company". At the same time, others indicated that they had based their financing decisions on a variety of factors including personal relationships and connections with other, similar companies. For instance, one entrepreneur stated that: "I based my financing-mix choice on available evaluations of partnering companies' standards and positioned my enterprise close to them", and another interviewee replied that he "brought [his] company close to the standards of the peers and main competitors in the sector".

This decision-making process among smaller companies may be partly due to the fact that for these companies in particular, there are generally not many different financing options available. Thus, financing choices among smaller companies tend to be driven by a variety of factors which include but are not limited to tax considerations.

The discrepancy in tax treatment between debt and equity described in the previous section can be remedied by removing or restricting interest deductibility (e.g. CBIT, Corporate Business Income Tax) and/or introducing an allowance for corporate equity (ACE) which equalises the treatment of debt and equity by offering a tax deduction for normal return on equity¹³⁸. As one interviewee suggested in relation to the Belgian notional interest deduction: "they deduct a one-shot amount from the company's taxable income by means of considering your equity funding as if it was a bank loan. This [...] is nicely keeping the amount of CIT I actually pay lower than what it would be". There is thus some evidence from case study interviews that these solutions, where they are in place, are having an impact on the debt/equity mix and on the tax liability of affected companies.

Several reforms were undertaken in 2012 and 2013 to address the debt bias in CIT¹³⁹. These measures mostly tended to restrict the level of deductible interest. France and Portugal restricted the deduction of interest payments above a threshold of EUR 3 million. In France, the limit is 85% (75% from 2014) of interest paid, while in Portugal it is 70 % of EBITDA from 2013, falling to 30% in 2017. Spain and the Netherlands revoked their thin capitalisation rules and introduced new rules on the non-deductibility of certain interest expenses (a so-called earning-stripping rule). Spain, Sweden and Finland limited the scope of deductibility of interest expenses on intra-group loans.¹⁴⁰

To summarise, in general CIT systems that allow the deduction of interest costs favour financing by debt versus equity. On the other hand, there is no clear evidence that small corporations base their decisions regarding their financing structure on CIT rates.

¹³⁸ Other approaches currently discussed by the European Commission (2013) are: lowering the CIT rate, combining the two systems (CBIT and ACE), allowing either the deductibility of (notional risk-free or actual) return on capital, irrespective of whether it is in the form of equity or debt (possibly with a cap on the total), or a cash-flow tax which thanks to immediate expensing, puts debt and equity financing on an equal level when it comes to taxation.

¹³⁹ See European Commission (2013), p. 22.

¹⁴⁰ See European Commission (2013).

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8.4. CIT rates and the choice of legal structure

CIT rates have a direct effect not only on the financial structure of a corporation, but also on the choice of their legal structure. The type of legal form chosen will determine such factors as liability and taxation. There are many different types of legal forms that are country specific. However, several types have been identified as most common from our literature review: sole proprietorship, partnerships and limited liability companies.

8.4.1. Definition of limited liability company

In a limited liability company (LLC) the company is a separate legal entity from the ownership and, therefore, it is separate and distinct from those who run it¹⁴¹. If the company gets into debt, the creditors generally only have a claim on the assets of the company. The primary characteristic an LLC shares with a corporation is limited liability, and the primary characteristic it shares with a partnership is taxation on the ownership level. Most Member States have at least two kinds of companies. The first kind, the joint stock company (e.g. the AG, SA, NV, plc, etc.), is designed for LSEs. It is often subject to a high minimum capital requirement and detailed internal organisation rules. Its shares may be listed on the stock market. This kind of company is often referred to as "public companies". The second kind of company is designed for smaller companies (e.g. the GmbH, the SARL, the Sprl, etc.). While this form offers its founders and members the much needed limitation of liability, it is often designed some way between a joint stock company and a partnership to take account of the fact that the personal involvement of shareholders usually is very strong in small companies. This makes of this kind of company the preferred legal form for small companies. These company forms cannot offer their shares to the public and as a result are often referred to as "private companies". The LLCs pay CIT.

In taxing distributed profits of incorporated enterprises a number of solutions have been implemented¹⁴²:

- a) Some countries (e.g. Austria) apply a flat withholding tax rate to distributed profit, at the company level, without further shareholder taxation.
- b) Other countries tax individual shareholders on the full amount of dividend income received at PIT rates without special relief for tax imposed at the corporate level (classical tax systems).
- c) Many countries "integrate" CIT and PIT¹⁴³ in order to avoid or limit double taxation through a dividend paid deduction at the corporate level, or at the personal shareholder level.

8.4.2. Impact of taxation on the choice of legal structure

Lower CIT rates tend to increase the attractiveness of incorporation as a choice of legal structure for profitable SMEs, because they have a higher share of earnings to reinvest compared to companies located in countries where CIT rates are higher. This re-

¹⁴¹ This is a general definition of sole proprietorship that can be valid for all Member States

¹⁴² See OECD (2009), pp. 1-170.

¹⁴³ Possible integration approaches include a dividend paid deduction at the corporate level, providing an offset to CIT at the time of dividend distribution.

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sults in more financial resources available to reallocate to growth investments. As one interviewee suggested “the possibly only big determinant of my decision was that of achieving the status of corporation in order to enjoy an array of finer tax benefits. I incurred debt in order to register as public limited company and pay for the initial-capital requirement”. Another interviewee confirmed that “the prospect of saving on CIT was a main determinant to choose the status of public limited company”.

While PIT is levied on personal income alone, being subject to the CIT regime has an important tax effect which is due to differences in the tax levels levied on profit distributions or capital gains, which are often taxed at a higher rate for corporations. As a result, if an enterprise gives priority to capital gains, this might act as a disincentive to incorporation. “Double taxation” of corporate income has the same effect, since PIT is levied after taxation at the corporate level. Other minor tax effects are, for example, due to differences in how pensions and fringe benefits are deducted, and the possibility for partnerships and sole owners to take advantage of loss offsets and at-risk rules¹⁴⁴. “Non-tax factors” are of two types. The first stems from the possibility for corporations to list shares on public exchanges, which incentivises incorporation by facilitating capital raising. The second lies in the difference between the limited liability of corporate shareholders and the unlimited liability of partners and unincorporated sole proprietors. While shareholders of small companies must often pledge personal assets in order to obtain external bank loans, partnerships may impose discretionary liability limits. The following countries have a high rate of limited liability registered companies: Romania (99%), Estonia (78%), Luxembourg (75%), Sweden (72%), Bulgaria (70%), Cyprus (61%), Norway (58%). The following countries have a small rate of companies registered under limited liability: the Netherlands (13%), Germany 13%, Austria 14%, Czech Republic 17%, Portugal 18% Lithuania 19%, Italy 20%. The following countries have a medium level of incorporation: Spain 25%, France 27%, Slovenia 27%, the UK 28%, Finland 33%, Slovakia 41%, Hungary 49%, and Belgium 51%¹⁴⁵.

Figure 8.9 shows the degree of incorporation as a function of the difference between CIT and PIT¹⁴⁶. The figure indicates that the higher the gap between PIT and CIT, the lower the degree of incorporation, suggesting that there is a correlation between taxation gap and the legal structure of enterprises.

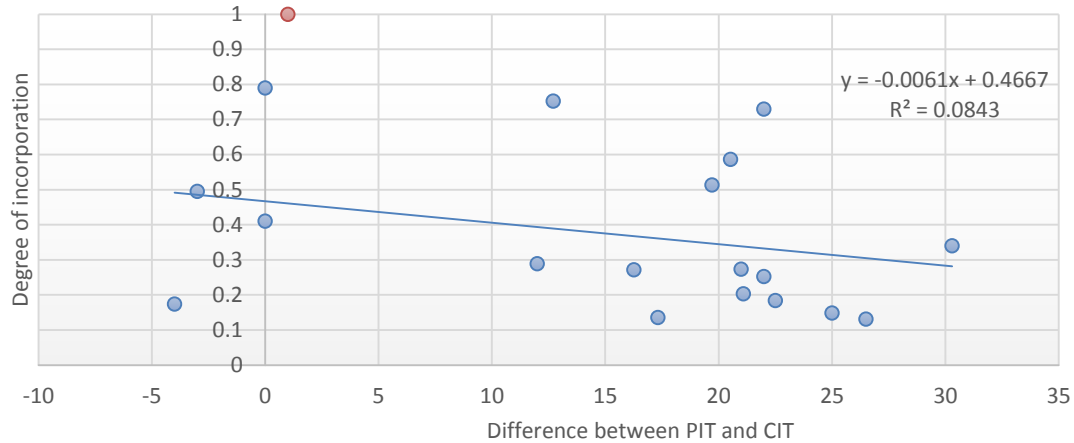
¹⁴⁴ See Gordon/MacKie-Mason (1994).

¹⁴⁵ See Eurostat (2013).

¹⁴⁶ Eurostat (2013) provides demographic information on sole proprietorships (SP) and private or publicly quoted joint stock companies with limited liability (LL) for those owning shares. From this, the share of the corporate sector in the economy can be derived. Moreover, it is possible to obtain data on the ratio between the top PIT rate and CIT rate for companies. The higher this measure, everything else being equal, the greater, the incentive to incorporate.

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Figure 8.9: Association between incorporation of start-ups and difference between CIT and PIT



Source: own elaboration based on data from OECD on PIT and CIT and data from Eurostat on the degree of incorporation of start-ups

However, decisions on the legal form of business are not only made on the basis of tax but also taking into account the non-tax benefits and costs.¹⁴⁷ For instance, some enterprises organized in the corporate form may collect substantial non-tax benefits, such as gains from limited liability or the advantage of attracting capital. Others may incur costs from incorporation, e.g. owing to capital requirements or legal obligations.¹⁴⁸ For instance, one interviewee suggested that they “did not have enough money to start a public limited company as you need 25,000 euros, plus other expenses such as appointing a permanent auditor were not at all affordable. We started a limited partnership (we are two people) because my other partner does not have significant assets to put as security; he is in fact the limited partner.” Another enterprise offered that they “chose a partnership because it faces less initial costs, less long-run fixed costs, and has no capital requirement”. However, one entrepreneur replied that “the possibly only big determinant of the decision was that of achieving the status of corporation in order to enjoy an array of finer tax benefits. I incurred debt in order to register as public limited company and pay for the initial-capital requirement”. Economists mention limited liability and improved access to external capital as main advantages of incorporation.¹⁴⁹ Non-tax costs and benefits should, therefore, be weighed against the net tax advantage of corporate versus non-corporate income.

Summarizing, on one hand it is possible to state that lower CIT rates tend to increase the attractiveness of incorporation as a choice of legal structure for profitable SMEs. On the other hand, decisions regarding incorporations are also and often made taking into account non-tax benefits.

¹⁴⁷ See De Mooij/Ederveen (2008), MacKie-Mason/Gordon (1997) and Goolsbee (2004).

¹⁴⁸ See De Mooij/Ederveen, 2008, p. 682.

¹⁴⁹ See Egger/Keuschnigg/Winner (2009), pp. 1-49.

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8.5. The impact of CIT rates on company growth

CIT can affect growth by reducing the cash flow of the enterprise that is subject to taxation. This affects the investment potential both for organic growth (i.e. expansion of activities of the enterprise) as well as its ability to finance external growth (e.g. through acquisition of other enterprises in the same tax jurisdiction) and the attractiveness of enterprises in other tax jurisdictions. There are indeed three main potential scenarios concerning M&As:

1. If the target enterprise captures the entire surplus generated by the acquisition, then the tax has no effect on the acquisition decision. Here, the tax system should have no impact on whether the acquisition goes ahead since the acquirer's valuation is post-tax – a higher tax rate would lower his valuation, and hence lower the price paid.
2. If the acquirer can increase the value of the income stream in the target company, then it will be more likely to acquire a target company in the country with a lower statutory tax rate.
3. If the acquirer can reduce costs in the target, then it will be more likely to acquire a target company in the country with a high value of tax allowances. A higher value of allowances could be generated by more generous allowances, or by a higher statutory tax rate.

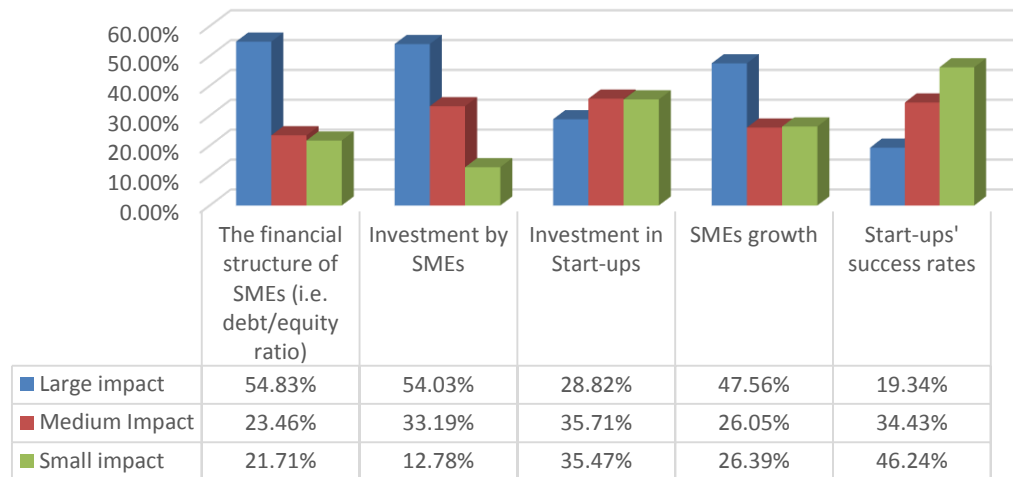
8.5.1. Evidence of impact from the case studies and the survey

Figure 8.10 shows that the tax advisers who responded to our survey confirmed that CIT has an impact on the investment potential of SMEs. More than half of tax advisers who responded to our survey thought that CIT rates had a large impact on the investment potential of SMEs.

This is confirmed by some case study interviewees who suggested further that in many SMEs, profits are to a large extent reinvested in the growth of the company and thus CIT can have a negative effect on investment by reducing liquidity. Just to cite a few, one interviewee stated that "CIT differences can influence competitiveness heavily, to a point where you might well choose not to invest in locating in a country anymore, causing your company to lose market shares in a geographical market, or even in the market for a particular good if a specific country has a wider market for it". Another interviewee stated that [because of special CIT provisions] "we could secure a higher level of liquidity in our first 5–6 years, which, among other things, enabled us to invest a total of (ca.) 1.2 million euros in three other companies, in shares". Similarly, another interviewee indicated that "the Notional Interest Deduction is reducing my effective CIT rate, leaving me with more liquidity for the funding of long-term investments." And a fourth interviewee indicated that "If we had to pay an increased income tax [...], we would have less money for other investment, such as ads, software and etc." and finally a fifth interviewee suggested that "the rate at which we could re-invest earned profits was, thanks to lower CIT, almost twice as much as the one of our German headquarters."

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Figure 8.10: Which of the following aspects are influenced by CIT provisions on profits, retained earnings and dividends? (90 respondents)



Source: Tax Advisers Survey

The literature agrees that CIT can have substantial effects on investment. Empirical evidence obtained from both enterprise-level and industry-level data covering a number of OECD countries indicates that there indeed exists a relationship between investment levels and CIT. At the enterprise level the following effects have been found (Johansson et al., 2008¹⁵⁰):

- A reduction of the statutory CIT rate from 35% to 30% implies a long-run increase of the investment-to-capital ratio of approximately 1.9%.
- The size of the negative tax effect on investment appears to be similar for small enterprises and LSEs.

At the same time, the case studies indicate that while taxation might affect the investment potential of SMEs, this does not mean that CIT affects the actual decision of entrepreneurs to pursue growth through investment. As one interviewee stated, "there never was a decision to implement a growth strategy or not, simply the company kept on growing since the very beginning. However, I can still say that the favourable scheme was one of the main factors why the company could grow so much and so stably." Another interviewee confirmed the benefits of lower taxation but suggested that this was tangential to the decision to invest rather than the main motivation: "We have acquired a small company in the Canary Islands, and we were obviously really happy to know they are taxed at 4% there. Obviously I cannot say this was the main reason why we acquired that enterprise, but it was one of the factors guiding our decision". Another entrepreneur confirmed that there are no direct relations between CIT rates and growth decisions and he stated that: "I do not think that country differences in CIT rates play a more important role than connectivity, research oriented policies, or in general macro-economic situations".

From an M&A perspective, evidence from interviews with companies show that small companies tend not to be influenced by CIT rates when considering a M&A operation,

¹⁵⁰ See Johansson/Headly/Arnold/Brys/Vartia (2008), p. 33.

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focusing instead on strategic factors such as the potential position on a given market. At the same time, it has been suggested that the development of a single set of rules for the EU for M&As operations would facilitate SMEs in the use of such tools. As one interviewee stated, "cross-country mergers and/or acquisitions should have common rules, as in, one single legislation, since it makes no sense that any different pair of a merger or an acquisition can be treated differently depending on the countries the (two) partners are based in. Secondly, mergers and acquisitions should not be taxed, anywhere in the Union, and thirdly they should probably also be incentivized through tax reliefs and further exemptions, so as to promote internal-market integration".

To summarise it is possible to state that while CIT rates might affect the investment potential of SMEs, this does not affect the actual investment decisions of entrepreneurs.

8.6. Impact of CIT deductions, allowances, incentives, depreciation schemes

In addition to the statutory CIT rate, special provisions, such as deductions, allowances, tax incentives, depreciation schemes, can affect the way entrepreneurs behave in order to make use of such opportunities. These provisions are often not SME specific and thus affect both LSEs and SMEs. Nevertheless they may have different effects on companies of different size (e.g. due to the ability of these companies to benefit from the provision).

Some recent research in particular has begun to focus on tax planning, or how companies expand after-tax profits by adjusting to tax policy through financial arrangements within related enterprises. Tax planning for instance exploits differences in countries' tax policies and often involves sophisticated arrangements wherein companies create one or more subsidiaries for the purpose of shifting income from high to lower tax jurisdictions.

Similarly, tax incentives have become a popular instrument to support research and development (R&D) activities of companies. They offer a reduction to companies' tax burden depending on the volume, or increase, of the enterprise's expenditure on R&D. The popularity of this instrument arises from the fact that it is rather simple to implement through the existing system of CIT, implying low additional administrative costs both at the side of authorities and enterprises¹⁵¹. In addition, R&D tax incentives are neutral in terms of the content of R&D activity being supported, and they reach out to all types of companies, including small companies and service companies. This instrument provides a reliable base for financial planning and R&D decisions of companies. There are several options to design R&D tax deductions, such as carry-forward or cash refund possibilities.

Depending on the system of CIT, tax incentives may be designed either as an allowance or as a credit. However, compared with government financing and/or conducting the R&D program directly, some scholars found that fiscal incentives are ineffective in raising private R&D spending, with very low response rates by companies¹⁵².

¹⁵¹ See Köhler/Rammer/Laredo (2012), p. 3.

¹⁵² See Hall/Van Reenen (2000).

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8.6.1. Prevalence of specific provisions in CIT codes

Compared with LSEs, taxes may play a more important role in the cost structure of SMEs because they do not have the financial and human capacity to develop sophisticated tax minimisation strategies. As a result, some countries have special tax provisions available for investments undertaken by SMEs. For instance, SMEs in the Czech Republic can take advantage of a reduced 15% CIT rate for companies granted High and New Technology Enterprise (HNTE) status for periods of three years¹⁵³ that can be renewed. Japanese SMEs may take advantage of either an investment tax credit of 7% or an additional depreciation of 30% for the acquisition of qualifying machinery or equipment¹⁵⁴. Belgium also allows more generous investment deductions for small corporations than for LSEs. Finland, Spain and the UK allow more generous depreciation allowances for investments made by SMEs¹⁵⁵. Similarly, the USA permits additional expensing allowances to qualifying property owned by small corporations under section 179 expensing¹⁵⁶.

8.6.2. Impact of SME specific provisions

While specific deductions, allowances, incentives and depreciation schemes in the tax code are relatively popular across many countries, the impact on SMEs as compared to LSEs is not always clear. As shown in Figure 8.11 according to the respondents to our tax adviser questionnaire, slightly more than half of tax advisers consider that special SME rates or tax incentives do not affect the behaviour of companies depending on their size. In other words, for a majority of tax advisers in our sample, there is little impact beyond an immediate improvement of cash flow for smaller companies taking advantage of specific provisions. At the same time, a sizeable minority suggests instead that companies are affected by SME specific provisions depending on their size. The situation is reversed for tax planning opportunities where a majority of the responding tax advisers discern differences in impacts on companies depending on their size. While the survey did not investigate further how these impacts manifest themselves in individual companies, it is difficult to elicit clear answers in company interviews (mainly because most entrepreneurs do not know whether and how they might have behaved in the absence of such SME specific provisions).

¹⁵³ See Deloitte (2014), p. 14.

¹⁵⁴ See (2002), p. 11.

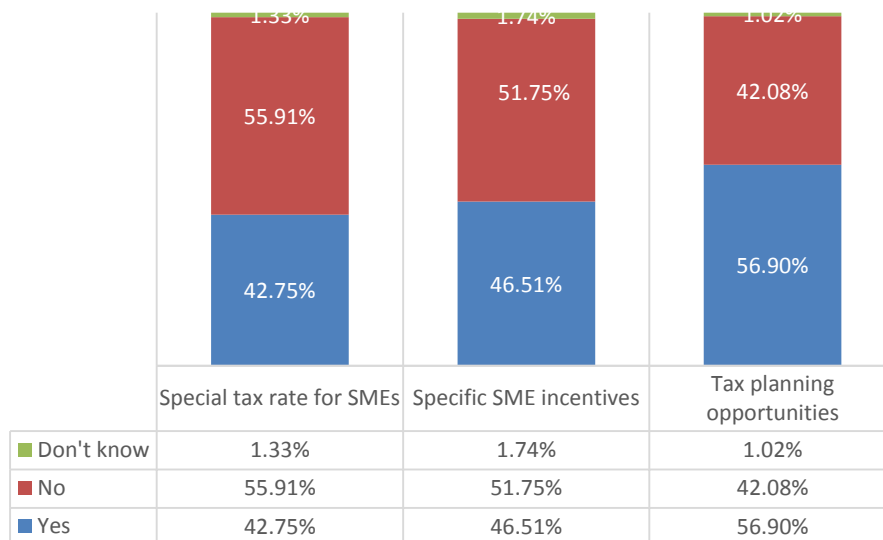
¹⁵⁵ See OECD (2014).

¹⁵⁶ See www.irs.gov/publications/p946/ch02.html.

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Figure 8.11: Do these drivers affect the overall behaviour of enterprises depending on their size? (195 respondents)

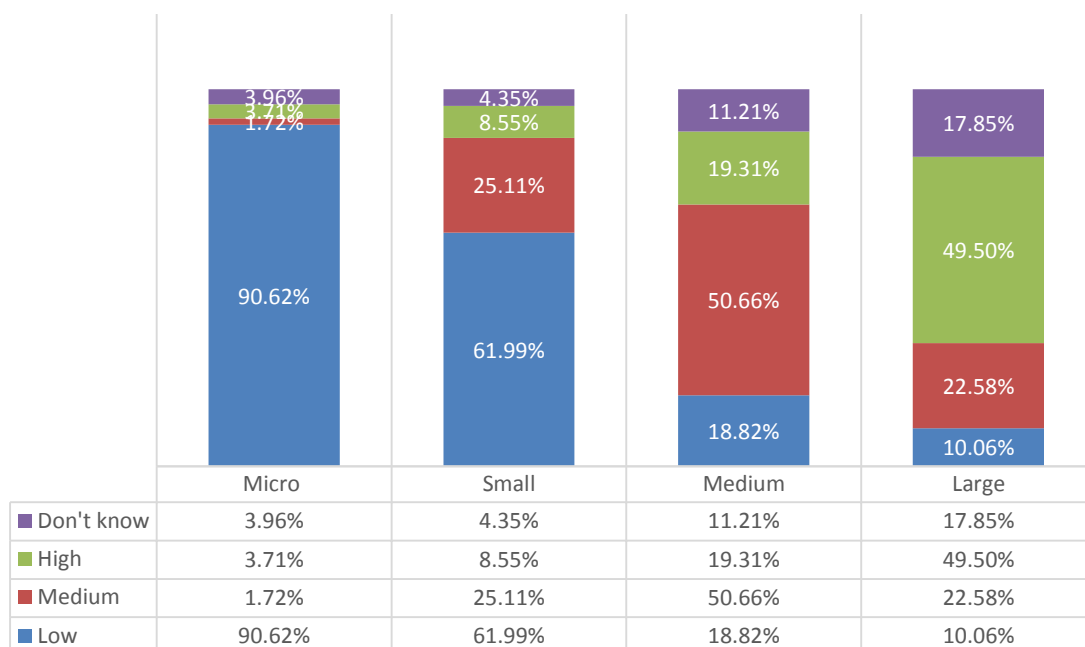


Source: Tax Advisers Survey

Figure 8.12 illustrates the size impact of the SME provisions in greater detail. Indeed, tax advisers in our sample suggested that the smallest companies benefit (or make use of) the least of the specific tax provisions aimed at them. More than 90% of respondents suggested that micro-companies derive low benefits from such provisions compared with more than 50% of advisers who thought that medium-sized companies derive at least a low benefit.

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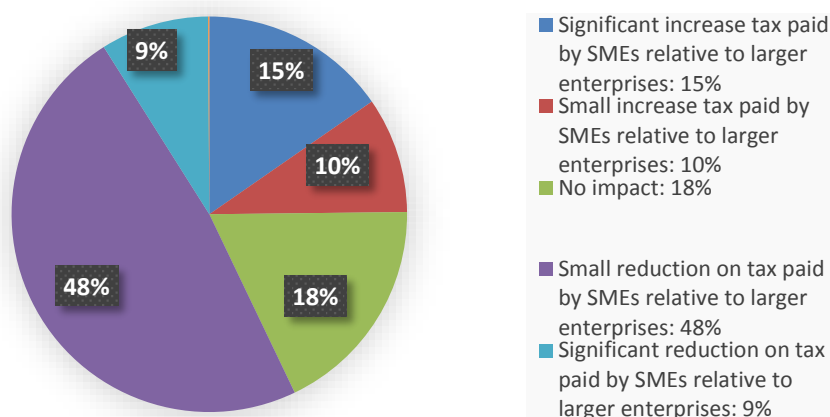
Figure 8.12: To what extent enterprises of different sizes benefit from (make use of) CIT deductions on investments (e.g. R&D or other investment) in practice? (129 respondents)



Source: Tax Advisers Survey

Going into further detail, Figure 8.13 shows perception amongst our sample of tax advisers of the effects of CIT deductions for investment on the effective tax rates for SMEs. According to this result, 57% (48% + 9%) think that SMEs obtain at least a small reduction in taxes compared with LSEs. At the same time, 25% think that SMEs are at a disadvantage as a result of such provisions and 18% think this kind of provision in the tax code has no differential impact on companies depending on size.

Figure 8.13: What is your perception of the impact of CIT deductions for investments (e.g. R&D or other investment) on the effective tax rate for SMEs? (141 respondents)



Source: Tax Advisers Survey

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8.6.3. Impact of R&D tax incentives on SMEs

Among all deductions, R&D incentives have enjoyed particular popularity and media coverage in recent years due to their presumed correlation with innovation and competitiveness.

Tax incentives for R&D are often considered to have some advantages over direct support for R&D, including procurement of R&D or grants. They are a market based tool that aims at reducing the marginal cost to enterprises of R&D activities, leaving companies to decide on which R&D projects to fund.

Tax incentives for R&D include expenditure-based tax incentives – most importantly R&D tax credits, R&D tax allowances and payroll withholding tax credit for R&D wages – and income-based tax incentives – most importantly regimes that tax royalty income and other income from knowledge capital at a preferential rate.

Design features of R&D tax incentives include the type of tax on which the incentive is based, what R&D expenditures qualify for a tax reduction (total volume of increase over a reference base; all categories of R&D expenditure or only intramural, extramural, personnel expenses; exact definition of R&D), the target group of beneficiaries, and whether unused claims can be carried over or refunded in cash. There are four types of R&D tax incentives:

- Accelerated depreciation schemes for investments (machinery, equipment, buildings, and intangibles) used for R&D activities. This has been for instance the case for Italy, which was one of the first to start such a scheme.
- Special R&D allowances enable enterprises to deduct more than 100% of their current eligible R&D expenditures from their taxable income. This is the case for the UK where two levels of deduction are offered: 130% for enterprises in general, and 175% for SME.
- Special exemptions of wage and/or social taxes for employees in R&D activities. The Dutch scheme WBSO¹⁵⁷ allows the deduction of R&D labour costs only.
- Tax credits allow enterprises to directly deduct a specific share of their R&D expenses from the CIT liabilities. This type of R&D tax incentive is currently the most widespread.

8.6.3.1. Prevalence of R&D tax incentives

In recent years, a number of European countries have introduced specific reliefs for revenues arising from intellectual property:

- Ireland has had longstanding favourable treatment for revenues arising from the exploitation of intellectual property rights¹⁵⁸.
- The Netherlands taxes net income from self-developed patents and software at 5%. Belgium provides an 80% exemption from net income for self-developed patents resulting in an effective tax rate of just below 7%¹⁵⁹.
- Luxembourg has a similar approach under which such income is taxed at approximately 6%. Spain takes a different approach in that it exempts 50% of

¹⁵⁷ See <http://english.rvo.nl/subsidies-programmes/wbso-rd-tax-credit-and-rda-research-and-development-allowance> .

¹⁵⁸ See www.eip.com/downloads/eip_patent_box_2011.pdf .

¹⁵⁹ See www.eip.com/downloads/TAX_patentbox_feb12.pdf .

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revenues from tax but allows expenses to be deducted in full resulting in an effective tax rate much below its headline corporation tax rate¹⁶⁰.

- The Patent Box in the UK is a scheme that appears to be particularly successful and popular among British companies. Under the Patent Box regime companies will be taxed on profits arising from the exploitation of the patents and other qualifying rights at 10% instead of the normal Corporation Tax rate¹⁶¹ (21% rate for 2014).
- In Austria, incentives available for research intensive entities include a 10% volume-based tax credit on all qualifying R&D related expenditures, even if the company is in a tax loss or low profit position. This benefit is refundable to the extent the credit exceeds the amount of the tax liabilities. Data gathered through the interviews shows that small companies in Austria not only have a good knowledge of the opportunities coming from the tax incentives for R&D but often they have increased their investments in research and development activities. The reason behind that choice was that in absence of the tax deductions they would not have had the necessary resources to invest in new projects¹⁶².

8.6.3.2. *Impact on SMEs*

Many large multinational companies are already holding their patents in tax efficient ways. By contrast, SMEs usually do not implement complex international tax planning and for them specific regimes such as a patent box could represent significant extra relief from their corporation tax liabilities. For some of these companies (but only the most innovative and research intensive) tax planning could be a valuable resource to reduce their income tax base.

Indeed, empirical evidence in other studies suggests that smaller companies are more responsive to R&D tax incentives¹⁶³. As one interviewee suggested, “deductions play an important role especially in the R&D division, which therefore has been positively influenced by such allowance schemes”. Similarly, another interviewee indicated that “we simply invested a lot in R&D and I believe we would have done much less lacking those premiums/deductions” and a third company suggested that while “my enterprise’s success in terms of economic growth was more due to the quality of the research projects we carried out, the three R&D grants we benefited from were a clear-cut asset in achieving that growth”.

At the same time, it should be noted that tax incentives are only one of many factors that drive investment in R&D. As one company suggested, “we benefit from R&D credits, but we would invest anyway. R&D decisions are based solely on business needs”. In addition, another interviewee indicated with specific reference to EU policy that, “Deductions are not relevant if they are not well targeted. However, for example, when they are implemented in the context of partnerships between SMEs and universities they can prove useful. These must be particularly important with respect to some important assets (servers, laptops, patents, trademark registration). The European Commission should promote innovation, not R&D”.

¹⁶⁰ See <http://www.luxembourg.public.lu/en/investir/propriete-intellectuelle/index.html> .

¹⁶¹ See <https://www.gov.uk/government/policies/making-corporate-taxes-more-competitive/supporting-pages/innovation-and-investment> .

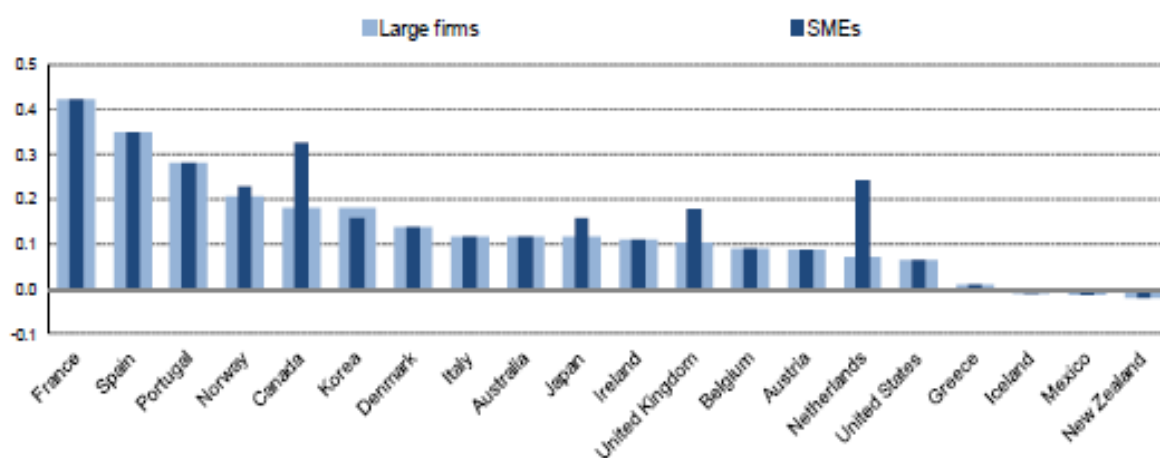
¹⁶² See Deloitte (2012), p 3.

¹⁶³ See e.g. Lokshin (2007), Hægeland/Moen (2007) and Baghana/Mohnen (2009).

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In addition to the benefit to the company carrying out the R&D, from a taxpayers' point of view it is important to consider the cost of implementing such R&D related incentives. The overall costs associated with the R&D tax incentives schemes depend both on the uptake of the scheme by companies and on the design of the tax incentives. Significant differences exist in the generosity of R&D tax incentives across countries and within countries between small companies and LSEs. Figure 8.14 shows that for every USD invested in R&D the tax subsidy ranges from 0.4 cents in France (with no difference between SMEs and LSEs) to less than 0.1 cents in the Netherlands where there is large difference between SMEs and LSEs¹⁶⁴.

Figure 8.14: Tax treatment of R&D: Tax subsidy rate for USD 1 of R&D, LSEs and SMEs, 2008 values



Source: OECD, *The International Experience with R&D Tax Incentives*, 2011

Despite the cost, most evaluations find significant input additionally for R&D tax incentives in the short run. Positive effects are found for different types of R&D tax incentives, as well as for tax credits, tax allowances and for schemes that address CIT and social security contributions. One may thus conclude that R&D tax incentives are a useful tool to stimulate private R&D and raise the level of business R&D expenditure to a higher level.

In particular comparing the overall amount of investments made through the use of such schemes and investment figures if tax incentives were not in place, it is possible to say that under certain conditions, SMEs can benefit more than LSEs from these instruments. Evidence from case studies and desk research suggests that entrepreneurs tend to implement more R&D projects in response to tax reductions. At the same time, it is not clear (and very difficult to measure) the extent to which they lead to high quality research outputs that would not have been generated otherwise.

¹⁶⁴ It should be noted that these figures refer to year 2008.

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8.6.4. Impact of depreciation mechanisms on SMEs

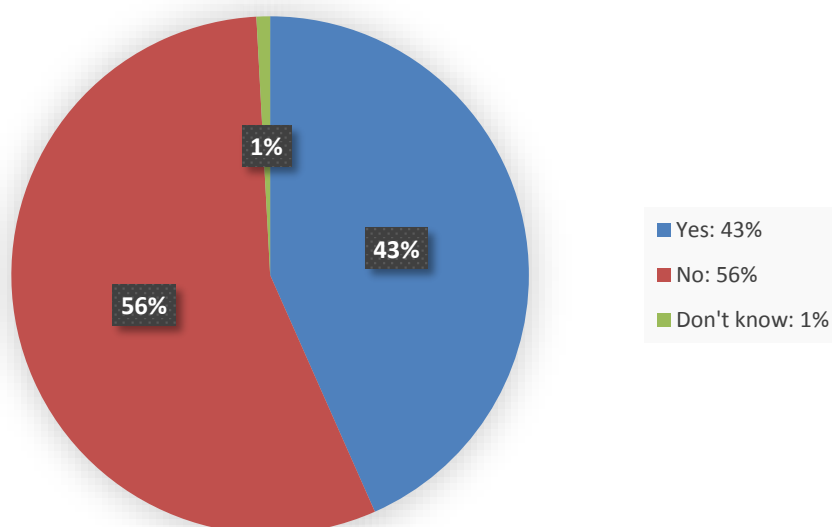
Finally, depreciation is one of the important factors affecting company investment decisions because it is deducted from a gross stream of return generated from the asset when calculating tax profits.

Different depreciation mechanisms are applied in Europe. For example:

- In Finland buildings and other constructions are depreciated by using the declining balance method. Depreciation for each building is calculated separately, with the maximum percentage varying from 4% to 20%, depending on the type of construction. Depreciation of machinery and equipment is calculated using the declining balance method with a maximum rate of 30%. Patents and other intangible rights, such as goodwill, are amortised on a straight-line basis for ten years for tax purposes, unless the taxpayer demonstrates that the asset has a shorter useful life. Assets with a useful life of less than three years may be written off using the free depreciation method, i.e. deduct up to 100% of the costs of assets in a single tax year¹⁶⁵.
- In the Netherlands tax depreciation on real estate is limited so that the written down value cannot be reduced below certain limits. In practice this will mean that depreciation of real estate used for investment purposes cannot be depreciated below its value for real estate tax purposes. For real estate used in a business, the limit will be 50% of the value for real estate tax purposes¹⁶⁶.

As Figure 8.15 shows that according to the tax adviser survey 43% of respondents indicated that there were accelerated depreciation schemes for assets compared with 56% who said these did not apply in their country.

Figure 8.15: Does the fiscal system in your country include accelerated depreciation rates for particular assets? (136 respondents)



Source: Tax Advisers Survey

¹⁶⁵ See <http://www.pkf.com/media/1954368/finland%20pkf%20tax%20guide%202013.pdf> .

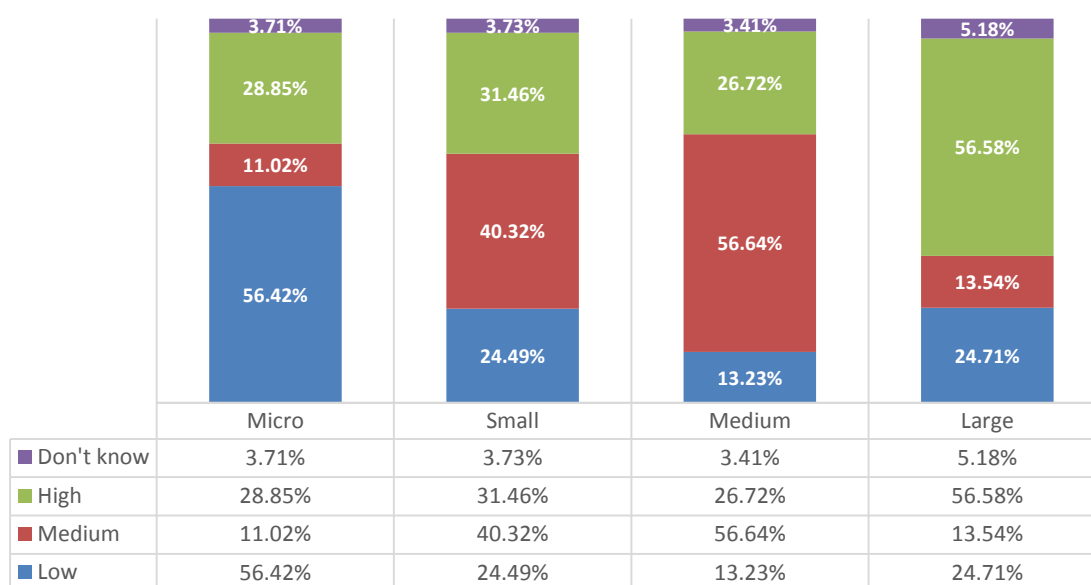
¹⁶⁶ See <http://www.srlaccountants.nl/english/services/tax/corporate%20tax.html> .

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Following on from the above, in Figure 8.16 the majority of advisers responding to our survey suggested that depreciation schemes are particularly helpful (with 56% of respondents saying they have a medium impact and 26% high impact) for medium-sized enterprises while only 13.23%, indicating that they had a low impact, compared with 56.4% who chose this answer for the smallest companies (micro-companies). Clearly, the highest impact is perceived to accrue to the LSEs with more than half of respondents indicating a high impact for this type of company.

Figure 8.16: Impact of accelerated depreciation rates on different size enterprises (80 respondents)

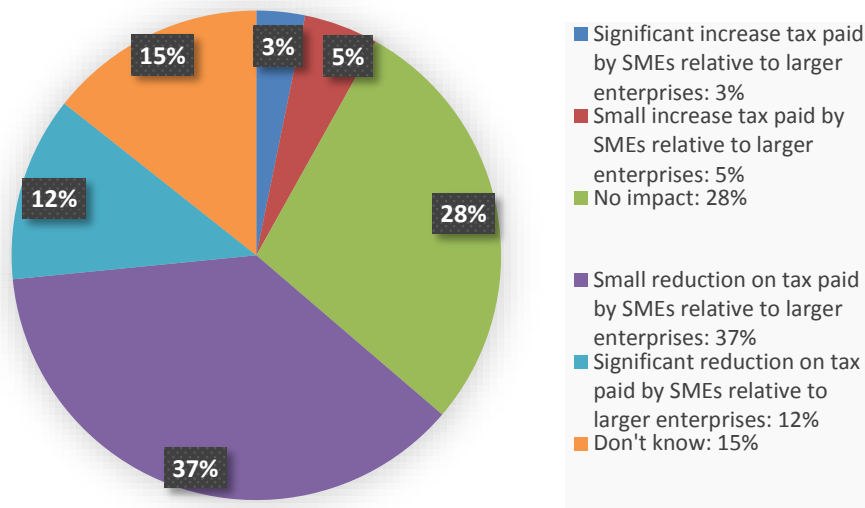


Source: Tax Advisers Survey

Finally, the survey also shows (Figure 8.17) that 49% (12% + 37%) of respondents suggests that accelerated depreciation rates have at least a small positive impact on the tax burden of SMEs compared with LSEs, compared with only 8% (3% + 5%) who suggest that these mechanisms present a disadvantage for SMEs.

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Figure 8.17: What is your perception of the impact of accelerated depreciation on the effective tax rate for SMEs and LSEs? (134 respondents)



Source: Tax Advisers Survey

These results are confirmed by interviews with companies where it emerges that small entrepreneurs find depreciation mechanisms to be particularly useful, in particular because “spending on machinery and other items subject to depreciation is extremely important” for SMEs in certain sectors. As a result, “the deductibility of depreciation expenses for assets [...] did help us grow faster” and “accelerated depreciation [...] just leaves us with more money to finance our operations [...] because key assets to be used in these operations, such as IT and communication, are less of a cost”. Another interviewee confirms that “depreciation of tangible assets increases our amount of liquid money available for current, every-day operations” and yet another company indicated that special depreciation rates are “very important for machinery, equipment and they can be used for the training of employees (over multiple years) and for advertisements”. As a result “depreciation can play an important role in affecting investment decisions”.

At the same time, some interviews also indicated certain scepticism with respect to the impact of depreciation on investment decisions. When asked if the presence on depreciation schemes had any influence on acquisition decisions, another company replied, “as an entrepreneur, you do not suddenly buy a machine or something, today instead of tomorrow, just because you can depreciate it. You buy one if you need it.” Similarly, another interviewee suggested that “In heavier industry, depreciation schemes will have an effect. However, in lighter industries such as software and IT, this is not as great.”

8.7. Impact of CIT on administrative burden and compliance costs

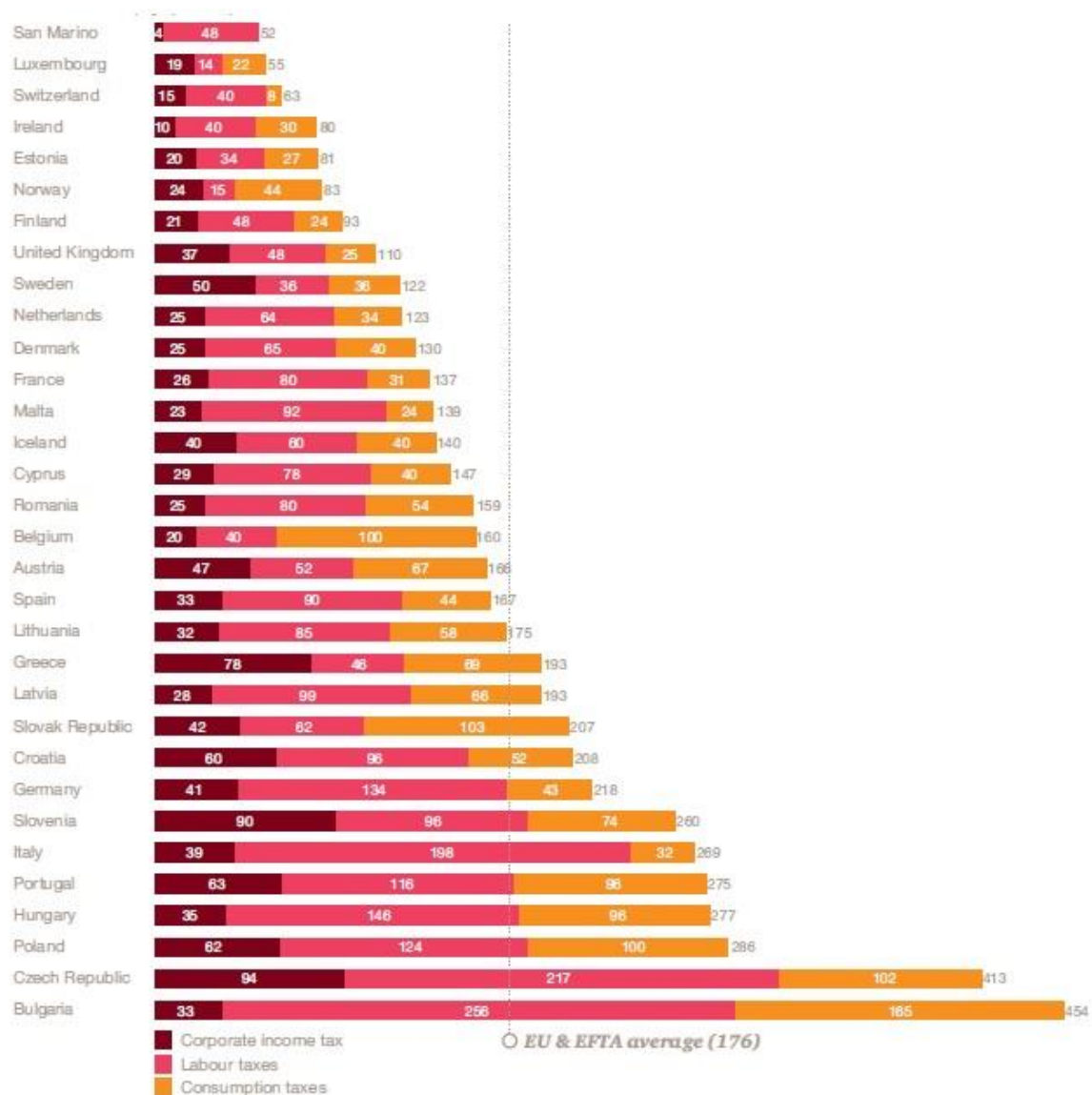
The CIT system imposes costs on corporations beyond the revenue that is collected. In particular, corporations expend significant resources in keeping tax records, researching the tax laws, filing returns, responding to audits, and launching appeals. Ultimately, these costs translate into a lower return on companies’ investments, reduced employment compensation, and/or higher prices for the products they produce.

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Figure 8.18 shows the time required to comply with different types of taxes across the EU/EFTA. Time required for CIT compliance is significantly lower than for other types of taxes such as labour or consumption taxes (despite reductions in the administrative burden of these other types of taxation). In the EU and EFTA region companies, and in particular SMEs, allocate on average 37 hours to tax compliance procedures for CIT, compared with about 84 hours for labour taxes and about 55 hours for consumption taxes).

Figure 8.18: Time to comply in the EU & EFTA by type of tax



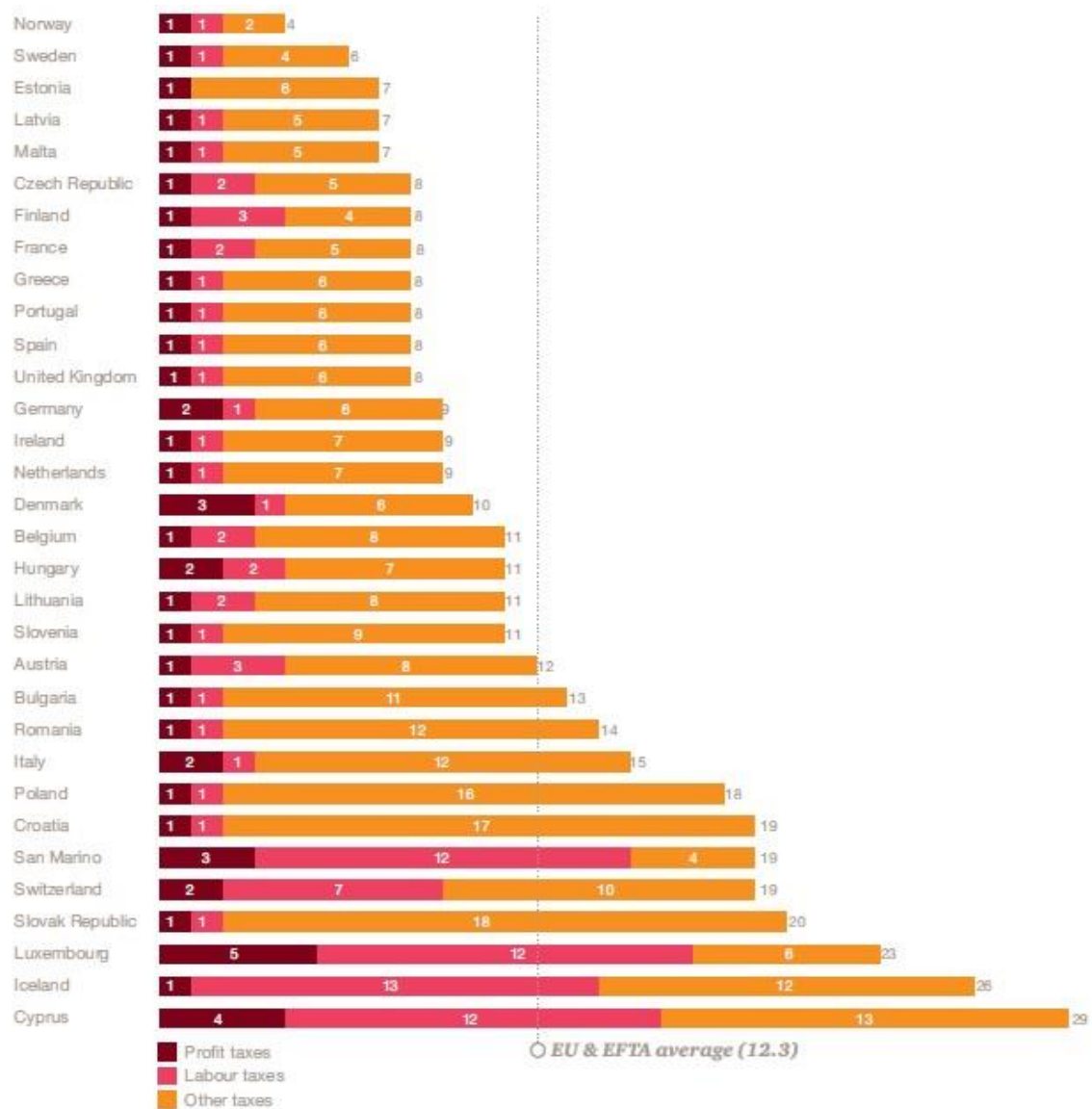
Source: *Paying Taxes 2015, World Bank Doing Business, 2015*

Figure 8.19 gives an indication of the number of payments and time spent on tax compliance across the 20 countries covered in the study. The average number of tax payments is 1.5 for profit taxes, 2.8 for labour taxes and 8 for other taxes. Clearly there are large differences across the EU, not just in terms of the rate to be paid but also in terms of the amount of human and administrative resources required for tax compliance.

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Figure 8.19: Number of payments in the EU & EFTA area in 2015



Source: *Paying Taxes 2015, World Bank Doing Business, 2015*

SMEs are more heavily impacted by tax compliance obligations than LSEs are. Our case studies have found that the vast majority of SMEs rely on outside professional assistance to comply with their CIT. Smaller corporations are likely to lack the technical knowledge to properly complete an income tax return, may not be familiar with recent tax changes and would in all probability find it cost-inefficient to attempt to develop this expertise internally. Furthermore, economies of scale suggest that the costs of such compliance are higher on a per sales basis for SMEs than for LSEs.

Although the availability of outside tax assistance reduces the overall compliance burden (at least in terms of time allocated) for these companies, the cost of this assistance and the time needed to complete all the procedures are commonly reported sources of compliance problems by SMEs across the case study interviews conducted for this study.

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Thus, in relation to profit taxes such as CIT, the main comment from companies themselves related to the need to make paying taxes as easy as possible. The presence of a "one-stop-shop" system is usually considered as good way to ease the procedures and decrease the burden enterprises face. Also the provision of the use of the internet to pay taxes can be a major driver to simplify tax compliance for SMEs.

8.8. Summary of conclusions

The qualitative part of the analysis run in the context of this project aimed at investigating the impact of CIT on SMEs based on interviews and a survey of tax advisers. More specifically the goal was to understand the perception that entrepreneurs have about the effects that CIT rates, provisions, allowances etc. have on their companies and the business strategies they develop and implement on the market in different phases of the company life cycle. The findings of this section, therefore, provide a qualitative / anecdotal picture of companies' perceptions regarding CIT.

Generally CIT is seen by entrepreneurs as one of many tax and non-tax related factors that impact on entrepreneurial activity and business performance. However, compared with other types of taxes, corporations of different sizes tend to be less worried about CIT than about input taxes such as labour taxes or social security contributions.

When dealing with issues related to access to finance, financial or legal structure of their companies, entrepreneurs tend not to base their choices on CIT, but on various non-tax factors, such as entrepreneurial culture and background, credit availability and strategic decisions related to their positioning on the market. However, legal structures can be affected by the difference between PIT and CIT rates.

A very similar conclusion can be drawn with regard to growth decisions. SMEs tend to develop and design business strategies based on their priorities, the market, the competition, the positioning of their products and innovation opportunities. However, there is some evidence that CIT reduces investment and therefore growth.

R&D tax incentives, deductions and special or accelerated depreciation rates are very important tools for companies. Although they tend to benefit LSEs to a greater extent they can also provide significant advantages for SMEs.

Finally, micro companies and SMEs are slightly more affected (though it is not possible to calculate the difference in percentage) than LSEs by the administrative and compliance costs surrounding CIT. The vast majority of SMEs rely on outside professional assistance to comply with their CIT, because they are usually too small in terms of human resources to have the necessary knowledge and expertise available internally.

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9. KEY FINDINGS AND RECOMMENDATIONS

In the first section of the study, the financial ratio analysis examines and compares key financial indicators for SMEs and LSEs in the sample countries. It provides first evidence that effective tax burdens for corporations across Europe are significantly different from one country to another. While Italy, Germany, Finland and Belgium exhibit some of the highest fiscal burdens, Ireland, Estonia and Bulgaria can be found at the other end of the spectrum and provide corporations with comparably low effective burdens. Moreover, the financial ratio analysis indicates that only five countries (France, Greece, Bulgaria, the UK and the Netherlands) treat SMEs more beneficially than LSEs with respect to effective tax burdens. While it is not possible to identify a clear pattern in the effective tax burdens that SMEs and LSEs face in the countries in the sample, the sectorial analysis shows that enterprise size affects companies' tax burden in the construction, hotels and restaurants and manufacturing sectors, while in the commercial sector there seems not to be a particularly high difference between SMEs and LSEs.

In the next section of the study, the qualitative analysis provides an overview of applicable tax incentives for SMEs and compares them to those tax incentives in place for R&D activities. In general, SME tax incentives are not as frequently implemented as R&D tax incentives. The most common form of relief for SMEs is a reduced tax rate. Reduced tax rates exhibit quite unfavourable properties as they introduce additional distortions to the tax system and insufficiently target the kind of corporations that should be targeted by SME tax incentives. Tax credits, additional deductions on expenditures incurred and accelerated depreciation schemes, on the other hand, are less frequently utilized and if applied, eligibility criteria are often very restrictive (i.e. only corporations from certain industries, activities or regions are eligible). In contrast to that, R&D tax incentive schemes predominantly include tax credits and additional deductions on investment expenditure incurred. Moreover, they tend to be applicable to a much wider range of corporations.

Interestingly, Member States do not uniformly limit the eligibility to SME tax incentives by referring to the criteria and threshold values proposed by the SME definition of the European Commission (number of employees, turnover and balance sheet total). This is particularly true for special tax rates that are almost exclusively bound to income thresholds. Also, our analysis shows that discrimination between medium-sized, small and micro enterprises takes place. In fact, most incentives only benefit micro and small enterprises, whereas medium-sized corporations remain mostly unaffected.

The quantitative analysis confirms these findings. Using the European Tax Analyzer as well as the Devereux-Griffith model to estimate effective tax burdens, we find medium-sized corporations to virtually benefit exclusively from R&D tax incentives (with reductions ranging from 0.93% in Luxembourg to 25.24% in Ireland), whereas small corporations additionally incur relief from SME tax incentives between 2.54% and 29.47% in five Member States (Belgium, France, Ireland, Spain and the UK). Benefits for micro companies occur even more frequently and usually are even more generous (reductions up to 53.05% in Lithuania). There is, however, no clear evidence for SME-related tax competition among Member States.

Moreover, the quantitative analysis indicates that R&D tax incentives are more advantageous for SMEs compared to LSEs due to restrictions concerning maximum absolute reliefs. LSEs, on the other hand, can circumvent high tax burdens with the help of optimized location and financing strategies. In many Member States, the latter more than offset the advantages incurred by small and micro corporations due to SME tax incentives.

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In the last major section of the study the impact of the CIT on company life and business strategies is examined by means of case studies and a tax adviser survey. Both inquiries indicate a rather moderate impact of the CIT on entrepreneurs' decision-making. When dealing with issues related to financing, legal structure or investment decisions, entrepreneurs perceive their decisions to be largely based on non-tax factors, such as entrepreneurial culture, credit availability and market positioning rather than on tax considerations. At the same time, extensive empirical literature has found tax provisions to impact financing and the choice of legal form as well as investment decisions. In particular, a positive impact on the level of investment has been shown for R&D tax incentives. The conducted interviews confirm these findings, as entrepreneurs report that investment deductions, accelerated depreciation schemes and other incentives helped them to invest more and considerably lowered their tax burdens.

Another important issue surfacing in the case studies was the compliance burden related to corporate taxation. Evidently, the compliance burden of corporations decreases with size. This is mainly due to the large share of fixed costs related to tax compliance and the requirement for outside professional assistance for most SMEs as most of them do not have the human resources to cope with the CIT and other business taxes by themselves.

Altogether, the following **key take-aways** emerge from the analysis and need to be considered when inferring policy recommendations with regard to SME tax policy:

- SME tax incentives do not neutralize the advantages of international tax planning activities of LSEs. Especially medium-sized corporations, which are most likely to directly compete with LSEs, remain almost unaffected by country-specific SME tax incentives.
- SMEs themselves are more concerned about the complexity of tax codes and related compliance costs than about the absence of tax planning opportunities. Moreover, case studies and surveys indicate that SMEs particularly appreciate tax incentives which facilitate investments and growth.
- Most SME tax incentives add complexity and distortions to tax codes, mainly due to comprehensive eligibility restrictions based on size, income and other factors.
- Special tax rates are the most common form of SME relief. Eligibility to these tax rates is linked to the income instead of investment levels. Hence, special tax rates only provide limited incentives for SMEs to pursue additional investment opportunities.

These findings lead to the following overall **policy recommendations** with regard to SME tax incentives for the Member States:

- **First of all**, we do not recommend to base tax incentives explicitly on the size of corporations or their incomes. Not only does this provide corporations with tax planning opportunities, but it may even constitute a disincentive to grow beyond such size thresholds. Instead, incentives should focus on encouraging "desirable" outcomes such as innovation, investment and growth.

In developing good practices for SME tax incentives, the following criteria should guide tax legislators:

- *Effectiveness*: The tax incentive should provide enterprises with increased liquidity and enable additional investments and growth.
- *Neutrality of the tax system*: Enterprises should benefit from the incentive irrespective of their legal form. Moreover, the growth of enterprises must not be hampered. Eligibility thresholds relating to the size of enterprises provide

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an incentive to remain small. Hence, tax incentives with exclusive eligibility for SMEs introduce additional unwanted distortions to the tax system.

- *Transparency for investors:* The size of the relief should be foreseeable and predictable for entrepreneurs and investors. This enables them to appropriately consider the relief when making investment decisions.
 - *Manageability for tax legislators:* The losses in tax revenue should be foreseeable. Moreover, administrative costs need to be manageable.
- **Secondly**, an appropriate tax instrument to support the development of SMEs would be a tax credit that is granted as a certain percentage of qualifying investment costs (e.g. acquisition costs of certain assets). Such tax credits are frequently implemented in the context of R&D tax incentives. The tax credit should be limited to a maximum amount. In addition to limiting revenue losses, this secures a relatively higher relief for SMEs compared with LSEs. By determining the applicable percentage as well as the maximum amount of relief, each Member State could individually determine how generous the incentive shall be and up to which size enterprises shall benefit considerably from such a measure.
 - **Thirdly**, policy makers should rather ensure an equally low level of taxation as well as fair, transparent and simple tax codes instead of targeting SMEs exclusively with specific tax measures. In doing so, the general business environment for all kinds of investments including SMEs is improved, while avoiding further complexity and tax planning opportunities.

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