



The Cost of Capital: An International Comparison

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314.00	Dana Petrim	955.00	-13.00	-	12.5	831.50	108.50	Berna Gold	284.00	+7.50
427.25	Davis Service	451.00	+4.75	3.8	14.6	394.75	254.00	Benfield	365.00	+2.50
350.50	De La Rue	520.50	-4.00	3.2	16.7	1211.00	799.00	Berkeley Group	1139.00	+29.00
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Foreword

Michael Snyder
Chairman, Policy and Resources Committee
City of London

Earlier this year in a policy paper entitled *Financial Services in London: Global Opportunities and Challenges*, HM Treasury analysed the factors underpinning London's position as the world's leading international financial services centre. It explains that, 'to ensure that the competitiveness of the overall business environment is not undermined, it is essential that the UK's regulatory regime for financial services, and its administration of tax and areas of business regulation, are transparent and responsive to changing business demands. Government policy needs to respond swiftly and flexibly to the development of new financial products and to the emergence of new business structures.'

The Chancellor, Gordon Brown, in his Foreword recognised that supportive public policy is extremely important to London's competitive position, noting that 'it is the Government's ambition to ensure that, through London's international markets, Britain strengthens its position as unambiguously the world's leading centre for international finance'. Yet if we are to maintain this lead, we must first measure our position relative to our competitors in order to identify areas requiring further policy attention. I am therefore delighted that this new piece of research, undertaken for us by Oxera Consulting, assists in this task by comparing the cost of listing and raising capital on different exchanges in Europe and the United States.

Oxera's independent conclusions suggest that on an array of measures – from IPO costs, trading costs and perceived corporate governance standards - London offers a highly competitive environment in which to conduct business relative to its major challengers. The pool of liquidity, availability of capital, technology platforms and the quality of research concentrated in London all contribute to its success. Yet as the research makes clear, there are some downsides.

This report provides a salutary lesson for governments in their attempts to create more intensive regulatory environments for business. Benefits must be set against the costs that companies incur when complying with rules and standards, and it is very easy to tip this balance in the wrong direction through disproportionate regulation. As this report shows, the Sarbanes-Oxley corporate governance reforms in the United States have increased the compliance costs of a US listing with no significant benefits beyond those that already apply under the London regime.

As international competition becomes more intense, competitive and efficient trading exchanges, underpinned with proportionate regulatory environments, matter even more. I hope this report contributes to the debate as to how we can best promote open, transparent and competitive markets in financial services so that London can remain at the heart of these developments. Moreover, I trust the report provides new comparative insights which will assist the Chancellor and his City of London taskforce in their efforts to promote our financial services globally and to further boost the case for making Britain the location of choice for international business.

Michael Snyder
London
June 2006

Foreword

Chris Gibson-Smith Chairman, London Stock Exchange

Equity markets are undergoing profound change. The development of complex trading strategies coupled with a step change in technological innovation has put serious pressure on traditional market structures. The response of exchanges will not only determine their future survival but the cost of capital available to their listed companies.

The decision at the London Stock Exchange in 2003 to overhaul its technology has enabled us to increase the speed of transactions, fuel liquidity and reduce costs for investors and companies alike. Our intention is that innovation and investment by us, and market participants, will create the most advanced exchange platform of any central market place, and will ensure that London reinforces its lead as the place to trade equities in Europe and, increasingly, globally.

Maintaining London's advantage is especially important as financial markets globalise and barriers to international investment reduce. As companies and investors access overseas markets with fewer and fewer restrictions exchanges must be able to offer the most competitive marketplace.

This report outlines many of our achievements in lowering the costs of listing and trading and in the provision of capital. It acknowledges that our cost of capital, both for IPO issuance and direct cost of trading is lower than our major rivals. It highlights that our standards of corporate governance are the best in the world and strengthen investor confidence in our Main Market. Furthermore, it underlines the success of AIM, the most successful growth market in the world, in offering unrivalled access to public equity capital at an earlier stage in a company's development cycle.

However, we must also be vigilant about future threats to London's competitive position. The report demonstrates, through the US experience with Sarbanes Oxley, that burdensome legislation can damage international competitiveness. The same is true of taxation. Although London has the lowest direct trading costs of all the exchanges in the sample, when Stamp Duty is added to the equation the picture is reversed. Stamp Duty is grit in the wheels of the UK market and the Government should take steps to abolish it.

We are delighted that this report highlights the progress we have made so far in delivering access to low cost capital for UK and international companies. Through technological advance and a focus on market integrity we are committed to strengthening further London's position as the world's capital market.

*Chris Gibson-Smith
London
June 2006*

Executive Summary

Oxera has been commissioned by the City of London Corporation and the London Stock Exchange (LSE) to conduct independent analysis of the costs of listing and raising capital in the London markets compared with other major financial centres. The study compares London's equity markets (the LSE's Main Market and the Alternative Investment Market, or AIM) with the other two major European stock exchanges (Deutsche Boerse and Euronext), and with the New York Stock Exchange (NYSE) and Nasdaq in the USA. Since the LSE provides for issuers that seek to raise equity or debt, the study also considers London's comparative position as a listing venue for corporate debt issues.

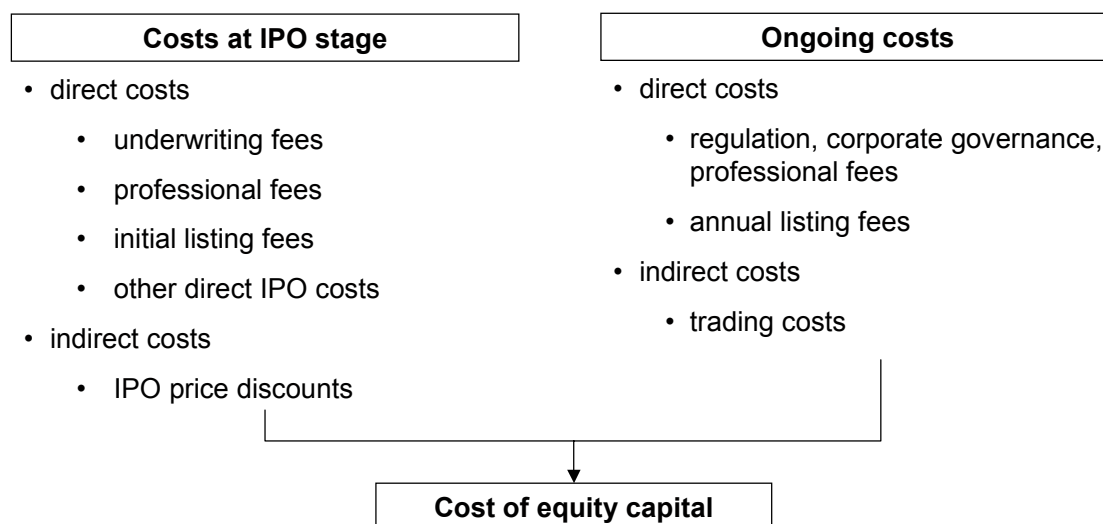
The comparative cost of raising equity in London

The European exchanges in 2005 raised more new money from initial public offerings (IPOs) and attracted more international IPOs than the US exchanges. The increase in European IPO activity was largely driven by activity on the LSE, in particular the AIM, which accounted for 52% of total European IPOs in the year. The LSE saw more IPOs than the US exchanges combined, and currently has the most active market in IPOs in the world.¹

Moving beyond evidence on actual equity-raising decisions, this study provides evidence on the comparative costs of listing and raising equity on the different exchanges.

The comparative analysis focuses on the costs that drive a wedge between the net return required by investors and the cost of equity capital faced by companies, including both the initial costs incurred at the IPO stage (or in subsequent issues) and the ongoing costs.

Figure 1 The costs of raising equity capital



Source: Oxera.

¹ PriceWaterhouseCoopers (2006), 'IPO Watch Europe—Review of the year 2005'.

No data points are available where companies have simultaneously raised equity on all the markets considered in this study; thus, most of the analysis is based on an aggregate assessment of costs incurred by companies that have actually decided to raise capital in the markets.

In relation to IPO costs, the evidence suggests that issuing equity on the London markets is cheaper than on NYSE or Nasdaq, mainly because of the systematically higher underwriting fee charged for US transactions. London's position in terms of measurable costs is similar to that of Euronext and Deutsche Boerse.

- **Underwriting fees** differ significantly depending on listing venue. While they are similar for transactions on the European exchanges (3–4% on average), on US transactions underwriting fees are significantly higher (fees of 6.5–7% are most common). On average, therefore, IPO receipts are more than 3% lower in the USA than in Europe. Underwriting fee differences also apply to equity issues after flotation.
- Other direct IPO costs include the **legal, accounting and advisory fees**, as well as the marketing and PR costs. Taken together, these add another 3–6% for many issuers, but depend on issuer-specific factors such as the amount of funds raised. No evidence was available to suggest that there are significant differences in these costs between the listing venues, although interviewees noted that professional fees in London tend to be higher than in Frankfurt and Paris, but not as high as in New York. The higher legal and auditing costs in the USA were largely attributed to the costs of complying with the Sarbanes-Oxley Act (SOx).
- **Initial listing fees** constitute a negligible amount of the total cost of raising equity on all exchanges—in general less than 0.1% of the amount issued. Annual fees paid to maintain a listing are also negligible compared with other costs.
- **IPO discounting** can be a significant indirect cost (often referred to as 'money left on the table'). For the average IPO, first-day returns amount to 10–15% or more. Estimates differ markedly across time and companies, making a cross-market comparison difficult. Overall, there is little evidence of systematic differences in discounting across exchanges. Importantly, the higher underwriting fees on US transactions do not appear to be compensated by lower IPO discount levels.

The cost of raising capital in public equity markets is also affected by the ongoing costs facing companies and their investors. These include, in particular, the direct and indirect trading costs in secondary markets, which have a negative impact on share valuations and the cost of equity. Comprehensive data on direct trading costs (brokerage commissions and exchange fees) and indirect costs (liquidity as measured by effective spreads or market impact) for the different markets is not available. However, trading cost data collected by Elkins/McSherry during 2004 and 2005 suggests that:

- The direct costs of trading (brokerage commissions and fees) incurred by institutional investors differ significantly across countries. The direct trading costs, excluding stamp duty, were between 0.7bp and 3.4bp lower on the LSE than on the other exchanges examined in this study.

- The ‘market impact’ measure of indirect trading costs (i.e., effective spreads) suggests that, over the period, NYSE had the lowest costs, followed by Deutsche Boerse, Euronext (France), the LSE and Nasdaq.
- Overall, total trading costs incurred by institutional investors in the sample were lowest on the NYSE (23.5bp), followed by the LSE (25.5bp excluding stamp duty). Total trading costs in France and Germany are similar (27bp), with Nasdaq ranking behind (30.8bp).

Markets differ in their **regulatory and corporate governance frameworks**. The impact on the cost of raising equity capital can be both positive (compliance with better framework signals quality and is valued by investors) and negative (stricter standards impose greater costs on companies).

- The UK is ranked as the leading country in terms of corporate governance. Accordingly, a listing on the LSE’s Main Market should deliver the greatest benefits in this respect, closely followed by the USA. The UK’s corporate governance lead over Germany and France is larger, indicating that a listing in London may deliver higher valuations and a lower cost of equity along this dimension.
- The recent US corporate governance reforms as part of SOx have increased the costs of a US listing. This may have improved governance standards in the USA, but there is no evidence to date to suggest that the new regime delivers benefits beyond those that apply under the UK regime. The rise in US compliance costs has therefore increased the competitive position of the London markets.

In practice, specific companies can incur costs that are very different from the overall costs observed in the market, depending on their size, industry affiliation and country of domicile.

- **Size**—most of the costs associated with raising equity in public markets decline in proportion to the size of the issue.
- **Industry affiliation**—by choosing to raise capital in a market with a strong clustering of analyst and investor expertise in a particular industry, companies may be able to achieve higher valuations and reduce their cost of raising capital compared with other markets.
- **Country of domicile**—stronger cultural integration between the place of raising capital and the country of domicile is likely to reduce informational problems on the part of investors, resulting in lower costs associated with raising capital. For example, companies from countries that are English-speaking or that follow the more Anglo-Saxon legal and institutional frameworks may incur lower costs of raising equity in the UK or US markets than on Euronext or Deutsche Boerse. Similarly, company-specific financial and economic links with the host country can explain capital-raising and listing decisions for specific companies.

Listing corporate debt in London markets

The listing of corporate debt on exchanges is mainly a European phenomenon. The main reasons for the prominence of listing in Europe are fiscal and regulatory requirements, as well as client guidelines set by European institutional investors that restrict investment in unlisted securities. The exchanges with significant international debt listings are the LSE's Main Market and its newly created Professional Securities Market, the Luxembourg Stock Exchange and the Irish Stock Exchange.

Unlike in the case of equities, the geographic location of a listing venue for debt securities is of little importance to the cost of issuing corporate debt in Europe. This is because listing is largely de-linked from other parts of the capital-raising process as well as from debt trading, and because the few costs that are directly associated with listing are small.

- The European corporate debt markets are international, with most of the debt issued being in the form of Eurobonds and Euro-MTNs and simultaneously targeted at several pools of capital. Also, trading of corporate bonds is largely off-exchange, so trading costs do not depend on the geographic location of the listing venue.
- The geographic listing location therefore does not significantly affect the underwriting process and the ability to tap into different pools of capital; neither does it influence the nature of trading in the secondary markets. Rather, choice of listing venue is driven by the ease and speed of the listing process.
- Looking at the costs that are directly related to a listing venue, listing fees are negligible and very similar across exchanges. There is also no evidence to suggest that legal, accounting and other advisory costs differ significantly depending on the choice of listing venue.

Listing rules and other regulatory requirements may be an important consideration in the choice of where to list a particular debt issue, but the differences between the European exchanges do not appear large enough to have a material effect on the cost of issuing debt. Furthermore, the introduction of European Directives may further reduce any existing differences in regulatory requirements.

1. Introduction

Capital markets are increasingly becoming globally integrated as impediments to capital flows are removed. Companies progressively have greater flexibility in deciding where to raise capital and where to list and/or trade the securities they issue. Before capital markets are integrated, there are company-specific factors that mean that one location for raising capital is cheaper than any other. This has traditionally been the 'home' geographic market for a particular company. With the integration of capital markets, this automatic tie between the location of the company and the location of the capital market is loosening. As a result, (more) companies have realistic choices as to where they choose to raise capital, either equity or debt.

This decision is influenced by a range of factors, including the size and openness of the market, the depth and breadth of expertise available in a financial centre, and the costs involved in the capital-raising and listing process. Different financial centres and their listing venues can be expected to vary along these dimensions, and hence also in their relative attractiveness for companies seeking to raise funds.

While studies undertaken thus far have examined the determinants of listing decisions, including why companies seek to go public or obtain a listing abroad, there is little systematic analysis of the comparative cost of raising capital in different financial centres.

Oxera has been commissioned by the City of London Corporation and the London Stock Exchange (LSE) to conduct independent analysis of the attractiveness of the London capital markets compared with other financial centres. The aim of the study is to assess the extent to which London provides an attractive venue for raising capital via public equity and listed debt relative to other markets, and to evaluate the implications for the cost to companies of raising capital in different markets.

The study compares the cost of raising equity capital in London's equity markets (the LSE's Main Market and the Alternative Investment Market, or AIM) with the other two major European stock exchanges (Deutsche Boerse and Euronext), and with the New York Stock Exchange (NYSE) and Nasdaq in the USA. Since the LSE provides for issuers that seek to raise equity or debt, the study also considers the London market as a listing venue for corporate debt issues.

The study is the result of an extensive information-gathering and analysis process, using several sources of information. Extensive primary data analysis was conducted on a large sample of companies to provide new quantitative evidence for the different markets. Secondary evidence was obtained from the relevant academic and professional literature, and from the information published by the stock exchanges and other sources. This evidence was supported with interviews and a survey among 25 market participants, including UK and non-UK companies raising capital in London, investment bankers and legal advisers. Much of the analysis was carried out during summer 2005; unless otherwise stated, the results are based on information in that period.

This report summarises the main findings, and is structured as follows.

- Section 2 provides an overview of the capital markets in London and the other financial centres considered in the study.
- Section 3 presents the results of the empirical analysis on the comparative position of the different equity markets. Quantitative and qualitative evidence is provided for each of the main factors that are likely to influence listing decisions and the cost of raising equity, to rank the LSE relative to the US markets, Deutsche Boerse and Euronext, and to inform an assessment of the competitive position.
- Section 4 examines London's position as a listing venue for corporate debt.
- Appendix 1 contains additional results to support the conclusions drawn in the main part of the report.

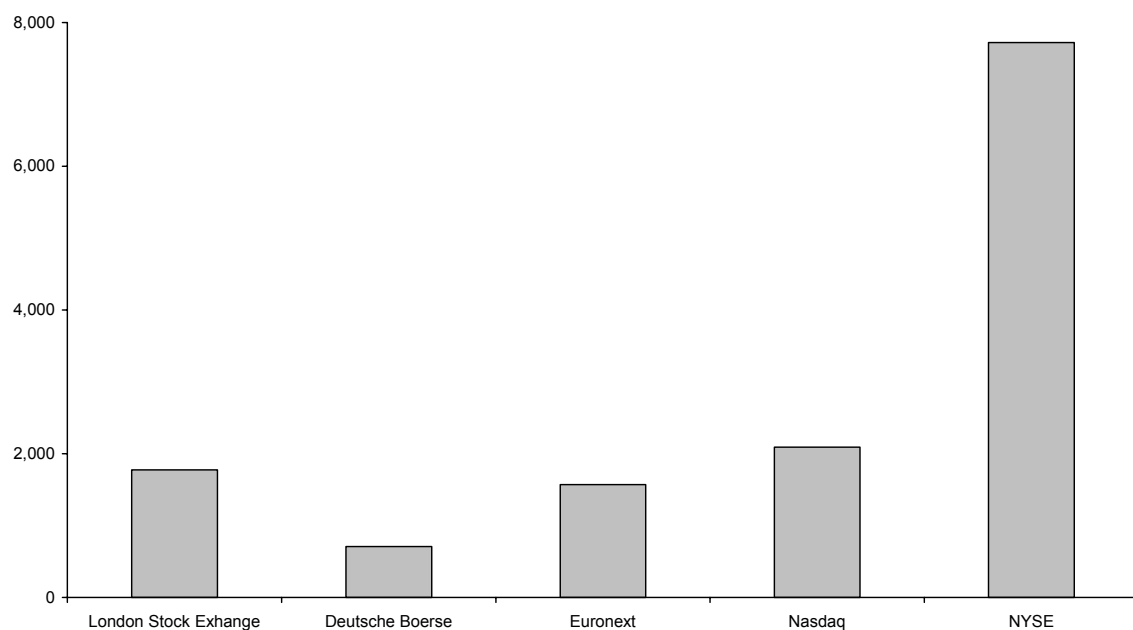
2 Overview of public equity and corporate debt markets in London and other financial centres

This section examines aggregate data on equity and corporate bond markets, comparing the size of these markets in London and the other financial centres considered in this report. This provides background for the remainder of the report and motivates why the report is focusing on particular equity and corporate bond markets.

2.1 Equity markets

The LSE is one of the largest exchanges in the world (see Figure 2.1). According to estimates from the World Federation of Exchanges (WFE), the market value of domestic equities on the LSE totalled £1,774 billion in 2005, ranking behind only the USA and Japan. The market capitalisation of Deutsche Boerse and Euronext was lower, at £708 billion and £1,570 billion respectively. The data reported here for the LSE captures both the Main Market and AIM.

Figure 2.1 Market value of domestic equities, 2005 (£ billion)



Note: Market capitalisation as at December 2005. End-of-year exchange rate used for conversion.
Source: WFE.

Excluding the Japanese exchanges, NYSE, Nasdaq, London, Euronext and Deutsche Boerse are the largest exchanges by capitalisation in the world, together representing around 58% of total world market capitalisation (see Table 2.1 below). These exchanges are therefore the focus of the analysis of equity markets in this report.

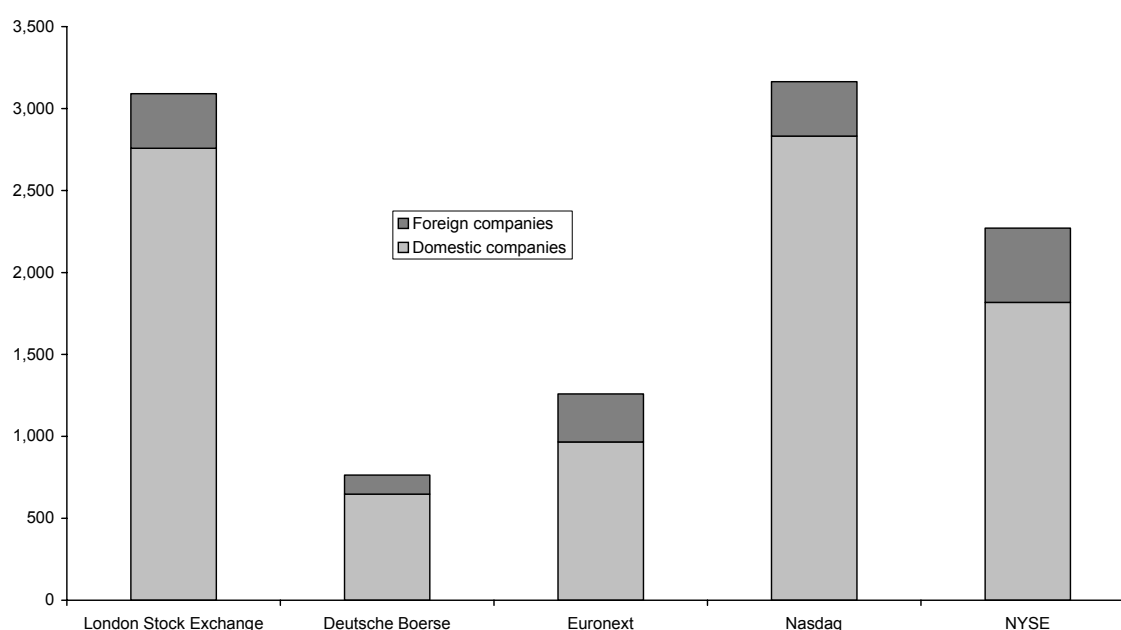
To allow for the different sizes of the respective economies, it is useful to relate market capitalisation to GDP. In relation to GDP, London and the US exchanges had the highest market capitalisation, with 143% and 145%, respectively (see Table 2.1). The respective ratio for Euronext is lower at 85%, with Deutsche Boerse ranking further behind (44%).

Table 2.1 Domestic equity markets, 2005

	Domestic market capitalisation (£ billion)	Share of world total (%)	Market capitalisation/GDP (%)
LSE	1,773.7	7.5	143.4
Deutsche Boerse	708.2	3.0	44.4
Euronext	1,569.9	6.6	85.1 ¹
Nasdaq	2,090.3	8.8	144.8 ²
NYSE	7,720.1	32.6	144.8 ²

Notes: Market capitalisation as at December 2005, converted from USD using end-of-year exchange rates. GDP is based on 2004 OECD statistics, measured in current prices and USD. ¹ GDP is the total for France, the Netherlands, Belgium and Portugal. ² Ratio of combined market capitalisation of Nasdaq and NYSE to US GDP.
Source: WFE, OECD and Oxera calculations.

There has been an increase in the globalisation of the world's equity markets, making the stock exchanges significantly more international. In this environment, companies are increasingly accessing foreign equity markets with the help of a foreign listing. Figure 2.2 compares the number of domestic and foreign listings across the five equity exchanges considered in this report, as recorded by the WFE. Foreign company listings constitute an important fraction of total listings across exchanges, and their number has grown over the past few years.

Figure 2.2 Foreign and domestic equity listings, 2005

Source: WFE.

2.2 Corporate debt markets

In addition to equity, this report examines the role of the exchanges as listing venues for corporate debt. As explained in section 4, debt markets are, even in comparison to the equity markets, not only highly international, but also highly fragmented, in that there is a separation between where the debt capital is raised, where the bonds are listed, where they are traded, and where the investors are located. In addition, almost all trading occurs off-exchange. This report defines debt markets from the

perspective of the listing venue; hence, the focus is on where corporate bonds are listed.

Table 2.2 details the number of domestic corporate and foreign bond issues listed on each exchange and their value in 2005. Of the exchanges examined here, Deutsche Boerse had the highest number of domestic corporate listed bonds at 7,496, followed by the LSE's Main Market with 6,159,² but the LSE had more than twice as many foreign bonds listed as Deutsche Boerse (4,722 compared with 2,191).

Based on the WFE statistics, both Luxembourg and Ireland have more listings (at 26,778 and 7,482 respectively) than the LSE's Main Market, Euronext or Deutsche Boerse—the main European exchanges considered in the equity part of this report. The Swiss Stock Exchange (SWX) is also considered as an important (international) debt listing venue in Europe.

The WFE statistics on debt listings exclude the Professional Securities Market (PSM) operated by the LSE since July 1st 2005. The PSM has gained a significant number of admissions since its launch, with a total of 404 securities listed and £27.6 billion raised through PSM issues in the first six months of operation.³

Listing corporate bonds is largely a European phenomenon. In other large markets, including the USA and Japan, most corporate bonds are not listed. As further explained in section 4, the comparative analysis of London's position as a place for listing debt is therefore restricted to Europe.

Table 2.2
Number and value of domestic non-public and foreign bonds listed, 2005

	Number of domestic corporate bonds listed	Number of foreign bonds listed	Value of domestic corporate bonds listed (£ billion) ¹	Value of foreign bonds listed (£ billion) ¹
LSE	6,159	4,722	519.8	478.4
Deutsche Boerse	7,496	2,191	n/a	n/a
Euronext	1,945 ¹	3,147	n/a	n/a
Luxembourg Stock Exchange	0	26,778	97.6	3,595.4
Irish Stock Exchange	2,232	7,482	n/a	n/a
Swiss Stock Exchange	438	637	58.5	97.7

Note: Foreign bonds include public and non-public issuers since a disaggregated breakdown is not available.

n/a indicates that the information was not available from the WFE.

¹ 2004 data used as 2005 data not available.

Source: WFE.

² No debt securities are admitted on the LSE's AIM.

³ Based on LSE statistics available at www.londonstockexchange.com.

3. The cost of raising equity in London and other equity markets

This section presents the results of the analysis conducted to assess the comparative cost of raising equity in London's equity markets (the LSE's Main Market and AIM), the USA (Nasdaq and NYSE), Germany (Deutsche Boerse) and the countries associated with the Euronext exchange (France, Belgium, the Netherlands and Portugal).

It first sets out the main determinants that affect the comparative cost of raising equity examined in this study (section 3.1), summarising the conceptual framework that was applied to guide the empirical analysis. It then presents the empirical evidence on each of the main determinants (sections 3.2 to 3.5). Section 3.6 summarises the results.

In addition to drawing from empirical evidence available in the academic and professional literature and the views expressed by market participants, the results presented in this section are based on extensive primary data analysis. Large datasets were created and analysed, using data from Bloomberg.

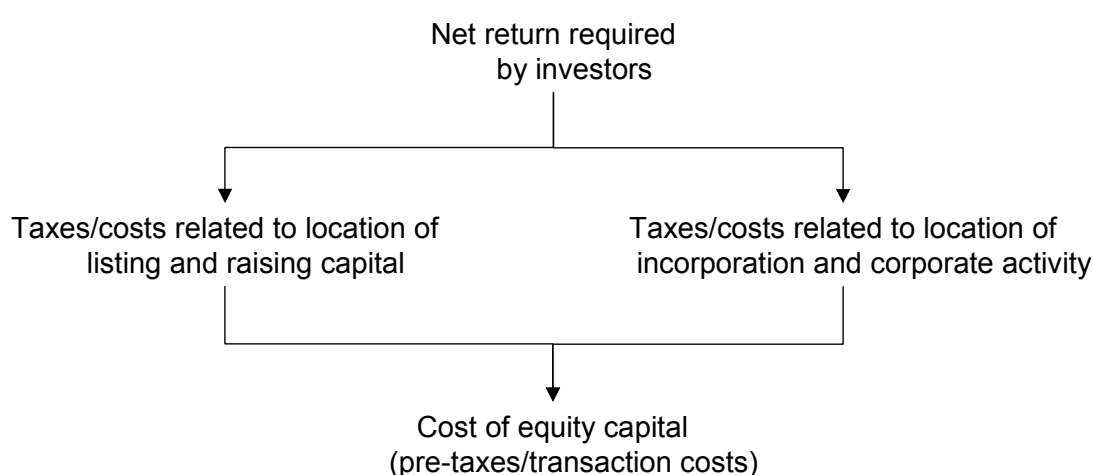
Although the focus of the data analysis was on the cost of raising equity, Appendix 1 presents new empirical evidence on companies' actual capital-raising decisions on the different exchanges. This provides background information on what have been the actual markets of choice for raising and listing equity.

3.1 Framework of analysis

What determines the cost of raising equity in different markets?

A firm's cost of equity capital is determined by the net return required by investors, as well as the costs that drive a wedge between the net return and the cost of equity capital that companies face (see Figure 3.1).

Figure 3.1 Determinants of the cost of equity



Source: Oxera.

- **Net returns**—these can broadly be defined as total shareholder returns, including capital gains and dividends, which investors receive after payment of all transaction costs and taxes.
- **Wedge between net returns and cost of equity**—various taxes and costs associated with raising capital form a wedge between net returns and the cost of equity. Put differently, the return that a company has to generate from investments should be sufficient to cover the costs or taxes incurred by the company and investors, and meet the net return required by investors.⁴

The relationship between net returns, taxes and costs, and the cost of equity can also be interpreted in terms of valuations that companies are likely to face at the time of flotation. In particular, receipts at the time of flotation are inversely related to companies' cost of equity. Therefore, in markets where investors require lower net returns, companies are likely to obtain higher valuations; similarly, lower costs or taxes associated with particular markets are likely to result in higher valuations.

This study focuses on the costs that drive the wedge between net returns on the cost of equity, in many cases abstracting from differences in net returns that may be required by investors in different markets.

The wedge is driven by taxes and costs incurred by companies and investors. Some of these taxes and costs can be directly related to the location of incorporation and/or company activities, while others are more closely related to the location of listing of the companies' securities (see Figure 3.1). For example, corporation tax liabilities are independent of the listing location, whereas the costs associated with trading activity and corporate governance are more closely related to the location of listing and raising capital.

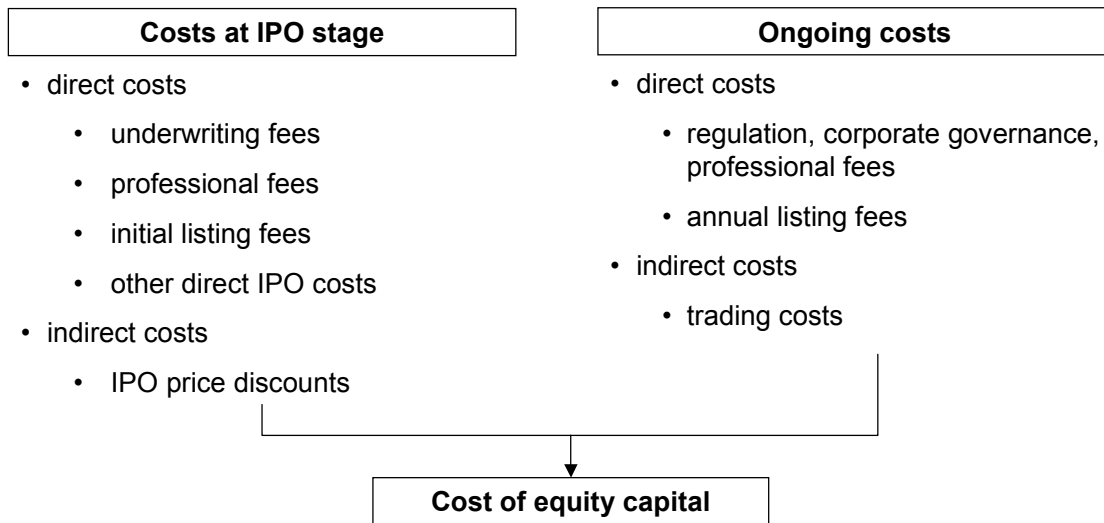
The analysis focuses on costs that can be clearly linked to the geographic location of listing and raising capital, while assuming that costs associated with the place of incorporation do not change depending on the location of listing.⁵

In particular, the analysis considers both the costs incurred at the initial capital-raising stage and those costs that are ongoing. The main cost components are summarised in Figure 3.2. The cost components shown at the initial public offering (IPO) stage apply equally for subsequent equity issues.

⁴ In principle, costs and taxes incurred by investors and companies can result either in lower net returns to investors or in a higher cost of equity for companies. This report builds on a considerable amount of literature showing that an increase in the various components of costs and taxes incurred by investors and companies results in lower share prices and a higher cost of equity for companies.

⁵ The location of listing can have an impact on companies' activities and therefore alter the costs and taxes associated with corporate activities. For instance, by listing in the UK, a foreign company may be able to take advantage of greater recognition among potential customers in the UK and thereby increase its activities.

Figure 3.2 The costs of listing and raising equity



Source: Oxera.

Turning first to the initial costs, and assuming that the company is at the IPO stage, there are several costs which reduce the net proceeds from the sale of equity, affecting the cost of raising capital in public equity markets. The direct costs include:

- **underwriting fees**—when going public (as well as when raising additional equity capital), companies pay fees to investment banks which underwrite the deal and guarantee that, should the issue not be fully subscribed by other investors, they will buy a certain number of shares in the companies' new issues. The fees compensate the banks for their underwriting risk and are levied as a percentage (gross spread) of the total amount issued;
- **professional fees**—companies pay fees to the legal advisers, auditors and reporting accountants;
- **initial listing fees**—upon IPO, companies need to pay the exchange and competent authority (where appropriate) for admitting securities to listing;
- **other direct IPO costs**—these include expenditure on marketing, printing, etc.

In addition to direct costs, there are indirect costs associated with the discounts in the IPO price. These relate to the phenomenon of large positive initial returns, measured as the difference between the closing price on the first day of trading and the IPO offer price. However, issuers and investors often look for a rise in the share price on the first day of trading as a mark of the success of the flotation.

The cost of raising capital in the public equity markets is also affected by the ongoing costs facing companies or their investors. These include both the direct and indirect costs of trading in the secondary market, fees levied by exchanges and intermediaries, as well as the costs associated with meeting regulatory and corporate governance standards:

- **trading costs**—direct trading costs include brokerage commissions and fees paid by investors when transacting in a company's stock, while indirect trading costs relate to liquidity and can be expressed in terms of measures such as

effective spreads. There is considerable evidence showing that direct and indirect trading costs have an impact on share prices and the cost of equity.

- **regulatory and corporate governance costs (and benefits)**—companies seeking a listing on a particular exchange must adhere to the rules and standards that apply, including transparency and disclosure requirements, and therefore face the direct costs of meeting those requirements (including ongoing fees that need to be paid to auditors, lawyers and advisers). Corporate governance and regulatory frameworks differ considerably across countries, and any expected cost differences are likely to affect company decisions and their cost of raising equity in different markets.

While costly in terms of compliance, adherence to stricter corporate governance and regulatory standards can also provide significant benefits. In particular, it may influence investors' perception of a company and their willingness to pay premium prices, thereby reducing required net rates of return.

- **annual listing fees**—in addition to the fee paid upon admission to trading, publicly listed companies incur ongoing fees from exchanges.

In addition to these direct measures of costs, the analysis considers other factors that are likely to influence the cost of raising equity in different markets—i.e., pool of equity capital, openness and integration, and industry expertise and clustering.⁶ These factors are already reflected in some of the above cost measures (e.g., IPO price discount, trading costs). Importantly, the factors can lead to company-specific differences in the cost of raising equity, depending on the country of origin and industry of the issuer.

- **Pool of equity capital**—the size of the pool of equity capital is often cited as one of the most important determinants of the relative attractiveness of a financial centre. A larger and deeper pool of equity capital can lower the cost of equity, for example by improving initial pricing in the primary market or liquidity in the secondary market.
- **Openness and cultural/economic integration**—companies tend to list in countries that are more open and culturally similar to, and have stronger economic ties with, their home country. A higher degree of openness and stronger cultural and economic links are likely to increase investors' ability to obtain and interpret information associated with the activities of the firm, reducing informational problems on the part of investors and thereby lowering their required returns.
- **Industry expertise and clustering**—it is well recognised that informational problems on the part of investors affect the cost of equity capital. In particular, at the capital-raising stage, higher asymmetry of information is likely to require greater price discounts on the securities.⁷ At the trading stage, less informed

⁶ See, among others, Pagano, M., Randl, O., Röell, A.A. and Zechner, J. (2000), 'What Makes Stock Exchanges Succeed? Evidence from Cross-Listing Decisions', Working Paper No.50, Centre for Studies in Economics and Finance, University of Salerno; and Pagano, M., Röell, A.A. and Zechner, J. (2002), 'The Geography of Equity Listing: Why Do Companies List Abroad?', *The Journal of Finance*, **57**:6, 2651-94.

⁷ See Rock, K. (1986), 'Why New Issues are Underpriced', *Journal of Financial Economics*, **15**, 187-212, and others.

investors require compensation for the risks of trading with informed investors.⁸ Therefore, differences in the available expertise and information environment between financial centres (e.g., better analyst coverage or a more sophisticated investor base) may result in differences in investors' required rates of return and hence companies' cost of equity capital. As a result, one would expect to see a cluster of companies from the same industry listing and raising capital in those markets where industry expertise of analysts and investors is most developed.

Empirical considerations

This study aims to evaluate the relative *attractiveness* of London as a location for raising capital. Ideally, this would focus on the decisions of specific companies and their individual choices of where to raise capital, and the comparative measures between locations would reflect the differences that specific companies would experience if they attempted to raise capital in different markets. For example, the relevant question would be:

If Company X wished to raise £20m, £100m etc, what price would it have to pay and what would be the implied cost of equity capital in London, New York, Paris, etc?

Answering the question in this form requires information that is currently not available. In particular, there are no data points available where companies have simultaneously raised capital on the different markets considered in this study. Instead, most of the information on the cost components is only available at the aggregate market level. The analysis presented in this report provides evidence on the question:

What are the costs incurred by companies that have actually decided to raise capital in the different markets?

Where possible, an attempt has been made to separate out the influence of aggregate market constituent differences and the differences that would be expected to apply to the same company attempting to raise capital in different markets (e.g., by controlling for the size, industry or country of origin of companies). However, this has not always been possible, and some of the conclusions that can be drawn from the results are therefore necessarily tentative. The specific problems encountered include the following.

- The size of public offerings varies between locations and specific markets, and has a potential impact on the price that has to be paid, with larger offerings costing more in absolute terms, but less as a proportion of the amount raised. As a result, comparisons between markets need to take account of the size distribution of offerings before definitive conclusions can be drawn about the costs that a specific company would incur in seeking to raise a specific amount of capital.
- The size of listed companies varies by market and location, and both the direct and indirect transaction costs of trading also vary along the size distribution within markets. As a result, comparisons between *markets* need to take into account that differences in average trading costs may be driven by differences in the size distribution on the market, rather than indicating differences that would arise for the same company trading in different locations or on different markets.

⁸ See, for example, Easley, D. and O'Hara, M. (2004), 'Information and the Cost of Capital', *The Journal of Finance*, **59**:4, 1553-83.

- The industry distribution of listed companies varies by market and location. Industry affiliation has implications for the cost of raising capital through factors such as market risk embedded in these investments, typical investor base, etc. Comparison between aggregate markets therefore needs to take into account that differences in some components of the costs of raising capital might be distorted by differences in industry composition across markets.

In addition, investors are likely to have a bias for companies that *operate* in the local product market (i.e., companies they know), and therefore the analysis that follows is most relevant for companies where their local market is unable to satisfy their capital needs, such that they need to raise capital in a foreign market. The choice here is between markets or locations, all of which are foreign for the issuing company.

3.2 IPO costs in different markets

The costs of going public include the costs borne by the company in preparing for the IPO. These comprise the fees charged by investment banks (both as sponsor and in the underwriting process), the fees paid to accountants and lawyers, the cost of conducting a marketing roadshow, the (opportunity) cost of management time, and listing fees. In addition to these direct costs, there are indirect costs arising from IPO price discounts, measured by the difference between the first-day market closing price and the initial offer price.

The following presents the main results of the analysis of these initial-stage costs in the capital-raising process. Although focused on IPO costs, similar overall conclusions on comparative costs in London and the other markets also apply to subsequent equity issues.

Underwriting fees

Among the direct costs, the underwriting fees paid to investment banks typically represent the largest cost item of an IPO. These are usually expressed in percentage terms as a gross spread charged by the underwriting syndicate—i.e., the syndicate receives a certain percentage of the issue price for each share sold.

It is well documented in the literature that gross spreads paid to underwriters in Europe are considerably lower than those in the USA. For example, Table 3.1 summarises gross spread levels reported in Torstila (2003).⁹ The averages refer to IPOs conducted between 1986 and 1999.

⁹ Torstila, S. (2003), 'The Clustering of IPO Gross Spreads: International Evidence', *Journal of Financial and Quantitative Analysis*, **38**, 673–94.

Table 3.1 IPO underwriting fees in different markets (%)

	Number of observations	Value-weighted average	Gross spread (%)	
			Equally weighted average	Median
UK	56	2.2	3.8	3.6
France	50	2.9	3.7	3.0
Germany	88	3.4	4.5	4.0
Belgium	12	2.9	3.1	2.5
Netherlands	54	3.8	4.3	3.7
Portugal	12	3.0	3.5	3.5
Total Europe	469	3.0	3.8	4.0
USA	6,573	5.2	7.5	7.0

Source: Torstila (2003).

Torstila (2003) states that:

the gross spread level in the US is easily the highest in the world, with an equally weighted average of 7.5%. Not only are 7% spreads prevalent (43% of all IPOs), but even 10% spreads are relatively common.

In contrast, European IPOs have average spreads of 3.8%, when measured by the equally weighted mean, and 4% when measured by the median. The estimate for the UK suggests average spread levels similar to those in France, Germany and other European countries. If weighted by market value, spreads are generally lower, suggesting that the larger deals incur lower underwriting fees expressed as a percentage of the deal. However, the conclusion regarding comparative spreads is the same: value-weighted average underwriting fees are lower in the UK, France, Germany and other European countries than in the USA. Torstila (2003) also shows that there is considerably less clustering of gross spreads in Europe than in the USA.

Oxera's new analysis, conducted as part of this study, confirms that these findings continue to apply now as much as during the time period considered by Torstila. The analysis is based on a sample of all IPOs on the LSE, NYSE, Nasdaq, Euronext and Deutsche Boerse during the period from January 1st 2003 to June 30th 2005, for which underwriting fee data was available in Bloomberg.¹⁰

Gross spreads of IPOs on the US exchanges are found to be highest, averaging 6.5% for the NYSE sample and 7% for Nasdaq IPOs. In comparison, median spreads of IPOs on the LSE's Main Market are 3.25% and those on AIM somewhat higher at 4%. Thus, there is a cost saving of three percentage points for a UK transaction compared with a US transaction. The results for Deutsche Boerse and, in particular, Euronext suggest somewhat lower underwriting fees of IPOs on these markets, although the sample of IPOs is small.

¹⁰ Only ordinary share and depositary receipt issues are included; equities issued by investment funds, closed-end funds, country funds, REITS, and venture capital companies are excluded. The Bloomberg data contains only underwritten transactions; non-underwritten deals and privately placed transactions are excluded. IPO observations were omitted if no information was available on the price and amount issued, or if other relevant information (e.g., country of domicile of company) was missing. Although the broadest sample used in the analysis has 804 IPO observations, data on underwriting fees is available for a sub-sample of only 405 equities. The data source is the underwriter league tables in Bloomberg.

The higher underwriting fees in the USA are listing-specific, and not a phenomenon that can be explained by different underwriters conducting IPOs on different exchanges. While US banks almost always have a senior position in the underwriting syndicate if a US listing is sought, they are also key players in underwriting transactions in Europe and elsewhere. Ljungqvist et al. (2003) compare underwriting fees of initial listings in the USA and elsewhere, all underwritten by US banks.¹¹ They find that ‘there is a significant cost—in excess of 130 basis points (1.3%)—associated with listing in the United States.’

Using the underwriting data obtained from Bloomberg, Oxera confirmed this conclusion by examining the underwriting fees levied by the same three US-owned investment banks active in both the US and European IPO markets. The same bank would indeed charge higher fees for a transaction on Nasdaq and NYSE than for a flotation, say, on London’s Main Market. Interviews with market participants, including an investment bank, confirmed the conclusion that underwriting fees differ by listing venue, and that fees for US listings are considerably higher than those in the UK and other European countries.

The difference in spreads seems partly due to the type of IPO technique used in the markets. In the USA, bookbuilding tends to be used for almost all IPOs, and fees for bookbuilding are generally higher than those for other flotation techniques. In the UK and other countries, although bookbuilding has gained popularity, a variety of cheaper techniques are used, including fixed-price public offers, placings and auctions.

The underwriting fee rewards the underwriting investment bank for the risk it takes on in the IPO process. It may be that this risk is greater in the case of foreign issues (e.g., because of more uncertainty and lack of familiarity with the issue among investors), in which case underwriters might be expected to charge higher spreads for foreign than for domestic issues. In order to assess this, Table 3.2 disaggregates the results of Oxera’s analysis of underwriting fees by separately considering domestic and foreign IPOs in each of the six markets. Overall, there is little evidence to suggest that there are premium fees to be paid by foreign issuers.¹² On Nasdaq, the exchange with the most observations in the sample, average fees of foreign and domestic issuers are the same (7%). On NYSE, foreign issuers appear to have paid lower fees on average. Fees are also similar on London’s Main Market. On AIM, foreign companies appear to have paid more, which may be due to the specific companies included in the relatively small sample. According to an investment banker interviewed, in the UK there is no systematic difference between the gross spread for domestic and foreign issuers; rather ‘underwriting fees are very standardised’, and not different for foreign issuers.¹³

¹¹ Ljungqvist, A.P., Jenkinson, T. and William, W.J. (2003), ‘Global Integration in Primary Equity Markets: The Role of US Banks and US Investors’, *Review of Financial Studies*, **16**, 63–99.

¹² The lack of measurable spread premiums for foreign issues may be due to selection bias—i.e., if only the larger, more successful and less risky companies seek access to a foreign exchange, the average ‘quality’ of foreign IPOs in a market exceeds the quality of domestic IPOs.

¹³ Decomposing the IPO sample according to issue size suggested that, for each market, smaller issues incur on average higher fees. This is consistent with economies of scale in the underwriting business, as also shown in Beatty and Welch (1996) and Ritter (1987). Beatty, R.P. and Welch, I. (1996), ‘Issuer Expenses and Legal Liability in Initial Public Offerings’, *Journal of Law and Economics*, **39**:2, 545-602. Ritter, J.R. (1987), ‘The Costs of Going Public’, *Journal of Financial Economics*, **19**:2, 269-81. This also explains the higher average fees on AIM than on the Main Market, for example. There were no systematic differences according to the industry of the issuer.

Table 3.2 Underwriting fees for domestic and foreign IPOs

	Domestic companies		Foreign companies	
	Sample size	Gross spread (%)	Sample size	Gross spread (%)
UK—Main Market	28	3.3	5	3.5
UK—AIM	43	3.5	8	4.9
USA—NYSE	74	6.5	14	5.6
USA—Nasdaq	192	7.0	28	7.0
Euronext	7	1.8	—	—
Deutsche Boerse	6	3.0	—	—

Notes: No data was available for foreign IPOs on Euronext and Deutsche Boerse. On Euronext, foreign IPOs include IPOs by companies outside France, the Netherlands, Belgium and Portugal. Median values of gross spreads are reported.

Source: Oxera calculations based on Bloomberg.

Overall, the main conclusion that emerges from the IPO underwriting fee analysis is that flotations on an exchange in the USA come with higher underwriting fees than those in Europe. For an issue of £20m, the typical underwriting fee in the UK, Germany and France would be about £700,000 (3.5%), compared with more than £1.3m (6.5%) in the USA.

This was confirmed by regression analysis, which allows the impact of the listing venue on the underwriting fee to be assessed, while controlling for other explanatory variables (e.g., whether the issuer is foreign, the size of the issuer as measured by the amount of IPO proceeds, and the industry). The (statistically highly significant) results confirmed that a US listing is associated with a listing fee that is three percentage points higher than a UK listing. The IPO issue size was also found to be a significant determinant of gross spreads, but the origin of the issuer was not.¹⁴

IPO discounting

The IPO discount refers to the empirical regularity of a significant difference between the IPO offer price and the closing market price on the first day of trading. Various reasons have been proposed to explain the existence of the discount—for example, underwriters want to be sure that the offering is fully subscribed, requiring a discounted offer price in particular for companies that are perceived to be a higher risk; they want to please investors and avoid any risk from being sued because of evidence of overpricing; discounts compensate uninformed investors for potential losses due to asymmetric information; there may be ‘irrational’ investors who bid up the price of IPO shares beyond their true value (e.g., because they are forced to buy in the secondary market having been excluded from participating in the primary market); or issuers do not put sufficient pressure on the underwriters to reduce the discount.¹⁵

¹⁴ The analysis focuses on IPOs, but Oxera also compiled a database of subsequent equity issues from 2003 to the first half of 2005, using Bloomberg data. The underwriting data available was less complete than that for IPOs. Nevertheless, the higher underwriting fees observed for IPOs in the USA also extend to new issues of additional equity capital. Median underwriting fees for further issues on the NYSE and Nasdaq were 5.5% and 4%, respectively. The corresponding value for further issues on London’s Main Market was 2.1%.

¹⁵ For a review of the literature, see Ljungqvist, A. (2004), ‘IPO Underpricing’, in E. Eckbo (eds), *Handbook of Corporate Finance, Volume 1*, Elsevier.

From the perspective of the firm's owners, discounting is an indirect cost of raising equity: shares sold for personal account are sold at too low a price, while the value of shares retained after the IPO is diluted.

Ritter (2003) presents a review of existing studies covering the discounting phenomenon in 38 countries.¹⁶ Reported average initial returns for the period 1960–2001 are 17.4% in the UK and 18.4% in the USA. Discounting is lower in France at 11.6%, Belgium at 14.6% and the Netherlands at 10.2%, and higher in Germany at 27.7%; however, the time periods considered for these countries are shorter.

As described above, Oxera compiled a database containing the sample of IPOs observed on the different exchanges during 2003 and the first half of 2005, based on Bloomberg's underwriting league tables. Information was gathered on the offer price of each issue, the first-day closing price and the first-week closing price. After omitting IPOs with missing data entries, a total of 804 IPOs are included in the final sample. Table 3.3 presents average initial returns, measured as the first-day returns. It also reports returns over the first week of trading, but for most exchanges these do not differ significantly from initial returns.

Table 3.3 IPO discounts on different exchanges

	Sample size	First-day return (%)	First-week return (%)
UK—Main Market	49	4.4	4.7
UK—AIM	348	11.2	10.8
USA—NYSE	95	5.1	4.1
USA—Nasdaq	242	6.6	7.0
Euronext	60	0.8	0.2
Deutsche Boerse	10	2.6	5.8
Total	804	7.8	7.5

Notes: The reported values are medians. Excluding American depository receipts from the sample of US IPOs increases median discounts; first-day returns on Nasdaq rise to 7.1% and on NYSE to 6.1%.
Source: Oxera calculations based on Bloomberg.

Average first-day returns vary appreciably across exchanges, appearing highest on AIM (11.2%), followed by Nasdaq (6.6%). UK Main Market IPOs have an average discount of 4.4%, which is slightly lower than the discount for NYSE IPOs (5.1%). Average first-day returns are very low for Deutsche Boerse (2.6%) and for Euronext (0.8%). These values are considerably lower than initial returns reported in Ritter (2003), for example.

One reason for the discrepancy is that there is significant variability in the IPO discount across companies and over time.¹⁷ This variability makes it difficult to draw any strong conclusions, especially since the time period considered is short and the sample relatively small for some exchanges.

¹⁶ Ritter, J.R. (2003), 'Differences in European and American IPO Markets', *European Financial Management*, 9, 421–34.

¹⁷ For example, Ljungqvist (2004) presents a time-series of average initial returns of US IPOs from 1960 to 2003, and shows that, over long periods of time, underpricing averages between 10 and 20%, but in individual years initial returns can be significantly higher or lower. In 1999 and 2000, for instance, the average IPO was underpriced by 71% and 57%, respectively. There are also occasional periods when the average IPO is overpriced (i.e., negative initial returns). Ljungqvist, A. (2004), 'IPO Underpricing', forthcoming in E. Eckbo (eds), *Handbook of Corporate Finance, Volume 1*, Elsevier.

Academic studies have examined the relationship between underwriting fees and IPO discounts.¹⁸ In particular, prestigious underwriters that charge higher fees may use their reputation capital to certify the value of the company and thereby reduce investor uncertainty about the value of the issue. This could lower the level of the discount and justify the higher fees paid to the underwriter. Another strand of the literature emphasises the conflict of interest between underwriters and issuers arising from informational asymmetries: underwriters might not exert enough effort to determine the correct value of the issuer, since their effort is costly but not directly observable by the issuer. Therefore, making the underwriter's compensation more sensitive to the issuer's valuation (i.e., larger gross spread) should reduce the conflict of interest and thus discounting.

Table 3.4 presents average initial returns, broken down by level of underwriting fees paid by the issuer. Given the systematically higher underwriting fees for listings in the USA, the breakdown is shown separately for the European and US exchanges.

Table 3.4 Relationship between underwriting fees and IPO discounts

Level of underwriting fees	LSE, Euronext and Deutsche Boerse		NYSE and Nasdaq	
	Sample size	Average initial returns in category (%)	Sample size	Average initial returns in category (%)
≤ 1%	2	11.1	–	–
1–2%	11	1.9	2	4.6
2–3%	23	3.13	2	9.0
3–4%	43	7.1	3	0.0
4–5%	12	7.9	16	1.9
5–6%	4	4.1	17	2.1
6–7%	2	10.9	265	6.9
7–8%	–	–	2	–0.2
> 8%	–	–	1	–12.0

Notes: Since data on underwriting fees is not available for all IPOs in the sample, the sample size is considerably smaller than that used for the other price discount results presented in this section, explaining the differences in median initial returns.

Source: Oxera calculations based on Bloomberg.

The results in Table 3.4 do not exhibit the hypothesised negative trade-off—there seems to be no systematic relationship between the level of underwriting fees and the initial IPO discount. For example, the majority of US IPOs were charged underwriting fees of between 6% and 7% and had average discounts of 6.89%. This compares with average discounts of between 3.13% and 7.1% for European IPOs that all had underwriting fees in the 2–4% range.

The underwriting business is complex, and a more rigorous analysis would be required to understand the relationship between fee levels and discounts. Nevertheless, for the purpose of this study, one may conclude that, while

¹⁸ For reviews of this literature, see Booth, J.R., Booth, L.C. and Deli, D. (2004), 'Do Firms Choose to Minimize IPO Underpricing Through Their Choice of Underwriters?', available at <http://www.fma.org/Chicago/Papers/DoFirmsChooseToMinimizeIPOUnderpricingThroughTheirChoiceofUnderwriters.pdf> and Ljungqvist, A. (2004), 'IPO Underpricing', forthcoming in E. Eckbo (eds), *Handbook of Corporate Finance, Volume 1*, Elsevier.

underwriting fees are systematically higher for US transactions, there appears to be no systematic cross-country difference in levels of IPO discounts.

The issue of IPO discounts was also discussed in interviews with companies that have recently floated on UK or US exchanges. Most of them experienced levels of initial returns comparable to, or higher than, the average levels reported above. While they appreciated the problem, interviewees often did not perceive discounting as an important cost to the company, for the following main reasons.

- The IPO is not used as a divestment route for pre-existing shareholders, and the fraction of equity sold at issue was small. IPO discounts therefore have only a negligible impact on the owners.
- Issuers need to trade off the proceeds from the IPO against the probability of the IPO succeeding. Lower pricing of the offer can thus have the benefit of delivering greater certainty in the success of the IPO.¹⁹
- High initial returns can attract media attention and increase publicity for the issuing company.²⁰ Given the potential marketing benefits, discounts can therefore actually be a benefit rather than a cost. In the longer run, it may be beneficial for issuers if the IPO 'leaves a good taste in the mouths of investors', especially if a company intends to issue additional equity at a later stage.

Based on the interviews, therefore, issuing companies do not always perceive initial returns on the IPO date as an important indirect cost of going public, and lowering this cost is not the main consideration for these issuers.

Listing fees

At the IPO stage, companies incur exchange admission fees. Similar to underwriting fees, these costs are easy to interpret in terms of a reduction in net receipts from the capital issue and the implied cost of equity capital.

Table 3.5 illustrates the exchange admission fees in 2005 that would be levied on domestic companies with market capitalisations of £100m and £500m on the LSE, NYSE, Nasdaq, Euronext and Deutsche Boerse. The LSE market is further divided into the Main Market and AIM, while Nasdaq is divided into National and Small cap segments. The fees generally relate to information available as at mid-2005.

¹⁹ See also Edelen, R.M. and Kadlec, G.B. (2005), 'Issuer surplus and the partial adjustment of IPO prices to public information', *Journal of Financial Economics*, **77**, 347–73.

²⁰ See also Aggarwal, R.K., Krigman, L. and Womack, K.L. (2002), 'Strategic IPO Underpricing, Information Momentum, and Lockup Expiration Selling', *Journal of Financial Economics*, **66**, 105–37.

Table 3.5 Admission fees for exchanges, 2005

	Market capitalisation of £100m		Market capitalisation of £500m	
	(£)	% of value	(£)	% of value
LSE Main Market	45,390	0.05	115,023	0.02
LSE Aim	4,180	0.00	4,180	0.00
NYSE ¹	81,900	0.08	104,887	0.02
Nasdaq National ¹	54,600	0.05	81,900	0.02
Nasdaq Small Cap ¹	51,870	0.05	27,300	0.01
Euronext	56,512	0.06	200,912	0.04
Deutsche Boerse	3,440	0.00	3,440	0.00

Notes: The table documents only initial fees that are classified by exchanges as 'admission fees'. In some instances, exchanges, or the competent authorities, charge additional fees (e.g., vetting and introduction fees). ¹ The admission fee on NYSE and Nasdaq is calculated with reference to the number of shares outstanding; for the purpose of this illustration, a median level of share prices observed on the NYSE (c. £14) and Nasdaq (c. £7) is assumed to enable estimation of admission fees.

Source: Oxera calculations based on information available from the exchanges.

For all exchanges, the admission fee as a proportion of total market capitalisation decreases with the size of the company. This is consistent with the structure of the admission fees levied by exchanges—these often have a fixed-cost component or explicit variations in cost, depending on the size of the company.

Admission fees vary across exchanges. Overall, Deutsche Boerse and the LSE's AIM appear to provide the most economic option among the listing locations, levying exchange admission fees that are below 0.01% of a company's market capitalisation. The relative attractiveness of the other exchanges in terms of listing fees depends on the size of the market capitalisation that is considered.

Importantly, however, in most cases the fees constitute 0.05% or less of total market capitalisation. Assuming that an IPO raises receipts that constitute 40% of market capitalisation, the initial admission fees would then constitute less than 0.2% of gross receipts. Therefore, although the fees are highly visible and differ across the exchanges, their actual contribution to the cost of raising equity capital is small.

In addition to the admission fees, companies listed on the exchange incur annual listing fees. Although not part of the IPO costs, the following provides an overview of the annual fees incurred by companies when listing on the different exchanges.

Table 3.6 below illustrates the annual exchange fees in 2005 that would be levied on domestic companies with market capitalisations of £100m, £500m and £10 billion, as at mid-2005. Like the initial fees, annual fees as a proportion of total market capitalisation decrease with the size of the company. Significant cross-country variations can also be observed. For smaller companies (with market capitalisation of around £100m), the two LSE markets, Euronext and Deutsche Boerse, appear to provide the most economic option; but, for larger companies, excluding the LSE's AIM and Nasdaq Small Cap,²¹ Deutsche Boerse and Euronext provide the most economic option.

²¹ In general, companies with market capitalisation of £10 billion will not be listed on the LSE AIM or Nasdaq's Small Cap market.

Importantly, and as was the case with the initial listing fees, these results suggest that the actual contribution of annual exchange fees to the cost of equity capital is likely to be small—i.e., the fee differences observed do not have a significant impact on the comparative cost of raising equity in the different markets.

Table 3.6 Annual fees for different exchanges, 2005

	Market capitalisation of £100m		Market capitalisation of £500m		Market capitalisation of £10 billion	
	(£)	% of value	(£)	% of value	(£)	% of value
LSE Main Market	4,029	0.00	8,235	0.00	34,515	0.00
LSE AIM	4,180	0.00	4,180	0.00	n/a	0.00
NYSE ¹	19,110	0.02	19,110	0.00	273,000	0.00
Nasdaq National ¹	16,653	0.02	24,297	0.00	40,950	0.00
Nasdaq Small Cap ¹	11,466	0.01	11,466	0.00	n/a	0.00
Euronext	2,752	0.00	8,256	0.00	13,760	0.00
Deutsche Boerse	5,160	0.01	5,160	0.00	5,160	0.00

Notes: ¹ The annual fee on NYSE, Nasdaq and Euronext is calculated with reference to the number of shares outstanding; for the purpose of this illustration, a median level of share prices observed on the NYSE (c. £14), Nasdaq (c. £7) and Euronext (c. £27) is assumed in order to allow estimation of annual fees.

Source: Oxera calculations based on information available from the exchanges.

Professional fees and other direct IPO costs

Issuers incur other direct expenses in the IPO process (and in subsequent equity issues). These include the costs of the financial adviser (although the adviser may be the same investment bank also responsible for the underwriting of the deal); the fees paid to the legal advisers of the issuer and the solicitors to the placing; the costs of the auditors and reporting accountants; and money spent on printing, public relations, etc.

Unlike data on underwriting and listing fees, information on other expenses is not generally disclosed and hence difficult to obtain. Nevertheless, based on the information provided by the 25 market participants that were consulted as part of this study, it is possible to draw the following conclusions.

- Of all direct expenses, underwriting fees tend to constitute the single largest element. Table 3.7 below provides a 'typical' breakdown of total IPO costs, based on information provided by companies that recently floated on the LSE. In most cases, underwriting fees take up half or more of all direct expenses. The remainder is split between fees to the financial adviser, the lawyers and accountants. Initial listing fees are insignificant in comparison.
- Given the importance of underwriting fees, the Europe/US differences in gross spreads discussed above are likely to have a more significant impact on the comparative cost of raising equity in different countries than differences in the other direct expenses.
- Direct IPO costs relative to total IPO proceeds fall as the issue becomes smaller in absolute terms, but rise as a proportion of the money raised/shares placed. The percentage breakdown of IPO costs in Table 3.7 reflects the costs of an IPO raising about £20m of new funds. Several companies that were consulted as part of this study raised considerably smaller (larger) amounts and as a result experienced higher (lower) relative costs—while the gross spread charged by

underwriters was in the 3–5% range, the legal and accounting costs fell somewhat outside the indicative range. In one extreme case, where the company raised less than £2m, the total direct costs amounted to more than 20% of the IPO proceeds, suggesting that there is a minimum cost to IPOs, however much is raised.

- While the breakdown in Table 3.7 reports the relative costs incurred by the majority of companies consulted, there were a few instances where issuers incurred significantly higher legal and accounting fees. This was largely due to unique factors (other than issue size), which required extensive financial and legal diligence work in preparation of the IPO. For one issuer, legal costs amounted to 5%, and, for another, accounting and auditing fees increased to 7%. However, these were the exceptions.
- Little evidence was available to draw any strong conclusions on the relative levels of legal costs, advisory fees, accounting fees or other direct expenses in different countries. However, there was a perception among some of the companies consulted that these may be higher in London than in Frankfurt or Paris, although lower than in the USA. One interviewee noted that ‘professional fees would have been significantly lower if we had gone to London’ (the company floated on Nasdaq). The higher legal and auditing costs in the USA were largely attributed to the costs of complying with the Sarbanes-Oxley Act 2002 (SOx), as is discussed separately in section 3.4 below.
- Legal and accounting fees can be higher for foreign companies floating on an exchange outside their country of domicile (e.g., owing to the need to hire lawyers in the destination country as well as domestically; to prepare financial documentation consistent with the accounting standards of the destination country or in a different language; and to expend greater effort in promoting the company to investors in the destination country). However, there is little reason to believe that the extra cost of foreign companies differs depending on the location of the destination exchange. Similarly, while the size of the issue matters for direct costs, there is little reason to believe that the cost differences for small and large companies differ systematically depending on the geographic location of the exchange.

Table 3.7
Breakdown of the direct costs of a ‘typical’ UK IPO, based on interviews

	% of IPO proceeds
Underwriting fees	3–5
Financial adviser costs	1–2 ¹
Legal expenses	1–2
Accounting and auditing fees	0.5–1.5
Listing fees	<0.1
Printing, public relations, etc	<0.5
Total	5.5–11

Notes: Estimates based on interviews with companies, assuming that about £20m of new funds is raised.

¹ These may be included in the fees paid to the bank underwriting the deal, possibly generating cost savings.

Source: Oxera, based on interviews and survey.

Summary

At the IPO stage, underwriting fees constitute the single, largest, direct cost element when issuing equity. Underwriting fees differ significantly depending on listing venue. While similar for transactions on the European exchanges (3–4% on average), underwriting fees on US transactions are significantly higher (fees of 6.5–7% are most common). In other words, on average, IPO receipts are more than 3% lower in the USA than in Europe. The higher fee on US transactions is irrespective of a company's country of origin, its size or industry.

IPO discounts can be a significant indirect cost. For the average IPO, first-day returns amount to 10–15% or more (when combining new and existing evidence). Estimates of initial returns differ markedly over time, making a cross-market comparison difficult. The higher underwriting fees on US transactions do not seem to be compensated by lower discount levels.

The cost arising from IPO discounts is influenced by the amount of equity sold at issue. Moreover, it may be partly offset by the benefits that a company derives if high initial returns increase media attention and investor interest.

Initial listing costs constitute a negligible amount of the total cost of raising new equity—often less than 0.1% of the amount issued. Other direct IPO costs include the legal, accounting and advisory fees, as well as marketing and PR costs. Taken together, these tend to add another 3–6% for most issuers, but depend on issuer-specific factors such as the amount of funds raised. Data on these costs is not available in the public domain. No evidence was available from interviews to suggest significant differences in these costs between the listing venues, although interviewees noted that professional fees in London may be higher than in Frankfurt and Paris, but not as high as in New York. The higher legal and auditing costs in the USA were largely attributed to the costs of complying with SOx (see section 3.4).

Overall, in relation to IPO costs, the evidence suggests that issuing equity on the London markets is cheaper than on NYSE or Nasdaq, mainly because of the systematically higher underwriting fee charged for US transactions. London's position is similar to that of Euronext and Deutsche Boerse.

3.3 Trading costs in the secondary market

Investors requiring a certain net rate of return on their investments will be willing to pay higher prices for shares, the lower the transaction costs they incur when buying or selling the shares. The costs incurred by investors trading in the secondary markets therefore have direct implications for market valuations and companies' cost of raising equity.

An example serves to illustrate the mechanics of the impact of transaction costs on share prices, abstracting from other changes in share prices over time. Consider a stock that is traded twice a year, with transaction costs of 0.5p per transaction. Assume that the value of a share of the stock traded without any transaction costs is £1. The present value of the transaction costs (assuming a discount rate of 8%) is 13.5p.²² In other words, the transaction costs reduce the share price from £1 to

²² The present value (PV) of the trading costs is calculated as the discounted value of perpetual annual expected transaction costs: $PV = \sum_{i=0}^{\infty} \{TC_i / (1+r)^i\}$, where t is the period, TC is the (expected) transaction costs and r is the discount rate.

£0.865. Now, if the trading costs declined by 0.125p to 0.375p per transaction, the present value of the costs of trading would decline to 10.1p, and the stock price would rise to £0.899, an increase of about 4%. Thus, a seemingly small reduction in transaction costs can generate a substantial increase in share prices.²³

There is also empirical evidence in the academic literature showing that the trading costs incurred by investors in secondary markets have direct implications for share prices and a company's cost of equity.²⁴ Trading costs can be classified as direct (or explicit) and indirect (or implicit) trading costs. Direct costs include broker commissions and exchange and other fees, while indirect costs relate to effective spreads—i.e., the difference between the price of a trade and the midpoint of the best-quoted bid and ask prices, just prior to the trade. The indirect component includes costs and risks associated with the immediacy or ability to trade without delay.

Comprehensive data on trading costs incurred by different market participants across markets is not available. The following describes evidence obtained from data collected by Elkins/McSherry (now part of State Street Bank), the company which conducts cost studies for institutional traders and serves as a consultant to stock exchanges. The Elkins/McSherry data consists of average trading costs as a percentage of trade value for active fund managers in 42 countries.²⁵

Elkins/McSherry break down trading cost data into three components: commissions, fees, and market-impact costs. Market impact is a measure of spread, calculated by comparing the actual transaction price with the average of the high, low, open and close prices. The price impact for a buy order is measured by the percentage difference between the execution price and this benchmark, and the reverse holds for a sell order.²⁶

The cost estimates for the LSE do not distinguish between Main Market and AIM trades. Notably, Elkins/McSherry estimates of fees for the UK include stamp duty on equity transactions. Stamp duty is a transaction tax that applies to dealing in UK equities. The charge applies at a 0.5% rate on all purchases of UK equities unless a specific exemption applies—e.g., intermediaries such as market-makers are exempt from stamp duty.²⁷ Note that as stamp duty only applies to purchases, the impact of stamp duty for all bargains (i.e., both buy and sell orders) is less than 50 basis points

²³ This illustration assumes that the net required return of investors (after taxes and transaction costs) is not altered by a reduction in trading costs, and is therefore borne entirely by the company in the form of a higher cost of equity capital. It also assumes zero growth in the value of the stock so as to focus on the impact of transaction costs.

²⁴ For example, estimates by Domowitz and Steil (2001) suggest that a 10% increase in transaction costs leads to a 1.4–1.7% increase in the post-tax cost of equity. See Domowitz, I. and Steil, B. (2001), 'Innovation in Equity Trading Systems: the Impact on Transactions Costs and Cost of Capital', in R. Nelson, D. Victor and B. Steil (eds), *Technological Innovation and Economic Performance*, Princeton University Press. Examples of other studies include Jackson, P.D. and O'Donnell, A.T. (1985), 'The Effects of Stamp Duty on Equity Transactions and Prices in the UK Stock Exchange', Bank of England Discussion Paper No. 25; and Amihud, Y. and Mendelson, H. (2000), 'The liquidity route to a lower cost of capital', *Journal of Applied Corporate Finance*, 12, 5–25.

²⁵ http://www.statestreet.com/analytics/is_trade_cost.html

²⁶ Market impact = $\frac{\left| \text{Transaction price} - \left(\frac{\text{Open} + \text{High} + \text{Low} + \text{Close}}{4} \right) \right|}{\text{Average OHLC}}$

²⁷ A higher rate (1.5%) applies when UK securities are converted into depository receipts. The 1.5% charge is intended to represent a higher 'entry charge' to compensate for the fact that subsequent dealings in the depository receipts themselves (which represent the underlying share held by the depository receipt issuer) are not subject to the stamp duty charge.

(bp). Moreover, in 2004/05, only around 20% of all trades on the LSE were subject to stamp duty.²⁸ Therefore, the effective level of stamp duty is considerably below the statutory level of 50bps.

Importantly, overseas issuers are subject to stamp duty only if they have a register in the UK. In other words, stamp duty payment is associated with the geographic location of registration, rather than the location of listing and raising capital.

Average total trading costs across the five markets in 2004 and 2005 are shown in Table 3.8. For the reasons explained above, costs for the UK are also shown exclusive of stamp duty. Trading costs for Euronext are represented by the Elkins/McSherry estimates for France.

Table 3.8 Total trading costs - sample of institutional investors, Q1 2004–Q4 2005 average (bp)

	Total direct	Total indirect	Total trading costs
UK	40.1	10.1	50.2
UK (excl. stamp duty)	15.4	10.1	25.5
Germany	18.1	9.0	27.1
France	18.0	9.1	27.0
US—Nasdaq	18.8	11.9	30.8
US—NYSE	16.1	7.4	23.5

Source: Elkins/McSherry and Oxera calculations.

The estimates show that:

- the direct costs of trading (brokerage commissions and fees) incurred by institutional investors differ significantly across countries. When stamp duty is included, the LSE has higher direct costs than other markets. However, if stamp duty is excluded, the direct trading costs were between 0.7bp and 3.4bp lower on the LSE than on the other exchanges examined in this study.
- The 'market impact' measure of indirect trading costs (i.e., effective spreads) suggests that, over the period, NYSE had the lowest costs, followed by Deutsche Boerse, Euronext (France), the LSE and Nasdaq.
- Overall, total trading costs incurred by institutional investors in the sample were lowest on the NYSE (23.5bp), followed by the LSE (25.5bp excluding stamp duty). Total trading costs in France and Germany are similar (27bp), with Nasdaq ranking behind (30.8bp).

Companies subject to lower direct and indirect costs of trading benefit from a lower cost of equity and higher share valuations. However, to the extent that the trading cost estimates of investors in the Elkins/McSherry sample are not representative of the average costs in each of these markets and since there are other problems with the estimates, it is difficult to use the results to draw inferences about the impact on the relative cost of capital of companies listed in the markets. Further research into direct and indirect trading costs would be required to produce robust estimates of the cost of equity differences that arise due to differences in trading costs.

²⁸ Oxera estimates based on WFE and HM Revenue & Customs.

3.4 Listing requirements and corporate governance standards

The impact of regulatory and corporate governance frameworks on the cost of raising equity capital can be both positive (better frameworks signal quality and are valued by investors) and negative (adherence to stricter standards imposes costs on companies). There are important differences in the regulatory frameworks of the countries that affect both the primary and secondary equity markets. An in-depth discussion would require considerable legal analysis and constitute a research study in itself. Moreover, quantification of the impact of the differences is difficult. The following therefore presents only a summary of those aspects that were raised most frequently in interviews with companies as being relevant in the decision of where to float and raise capital.

Listing requirements

For admission to the LSE's Main Market, companies must meet requirements such as a minimum of 25% of shares being in public hands, a three-year trading record (normally), and pre-vetting of all admission documents by the UK Listing Authority (UKLA), which is part of the Financial Services Authority (FSA) and responsible for primary market regulation in the UK. Similarly, in the USA, to list on NYSE or Nasdaq, companies need to register with the Securities Exchange Commission (SEC). Although less stringent requirements apply on Nasdaq, listing rules on both US exchanges specify admission criteria, which include minimum levels of shareholder equity and market value, minimum number of publicly held shares and shareholders, and a minimum operating track record. Minimum listing requirements also apply on Euronext and Deutsche Boerse.

In general, the interviewees did not consider differences in these listing requirements across countries to be a determining factor for the choice of listing venue, the exception being small and/or early-stage companies that opted to float on the LSE's AIM. There are no minimum track-record requirements, no need for shareholder approval on certain transactions and no minimum free-float liquidity requirements. Companies still have to go through a due diligence and legal process, but the requirements are less stringent to implement than those for a full listing.

A more stringent listing regime does have advantages in other respects—in particular, committing to certain regulatory standards may signal quality, increase investor confidence in the company, and thereby induce investors to pay higher prices for the company, resulting in a lower cost of capital for the issuer. At the same time, minimum financial requirements and other rules present regulatory barriers to admission, at least for some companies. For small companies, a second-tier market, such as the AIM, provides the only option of raising public equity capital and relaxing longer-term financing constraints that might be present if finance sources were restricted, for example, to private equity or bank finance. The demand by some companies—in particular, small and growing companies—for a listing venue that offers a speedy and flexible regulatory environment is evidenced by the recent success of AIM in attracting IPOs of both domestic and foreign companies. AIM has become the world's leading market for small-cap stocks.²⁹

²⁹ Over the past few years a number of exchanges for small companies in Europe have closed down operations, including Nasdaq Europe and the German Neuer Markt. In April 2005, the Irish Stock Exchange opened the Irish Enterprise Exchange, a junior market for smaller companies, and in May 2005 Euronext opened a growth market in Paris called Alternext. For a discussion and statistics on small-cap exchanges in Europe, see IFSL (2005), 'Securities Dealing', City Business Series, July 2005, International Financial Services London.

While minimum financial requirements can determine the choice of listing venue—as was the case for the smaller companies interviewed—these were not seen by the other companies interviewed as a main determinant in the listing decision, or to give one exchange a competitive edge over another. Instead, the two key issues raised by all interviewees were ‘compliance with Sarbanes-Oxley’ and ‘quarterly reporting’ in the USA—issues that can be broadly classified under the heading of ‘corporate governance’, as discussed next.

Corporate governance standards

It is now widely agreed that corporate governance is of concern for both companies and investors. In particular, there is evidence to suggest that investors are prepared to pay more for shares in companies exhibiting high governance standards. For example, surveys among institutional investors have shown that investors are willing to pay premiums of 12–14% on average in both the US and European markets for better-governed companies.³⁰ This may be because they believe that a company with good governance will perform better over time, or because they see good governance as a means of lowering risk (e.g., less likelihood of problems arising in the company, or, if problems do arise, well-governed companies may rebound more quickly).

To the extent that systems differ across countries, it can be in the interest of companies to opt for a listing in a country with high corporate governance standards. For example, listing in a country with better disclosure and accounting standards would allow a company to pre-commit to greater transparency and, as such, is likely to reduce the monitoring costs of its shareholders and their required rates of return.

How does the UK compare with the other countries considered in this study, and what can companies expect in terms of benefits when choosing to list in London and to adopt UK corporate governance standards?

The UK has long been seen as a leader in corporate governance, with its Combined Code on Corporate Governance that is appended to the FSA’s Listing Rules. The Combined Code is based on guidelines which require Main Market issuers to comply with the guidelines or otherwise explain how the issuer’s own situation differs (‘comply and explain’).³¹ The leading position of the UK has been established in various studies that rank countries according to their corporate governance performance. For example, Davis Global Advisors (2002) awards the UK a composite governance score of 7.7, higher than the USA (7.2) and other European countries: France and Germany have a score of 5.8 and 4.5 respectively.³²

³⁰ See McKinsey & Co (2002), ‘Global Investor Opinion Survey’. Evidence is also available in the academic literature. For example, Lombardo and Pagano (2000) report that, in a sample of companies from 32 countries, average IPO underpricing is lower in countries where accounting standards are high. Lombardo, D. and Pagano, M. (2000), ‘Legal Determinants of the Return on Equity’, Working Paper No. 24, Centre for Studies in Economics and Finance, University of Salerno. They also examine the impact of governance structures in secondary equity markets and report that stock returns are positively correlated with overall measures of the quality of institutions, such as judicial efficiency and rule of law. Other studies include La Porta, R., Lopez-de-Silanes, F., Shleifer, A. and Vishny, R. (2002), ‘Investor Protection and Corporate Valuation’, *Journal of Finance*, **57**, 1147–70 and Gompers, P., Ishii, J. and Metrick, A. (2003), ‘Corporate governance and equity prices’, *Quarterly Journal of Economics*, **118**, 107–55.

³¹ The requirement does not apply to AIM companies.

³² Davis Global Advisors (2002), ‘Leading Corporate Governance Indicators 2002’, November.

According to the study:

Britain has maintained its seven-year run as first in corporate governance standards most appealing to international investors among eight of the world's top developed nations. [...] The US stayed in second place.

The more recent publication of the 'FTSE ISS Corporate Governance Rating and Index Series'³³ also puts the UK at the top of the list of countries by average corporate governance score, as does Governance Metrics International (GMI) (2005),³⁴ the corporate governance and rating agency, which establishes governance ratings for a large sample of international companies.

These rankings suggest that the UK outperforms other countries in terms of governance standards, only marginally compared with the USA, but more significantly when compared with Germany and France. Thus, UK companies would derive no benefit in the form of a corporate governance premium from listing or raising capital in another country—going elsewhere would mean choosing markets with lower standards with no beneficial impact on the cost of capital.

However, foreign companies looking for a way to achieve higher valuations or to lower their cost of capital by committing to the highest corporate governance standards would benefit most from coming to the UK. These benefits should be greatest for companies from countries with weak institutional structures. For them, listing or raising capital in a country with better structures is a way to opt out of the home country's institutional framework and move up the governance scale.³⁵

The benefits of better governance do not come for free: complying with, or indeed switching to, a stricter system of corporate governance standards can have substantial costs. Thus, the benefits a company may obtain from committing to higher standards must be weighed against the costs.

The common theme that emerged in interviews with companies that recently went through the flotation process, as well as with intermediaries or advisers to companies, was a perception of higher costs associated with a US listing. Indeed, the corporate governance requirements were seen by some as one of the main factors influencing the choice between a UK and US listing (to the advantage of the UK).

Quarterly reporting is a general requirement for listed companies in the USA. This has not been the case, at least traditionally, in the UK and other countries, although interim reports may be required for certain types of company or as a condition of admission to trading on some segments of a market. A number of companies interviewed expressed concerns regarding the volume of work and resources

³³ FTSE Research (2005), 'FTSE ISS Corporate Governance Rating and Index Series—Measuring the Impact of Corporate Governance on Global Portfolios', April.

³⁴ Governance Metrics International (2005), 'GMI releases new global governance ratings', press release, March 6th.

³⁵ Hail and Leuz (2004) provide evidence that companies from countries with weak institutional structures can reduce their cost of capital by cross-listing on a US exchange. Hail, L. and Leuz, C. (2004), 'Cost of capital and cash flow effects of US cross listings', *ECGI Finance Working Paper No. 46/2004*, European Corporate Governance Institute. Similarly, Reese and Weisbach (2002) examine the relationship between cross-listing, shareholder protection and subsequent equity offering, and find that companies from countries with weak shareholder protection are more willing to cross-list in order to raise further equity capital. Reese, W. and Weisbach, M. (2002), 'Protection of Minority Shareholder Interests, Cross-listings in the United States, and Subsequent Equity Offerings', *Journal of Financial Economics*, **66**, 65-104.

required to meet such requirements. In particular, the small companies felt that the administrative burden imposed by a US listing 'would be overly burdensome and too costly', especially if set against the amount of capital that was ultimately raised.

The views expressed by interviewees also reflect the issues raised in recent debates on the SOx, which applies to companies that are 'issuers', including those that register with the SEC so that they can list on NYSE and Nasdaq. SOx makes only limited exceptions for foreign companies that would like to gain access to the US capital markets.

Evidence is available that the compliance burden imposed by SOx has had a negative impact on IPO activity in the USA—there has been a relative decline in the number of foreign companies choosing the US exchanges as a destination for their IPO compared with Europe, and in 2005, the European exchanges for the first time outperformed the USA in terms of total IPO value.³⁶ Some US companies have been turning to London to escape from SOx, in particular smaller companies, 19 of which were reported to have gone public on the LSE's AIM in 2005.³⁷

In addition to the impact on IPO activity, there is evidence of fewer international companies seeking a secondary US listing. Issuers such as Porsche of Germany, Daiwa Securities Group of Japan, Benfield Group, and Cambridge Silicon Radio of the UK were said to have abandoned plans to list in the USA, specifically because of the costs imposed by SOx.³⁸ There is also evidence of UK companies de-listing from US markets, such as Lastminute.com's de-listing from Nasdaq in summer 2004, to avoid the costs of regulatory compliance.³⁹ Similarly, in 2005, UK companies such as ITV, mmO2 and United Business Media were reported to have initiated deregistration or taken active steps to terminate their US registration as a result of SOx; other companies in the UK and Continental Europe have also signalled their eagerness to deregister if they can find a way to do so.⁴⁰

According to a recent survey, the first-year costs of complying have been estimated to be \$4.4m on average in a sample of 217 large US public companies. These estimates present a 132% increase relative to earlier estimates, which had forecast the cost to be \$1.9m.⁴¹

Significant increases in compliance costs have been reported in other studies, such as Foley & Lardner LLP (2005).⁴² Attempts at measuring the impact of SOx have also been made in the academic literature.⁴³ For example, studies have examined the effect of the enactment of SOx on companies' market value, some of which are reviewed in Romano (2005).⁴⁴ The results of these studies have been mixed, but the

³⁶ PriceWaterhouseCoopers (2006), 'IPO Watch Europe—Review of the year 2005'.

³⁷ See *Financial Times* (2006), 'Nomad Sarbox refugee aims for low-cost London', March 17th.

³⁸ Carney, W.J. (2005), 'The Costs of Being Public after Sarbanes-Oxley: The Irony of Going Private', Law & Economics Research Paper Series, Working Paper No. 05-4, Emory School of Law.

³⁹ See *Accountancy Age* (2004), 'Sarbox: Escape from New York', December 22nd.

⁴⁰ See Epstein, D. (2005), 'Farewell, Auf Wiedersehen, Adieu ...', *Wall Street Journal*, February 9th.

⁴¹ Financial Executives International (2005), 'Sarbanes-Oxley Compliance Costs Exceed Estimates', press release, March and (2005) 'Sarbanes-Oxley Section 404 Implementation Survey', PowerPoint presentation containing survey summary, March.

⁴² Foley & Lardner LLP (2005), 'The Cost of Being Public in the Era of Sarbanes-Oxley', June 2005, available at http://www.fei.org/download/foley_6_16_2005.pdf.

⁴³ A summary of recent evidence is available in Ribstein, L.E. (2005), 'Sarbanes-Oxley after three years', Illinois Law and Economic Working Paper series, Working Paper No. LE05-016, University of Illinois, College of Law.

⁴⁴ Romano, R. (2005), 'The Sarbanes-Oxley Act and the making of quack corporate governance', *Yale Law Journal*, **114**, 1549-68.

studies tend to indicate that the market reacted negatively to the adoption and implementation of SOx.

Carney (2005) examines the costs of being a public company after SOx, and reports increases in public companies going private in the USA—e.g., in the first three quarters of 2004, 521 leverage buyouts (LBOs) were reported, compared with only 115 and 109 in 2001 and 2002, respectively.⁴⁵ Engel et al. (2004) also evaluate the extent to which SOx has affected companies' decisions to go private.⁴⁶ They found a modest but statistically significant increase in the rate at which companies go private after SOx compared with before. They also discovered that abnormal returns around events that increased the likelihood of SOx becoming law were positively related to company size and share turnover, suggesting that SOx compliance costs are more burdensome for smaller and less liquid companies. In addition, the share price reaction to going-private announcements did change, with a higher premium on going private after SOx compared with before, especially for small companies with substantial inside ownership.

Since SOx is relatively new, it will take some time to analyse fully its costs and benefits. However, the evidence reviewed above suggests that SOx has made listing on US stock exchanges less attractive for companies.

Overall, although quantification of the full impact is difficult, a number of qualitative conclusions can be drawn from the above discussion:

- investors value corporate governance and may require lower returns from well-governed companies;
- listing on an exchange which imposes stricter standards helps companies to signal to investors their commitment to better governance. 'Moving up the corporate governance scale' is likely to reduce the cost of equity. This benefit is likely to be strongest for companies that originate from countries with a weak institutional structure;
- the UK is generally ranked as the leading country in terms of corporate governance. Accordingly, a listing on the LSE's Main Market should deliver the greatest benefits, closely followed by the USA, with Germany and in particular France ranking further behind;
- complying with rules and standards is costly to companies. The recent US corporate governance reforms implemented by SOx have increased the costs of a US listing. The full impact has yet to be assessed, but holding benefits constant, this has further improved the competitive position of the London markets.

⁴⁵ Carney (2005), *op. cit.*

⁴⁶ Engel, E., Hughes, R. and Wang, X. (2004), 'The Sarbanes–Oxley Act and Firms Going-private Decisions', working paper, Graduate School of Business, University of Chicago, March.

3.5 Other factors influencing the decision of where to list and the cost of raising equity capital

There are a number of other factors that may influence a company's decision on where to list and the cost of raising equity capital. These include the size and depth of the pool of equity capital in a market; a market's openness to foreign companies and cultural/economic links between the country of origin of the issuer and the listing venue; and industry expertise and a possible desire of companies to list where their peers are listed (i.e., industry clustering).

These factors are already reflected in some of the cost estimates provided in sections 3.2 and 3.3. For example, a greater pool of equity capital may be associated with lower IPO discounts or higher liquidity of the market. However, it is useful to review the evidence available on these factors, not only to present additional evidence on differences between markets, but, more importantly (and in particular in relation to cultural/economic links and industry expertise), to assess company-specific factors (depending on country of origin and industry) that may affect a company's cost of raising equity on the different exchanges and ultimately determine the company-specific choice of listing venue.

Pool of equity capital

The size and depth of the pool of equity capital is often considered to be one of the most important determinants of the attractiveness of equity markets. Interviewees with companies confirmed that the depth of the pool of equity capital matters, with statements expressed such as 'the company would not have been able to raise this amount of money on our home market'.

The data of market capitalisation levels across exchanges (see Figure 2.1) suggests that the US market provides the largest pool of equity capital, followed by the UK, and the countries associated with the Euronext exchange, and then Germany. Controlling for the size of the economy, the UK and US markets are reasonably comparable in terms of depth of domestic equity capital (see Table 2.1).

An alternative measure of the depth of the pool of equity capital focuses on the size of the actual and potential investor base. Given the size of the USA, it has by far the largest source of investor funds. However, the UK has established itself as a leading international centre for fund management, in particular for institutional clients. Funds managed from the UK are larger than those in France and Germany combined.⁴⁷ Although the USA, given its size, leads the UK overall, fund management activities in the UK are concentrated in a single location (London) rather than geographically spread over different centres—e.g., saving issuers the time and cost of travelling to multiple centres during beauty parades. As reported in Table 3.9 below, total assets managed for investment entities from London exceeded those in New York or other US cities; they also far exceeded the volume of assets under management in Paris or Frankfurt (and Munich).

⁴⁷ IFSL (2005), 'Fund Management', City Business Series, International Financial Services London, August.

Table 3.9 Volume of assets managed in financial centres, 2005 (\$ billion)

	Total assets	Of which equity assets
London	14,049	7,584
New York	11,759	3,081
Boston	4,912	2,467
San Francisco	2,889	1,631
Los Angeles	1,529	1,043
Chicago	1,408	702
Paris	3,106	1,359
Frankfurt	3,106	837
Munich	1,241	1,117

Notes: The data refers to assets under management, by city for investment entities based in that city as of September 2005.

Source: Bigdough/Hemscott, Inc.

Overall, in terms of the benefits of having a large pool of equity capital, including visibility, lower likelihood of rationing, and broader investor base, the markets in the USA and the UK appear to be considerably more attractive than Germany and the countries associated with the Euronext exchange. The USA is likely to be somewhat more attractive than the UK on balance, given its total size, while both countries appear to be considerably more attractive than the two Continental European counterparts.

Openness and integration

In addition to differences in the depth of the pool of equity capital, a range of other factors can help explain why foreign companies choose to list and raise capital on specific exchanges. Among these factors are openness (e.g., reflecting the willingness of local investors to invest in foreign companies), geographical and cultural proximity, and more generally economic and financial links.

These factors are largely qualitative, but some quantitative evidence can be gathered to support a comparative evaluation of the stock exchanges along this dimension.

For this purpose, Oxera constructed a large database of companies listed on the stock exchanges, using data from Bloomberg. The database includes all common stock issued by domestic and foreign companies that were listed at the date of downloading (i.e., July 2005) on the LSE (Main Market and AIM), Euronext, Deutsche Boerse, NYSE, and Nasdaq.⁴⁸

Although the full results of the analysis are omitted, a number of findings are worth reporting.

- One measure of a country's openness to foreign companies is the ratio of the number of foreign companies listed to total listings on a stock exchange. The NYSE has the highest proportion of foreign listings, exceeding 20%, closely

⁴⁸ Depository receipts are also included, which are most frequent on the NYSE but also observed on the LSE. Any type of collective investment vehicle was excluded from the sample. The sample includes only those equity securities that, according to Bloomberg, are 'actively traded' (e.g., stocks with suspended, halted or de-listed status are excluded) and have a 'primary ticker' on the exchange. A total of 10,079 listed companies are included in the dataset.

followed by the LSE's Main Market with a foreign share of just over 18%. Nasdaq and AIM have lower shares of foreign listings (8.2% and 6.4% respectively). The combined ratio for the LSE suggests a foreign listing share of 12.3%, similar to the 12.8% that emerges if combining the two US exchanges. The combined UK and US percentages are also similar to that of Deutsche Boerse (11.6%), but higher than Euronext (3.8%), for the latter counting foreign listings as those companies that are not French, Portuguese, Dutch or Belgian.⁴⁹

- There is also evidence consistent with the view that cultural integration, or indeed geographic proximity, matters. For example, the three most important countries of origin of foreign listings for the LSE's AIM are the USA, Ireland and Australia, countries which share a common language and have cultural and legal similarities with the UK. Likewise, Austria and the Netherlands have a relatively high weighting for Deutsche Boerse's foreign listings, while NYSE has significant representation from the Americas. However, the pattern does not apply consistently. For example, companies from the UK and the USA constitute a large proportion of foreign listings on each exchange outside their domestic stock market.

Company-specific economic or financial links to the market ultimately chosen for raising equity capital seem particularly important.

- With regard to the *economic* links, one company (a UK bio-tech firm) did consider flotation in the USA, but decided against it—one reason being lack of product market presence. In the words of the interviewee, 'unless a company has presence in the USA, it is very difficult to sustain interest of US investors in the company.'
- With regard to the *financial links*, one company interviewed mentioned that, although management ultimately decided to go public in the UK, the US private equity house backing the company had a preference for flotation on a US exchange.

These factors are company-specific and cannot provide general conclusions on the relative cost of raising equity in different markets.

Industry expertise and peer presence

There is considerable evidence showing that the information environment has direct implications for the share prices and companies' cost of equity. Investors are less willing to invest, and require higher rates of return for investing, in companies they are less familiar with. Lack of investor familiarity is likely to be particularly acute for companies intending to list and raise capital in markets where their presence is not supported by sufficient information and market understanding.

Foreign companies can therefore be expected to seek to reduce the information and knowledge gap by opting for markets that are more open and culturally or economically linked to their domestic markets. Equally, companies from specific

⁴⁹ The reported results are not consistent with the WFE estimates reported in Figure 2.2. In particular, according to the WFE numbers of listed companies, Euronext has a share of foreign listings of 25%—higher than any of the other exchanges. The foreign listing ratios for the other exchanges are 12% for the LSE (including AIM and the Main Market), 20% NYSE, 11% Nasdaq and 19% Deutsche Boerse. The analysis presented in this report uses the data available in Bloomberg, as described above, and classifies domestic and foreign listings according to the issuer's country of domicile variable downloaded from Bloomberg.

industries can attempt to overcome the problem by opting for markets where investors and analysts have an understanding and proven expertise in these industries. Particularly in technology or higher-risk sectors, the availability of such skills may substantially affect the availability of equity finance and the terms at which it is available. Better analyst coverage of such industries is likely to broaden understanding in the primary market, promote investor interest, and ultimately deliver higher valuations of the companies.

If industry expertise is an important determinant of where to list and raise capital, one would expect to observe companies in the same industry clustered in exchanges that deliver this expertise. Previous studies have indeed found that companies opt for listings where industry peers are already present.⁵⁰

To the extent that specific companies benefit from the existence of such clusters (e.g., greater industry expertise and experience of analysts and investors), this may explain their preference to issue equity and list on particular markets. The impact on the cost of equity is difficult to quantify. Importantly, the impact is company- or industry-specific, and cannot be used to draw general conclusions about the comparative cost of capital.

3.6 Summary

The costs of raising equity capital are often associated with the costs that companies incur at the stage of IPO or issuing further equity, including underwriter fees, legal and accounting fees, exchange admission fees, and other direct IPO costs. Issue costs also include the initial discount in the offer price, which is often considered to be 'money left on the table', although some commentators have highlighted that there are indirect benefits of a large discount associated with positive press coverage and marketing.

However, this relatively narrow view fails to take into account potentially considerable differences in the ongoing costs and benefits associated with maintaining a listing on different exchanges. In addition to the 'visible' ongoing listing-related costs, such as annual exchange fees, the comparative costs of raising capital on different exchanges can be related to the direct and indirect costs incurred by investors who trade in the secondary markets, and the costs and benefits of complying with regulatory and corporate governance requirements. Analysis provided in this study has therefore focused both on the costs that companies incur at the issuing stage, either through an IPO or a further equity issue, and the costs and benefits associated with subsequent listing on the chosen exchange.

Table 3.10 below presents an overview of the overall differences in initial and ongoing costs associated with raising equity capital on the various exchanges. The table summarises the evidence on each cost component, and provides inferences about the importance of these costs in determining the comparative cost of equity. Where possible, the table translates the costs into the impact on net receipts from an equity issue, and provides a tentative assessment of the 'visibility' of various costs (or the characteristics of costs that can be broadly defined in terms of companies' ability to assess the level of costs prior to capital-raising decisions).

⁵⁰ See, among others, Pagano, M., Randl, O., Röell, A.A. and Zechner, J. (2000), 'What Makes Stock Exchanges Succeed? Evidence from Cross-Listing Decisions', Working Paper No.50, Centre for Studies in Economics and Finance, University of Salerno, and Pagano, M., Röell, A.A. and Zechner, J. (2002), 'The Geography of Equity Listing: Why Do Companies List Abroad?', *The Journal of Finance*, **57**:6, 2651-94.

Table 3.10 Comparative cost of raising capital

Costs	Overall evidence	Impact on total receipts	Comment	Visibility
Initial Underwriting fees	Consistently higher in the USA than observed in the UK, Germany, and France	IPO underwriting fees constitute around 3–4% (Europe) or 6.5–7% (USA) of receipts	There are differences in the underwriting process across countries (e.g., different IPO methods). Higher underwriter fees do not appear to result in lower discounts	High ex ante certainty and direct link to net IPO receipts
IPO price discounts	Levels differ across countries and over time, but available evidence does not yield consistent conclusions about relative discounting levels in different markets	IPO discounts constitute as much as 10–15% of receipts at the time of IPO	Although discounting in general is interpreted as a cost ('money left on the table'), there is some evidence of actual or perceived benefits of positive initial returns (e.g., positive media coverage)	Low ex ante certainty, but direct link to net receipts
Initial listing fees	Fees charged by Deutsche Boerse and the LSE's AIM appear lowest. The attractiveness of the other exchanges depends on assumptions about company size	Negligible (in general less than 0.1% of receipts)	–	High ex ante certainty and direct link to net IPO receipts
Professional fees and other direct costs	Evidence is limited due to lack of data on legal, accounting and other advisory fees. Based on the views of interviewees, professional fees may be higher in the UK than in France and Germany, but not as high as in the USA (e.g., due to SOx)	The costs constitute around 3–6% of total receipts for a 'typical' UK IPO, but legal and accounting fees can be significantly higher for some companies	Other IPO costs include management time spent on preparation, which is not taken into account	Medium ex ante certainty and direct link to net receipts
Ongoing Trading costs and liquidity	Based on data of actual trades of a sample of institutional investors, direct trading costs consisting of brokerage commission and exchange fees are lowest on the LSE (excluding stamp duty), followed by NYSE, Euronext, Deutsche Boerse and Nasdaq. Indirect costs (effective spreads) are lowest on NYSE, followed by Euronext, Deutsche Boerse, the LSE and Nasdaq. Total trading costs are lowest on the NYSE, followed by the LSE	Academic research establishes that small differences in trading costs can have a significant impact on share valuations and the cost of equity—e.g., Domowitz and Steil (2001, op. cit.) estimate that a 10% increase in transaction costs leads to a 1.4–1.7% increase in the post-tax cost of equity.	Data on trading costs is not readily available, and the reported estimates need to be interpreted with caution	Low/medium ex ante certainty and link to the cost of equity and value of a company is potentially difficult to quantify

Costs	Overall evidence	Impact on total receipts	Comment	Visibility
Annual exchange fees	For smaller companies, all European exchanges charge lower fees than the US exchanges. For larger companies, Deutsche Boerse and Euronext charge lower fees than the LSE, NYSE and Nasdaq National	Negligible (in present-value terms, generally less than 0.1% of IPO receipts)	–	High ex ante certainty and direct link to the cost of equity and value of a firm

Source: Oxera.

Table 3.10 allows a number of conclusions, as follows.

- The costs incurred at the initial stage of raising equity capital, as well as the ongoing costs, have a non-negligible impact on the net receipts of an issue and on the cost of equity capital. The costs incurred at the IPO stage, for instance, often amount to as much as 25% of issue receipts (including the cost of the discount in the offer price). Trading costs incurred by investors in the secondary markets can further depress share prices.
- As regards comparative costs at the IPO stage, overall, a company raising capital for the first time in the USA is likely to incur higher initial costs than a company raising capital on the LSE, Euronext or Deutsche Boerse. This difference is mainly driven by differences in underwriting fees across markets—the average underwriting fee in the USA is around 6.5–7% of gross IPO receipts, compared with around 3–4% in Europe. This difference cannot be explained by differences in the quality of underwriting services as measured by higher offer prices.
- As regards comparative costs in the secondary markets, based on a survey of institutional trades during 2004 and 2005, the total costs of trading appear lowest on the NYSE, followed by the LSE, Euronext, Deutsche Boerse and Nasdaq. These differences should translate into differences in share valuations and the cost of equity capital, but data problems do not allow strong inferences to be drawn.

In addition to differences in the IPO costs and ongoing trading costs, markets differ in their regulatory and corporate governance frameworks. In principle, the impact on the cost of raising equity capital can be both positive (better frameworks signal quality and are valued by investors) and negative (adherence to stricter standards imposes compliance costs on companies). For small companies, this trade-off is likely to be less relevant and dominated by the need to gain access to capital in the first place—for such companies, the flexible listing regime of the LSE's AIM may provide the only option of raising public equity capital and may relax longer-term financing constraints that may be present if finance sources were restricted to private equity or bank finance, for example.

For other companies, the choice of market can have implications for the cost of raising equity. In particular, since investors value corporate governance and may require lower returns from well-governed companies, listing on an exchange which imposes stricter standards may help companies to signal to investors their commitment to better governance. The UK is generally ranked as the leading country in terms of corporate governance; accordingly, a listing on London's Main Market should deliver the greatest benefits in this respect, closely followed by the USA, with Germany and France ranking further behind. These benefits must be set against the costs that companies incur when complying with rules and standards.

Although the full impact is yet to be assessed, the recent US corporate governance reforms implemented by SOx have increased the costs of a US listing. This may have improved governance standards in the USA, but there is no evidence to suggest that the new regime delivers benefits beyond those that apply under the UK regime. Hence, as regards corporate governance, the increase in US compliance costs has made listing and raising equity capital in the London markets more attractive.

Most of the above results are based on market averages. They present an assessment of costs (and benefits) that would be incurred by a representative company in the markets, rather than the costs that a specific company would incur in each market. Depending on the country of domicile, size and industry affiliation, companies can incur costs that are very different from the overall costs observed in the market:

- **Size**—most costs associated with raising equity in public markets fall with size. In particular, underwriting fees and other direct IPO costs, the price discount, and total trading costs tend to be lower, in proportion to the amount of equity issued, for large issues. However, there is no evidence to suggest that the difference between small and large companies varies in any systematic way across the markets.
- **Industry affiliation**—costs associated with raising public equity can relate to industry characteristics. For example, in high-growth or high-tech industries, there may be greater informational problems on the part of investors, resulting in companies being subject to higher discounts and higher indirect trading costs. By choosing to raise capital in a market with a strong clustering of analyst and investor expertise in a particular industry, companies may be able to reduce their cost of raising capital compared with other markets.
- **Country of domicile**—country of domicile is an important determinant of the total costs associated with raising capital and listing on any given exchange. Specifically, to the extent that foreign companies incur higher overall costs of raising capital and listing than domestic companies (e.g., due to higher asymmetries of information), stronger cultural integration between the place of raising capital and country of domicile is likely to reduce informational problems on the part of investors, resulting in lower costs associated with raising capital. For example, companies from countries that are English-speaking or that follow the more Anglo-Saxon legal and institutional frameworks may incur lower costs of raising equity in the UK or US markets than on Euronext or Deutsche Boerse. Similarly, company-specific financial and economic links between home and host country can explain capital-raising and listing decisions for specific companies.

4. Listing corporate debt in the London markets

Sections 2 and 3 examined how the LSE compares with NYSE, Nasdaq, Deutsche Boerse and Euronext in terms of the cost of issuing equity. The LSE's Main Market is not only a venue for listing equity, but is also a major listing venue for corporate debt securities of domestic and international issuers.⁵¹ Although the focus of this report is on equity markets, this section examines the LSE's comparative position in relation to corporate debt issues.

The types of cost of issuing corporate debt are similar to those of equity issues. Focusing on the costs that drive a wedge between net returns and the cost of debt capital that companies face, the main cost elements at the issuing stage include underwriting fees, professional fees, initial listing fees, potential discounts in the offer price, and other costs. The ongoing costs of companies and investors also matter, including trading costs, ongoing listing fees and regulatory requirements.

However, there are important structural differences between the public equity and debt markets that need to be taken into account in a cross-market comparison of the costs of issuing debt. Section 4.2 examines structural aspects of the corporate debt markets that are relevant for the comparative cost analysis. Evidence on differences in costs across markets is presented in section 4.3. Section 4.4 concludes.

4.1 The role of listing in corporate debt markets

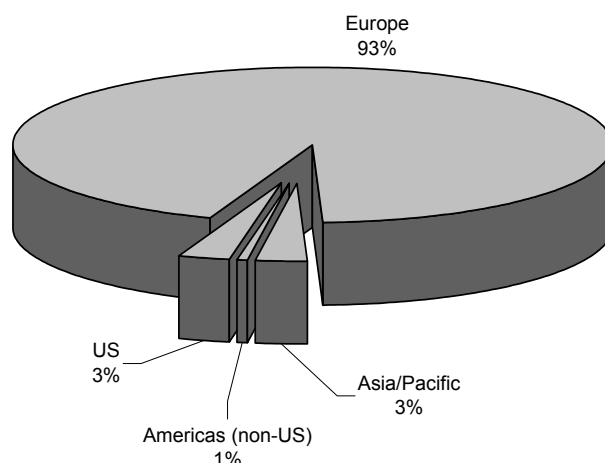
While the types of cost of issuing debt are similar in nature to those of issuing equity, the structure of the corporate debt markets—in particular, the role played by exchanges—is very different. As a result, there are fewer reasons to expect the choice of listing venue to be a major influence on the overall cost of issuing debt. The following discussion presents evidence to support this view.

Listing corporate debt is a European phenomenon

The listing of corporate debt is largely confined to Europe. In Europe, all corporate bonds are listed, other than a small amount sold via private placement. This differs from other large markets, including the USA and Japan, where most corporate bonds are not listed. Based on WFE statistics, Europe represents more than 90% of the value of listed corporate bonds internationally, as summarised in Figure 4.1.

⁵¹ The LSE's AIM does not admit debt securities. Since July 2005, debt securities can be listed on the PSM operated by the LSE. This section focuses on debt listings on the Main Market.

Figure 4.1 Value of domestic corporate bonds listed, by region



Notes: Data applies to 2003 because the 2004 and 2005 values for the world exchanges are less complete or not available.
Source: WFE.

The prominence of listing in Europe is partly due to regulatory requirements. As discussed in Milne and Onorato (2004), regulation on portfolio allocations strictly limits the ability of institutional investors and collective investment vehicles to invest in unlisted securities. It is also usual practice for institutional investors to set internal investment guidelines limiting their investment in unlisted securities to an even greater degree than is required by regulation.

For example, in most European countries (including France, Germany and the UK), life-insurance schemes are subject to strict limits on their portfolios, which make it difficult for them to hold unlisted bonds, although there is national variation in the operation of these limits. In recent years many national regulations have been amended so that these limits do not apply to securities admitted to a regulated market in the EU. In practice, this still means that any bond that is to be held in the portfolios of insurance companies has to be listed; otherwise it will be included in a category of assets that is restricted to, say, a 10% limit in the portfolio.

Similar investment restrictions apply to pension funds in some countries and, importantly, across the EU to collective investment schemes such as unit trusts and open-ended investment companies that qualify as, and are marketed in accordance with, the UCITS Directive.⁵² The introduction of this Directive has led to greater harmonisation of such rules across Europe. In particular, investment in 'other securities', including asset-backed securities, structured finance and any unlisted bonds, is restricted to a limit of 10%. Although not subject to the UCITS Directive, similar restrictions apply to institutional and retail investment schemes in Switzerland.

Regulatory requirements on the investor side cannot fully explain the prominence of listed debt in Europe. As noted in Milne and Onorato (2004), institutional investors rarely come close to the limits of portfolio restrictions. Thus, the preference for holding listed securities is rooted not only in formal regulations, but also in market practice—European institutional investors tend to be reluctant to hold any significant proportion of unlisted bonds in their portfolios.

⁵² Directive 85/611/EEC on the coordination of laws, regulations and administrative provisions relating to undertakings for collective investment in transferable securities (UCITS), as amended.

Whether driven by regulation or market practice, the fact that listing corporate debt is a largely European phenomenon suggests that a comparison of costs across listing venues must necessarily be Europe-centric. Unlike in the case of equities, the US exchanges do not appear to compete with European exchanges for corporate debt listings. Moreover, the fact that corporate debt is generally not listed in the USA also suggests that listing does not play the same role in the debt issuance process, and, hence, that the choice of listing venue is less relevant than in the case of equity.

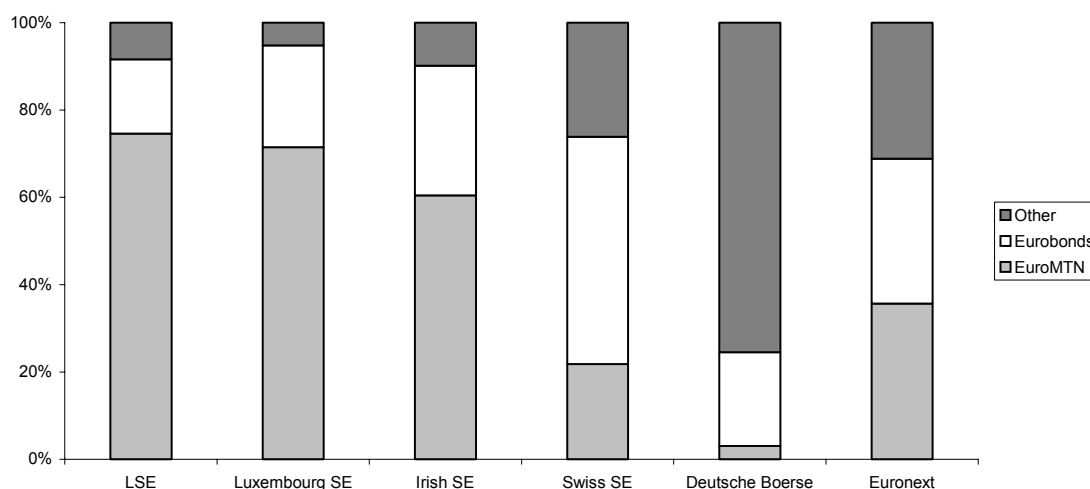
4.2 Composition of domestic and international bonds on the main listing venues

The question of whether the choice of listing venue is relevant for the relative cost of raising debt capital depends to a large degree on whether the location of listing affects a company's ability to tap specific geographic pools of capital (i.e., target group of investors). The following considers the predominant type of bond issued in the European corporate debt markets in order to provide some evidence on the link between the origin of issuers, the geographic pool of capital (i.e., the target group of investors), and the location of the listing venue.

The types of debt security issued in the European corporate bond markets can be characterised in terms of the issuer's country of domicile, the currency in which the securities are issued, the syndication process and the target investor group. 'Domestic' bonds are issued in domestic currency, and tend to be syndicated by domestic underwriters and targeted at domestic investors. 'Foreign' bonds are issued in foreign currency outside the issuer's country of domicile. These bonds tend to be syndicated by local underwriters and targeted at local investors. For example, a German company issuing bonds in GBP and selling them predominantly to UK investors would be classified as a foreign bond from the perspective of UK investors. Finally, Eurobonds and Euro-Medium Term Notes (Euro-MTNs) are characterised by international syndication and are targeted at a number of geographic pools of capital simultaneously. These bonds can be issued in any currency and by issuers of any origin.

Figure 4.2 provides a breakdown of the current listings in the main European financial centres. These estimates are based on the sample of all corporate debt securities listed on these exchanges as at August 2005, available from Bloomberg. The figure suggests that, overall, Eurobonds and Euro-MTNs constitute the majority of all corporate debt securities listed in the European markets. For instance, in London, Luxembourg, and Dublin, the proportion of Eurobonds and Euro-MTNs is around 90% of the total number of bonds listed. The highly international nature of the main European listing venues is confirmed in the analysis of new bonds issued (see Appendix A1.2 for more detail).

Figure 4.2 Type of corporate bonds listed on European exchanges, 2005



Note: 'Other' includes domestic and foreign bonds.
Source: Oxera calculations based on Bloomberg.

This suggests that a corporate bond listing has a somewhat different function from that fulfilled by listing on equity markets. In particular, the predominant means of tapping into the international capital markets is to issue bonds that straddle several pools of capital (at least in Europe), and require one unique listing. In comparison, in equity markets, although a proportion of new issues are sold internationally and markets are increasingly integrated, issues are still predominantly linked to the pool of capital where they are listed. Therefore, if companies want to tap into multiple pools of capital, in general they have simultaneous issues at the initial stage, or create a cross-listing at a later stage. Using international bonds (Eurobonds and Euro-MTNs), this can be achieved through one issue and one unique listing.

Trading of corporate bonds is off-exchange

In equity markets, direct trading costs and liquidity in the secondary markets can be a critical factor in a company's choice of listing venue. As discussed in section 3.3, this choice can make a substantial difference in terms of the cost of equity through the premium that investors demand as a compensation for costs incurred in the trading process. However, unlike in the equity markets, trading of corporate bonds is not centred on an exchange. As such, the 'exchange' role of a listing venue is limited—the LSE and other exchanges play a limited role in creating liquidity.

Instead, trading is fragmented and predominantly takes place in over-the-counter markets. Within Europe, it is predominantly the trading desks of London-based investment banks that manage the trading process and provide liquidity to the market. In 2003, 70% of international bond trading was managed in London.⁵³ Thus, although London plays a leading role in bond trading, this is largely outside the LSE as the listing venue.

There are a number of reasons for this segmentation of listing and trading in the corporate bond markets. For instance, the primary market is more fragmented, with many more bond issues than listed common stocks. Due to multiple issues over time, liquidity is not concentrated in a few standard instruments. There are several

⁵³ See IFSL (2005), 'Securities Dealing', City Business Series, July 2005, International Financial Services London.

different but comparable bonds that are often interchangeable.⁵⁴ The resulting complexity in investment parameters is high (e.g., payment dates, coupon, price, maturity yield, liquidity, and credit risk) and may not be suited to exchange-based trading.

As a result, trading in corporate bond markets is structurally different from that in stock markets. While, in the case of equity, exchanges can provide significant advantages in terms of liquidity via centralised and efficient trading systems, the structure of the bond market is such that trading tends to be spread over many bilateral transactions. Lack of standardisation means that the network benefits provided by exchanges are likely to have a limited effect in the case of corporate bond trading.

The fragmentation of trading and the resulting lack of competitive pricing information have led to less efficient price formation than in equity markets. Investors may pay dealers different prices for the same trades. In turn, this has led to regulatory concerns about the transparency of corporate debt markets.⁵⁵ In Europe, the regulatory initiatives at the European level to increase transparency may have consequences for the organisation of corporate bond markets. The impact of these developments remains to be seen.

The structure of European corporate bond markets has direct implications for assessing the comparative cost of issuing bonds in different listing venues. Specifically, although investors incur non-negligible costs in the secondary markets, the geographic location of listing venue is unlikely to have a significant influence on the level of trading costs. In other words, although trading costs vary across bonds, these differences can in general be explained by the characteristics of bonds,⁵⁶ rather than the geographic location of the listing venue. Differences in the costs incurred in secondary markets are therefore not further considered in the analysis.

⁵⁴ See Endo, T. (2002), 'The Development of Corporate Debt Markets', mimeo, International Finance Corporation/World Bank, p. 49.

⁵⁵ See IOSCO (2004), 'Transparency of Corporate Bond Markets', Report of the Technical Committee of the International Organization of Securities Commissions.

⁵⁶ For example, Edwards et al. (2004) show that trading costs are related to the credit quality of the issuer, time to maturity, and transparency of trading. Edwards, A., Harris, L. and Piwowar, M. (2004), 'Corporate Bonds Market: Transparency and Transaction Costs', unpublished manuscript.

4.3 The cost of issuing corporate debt and differences between markets

The following presents empirical evidence on the elements of cost that influence the overall cost of raising debt—underwriting fees, offer price discounts and the costs directly associated with the listing process (exchange listing fees, legal and advisory fees, and regulation).

Underwriting fees

Existing studies in the literature have produced a considerable amount of evidence on the factors that determine the level of underwriter fees incurred by companies.⁵⁷ The choice of listing venue, however, is not considered in the literature, and, as discussed above, is unlikely to be a significant determinant of underwriting fees. Nonetheless, the following presents evidence on underwriting fees of bonds listed on different European exchanges. The analysis is based on a sample of 2,151 Eurobonds and Euro-MTNs issued in the period from January 1st 2004 to June 30th 2005 and listed on the LSE's Main Market, Deutsche Boerse, Euronext, and the Luxembourg, Dublin, and Swiss Stock Exchanges. The sample includes all relevant new issues reported in Bloomberg's underwriting tables, after excluding those issues for which the required information (e.g., underwriting fee or type of bond) was missing.

Table 4.1
Underwriting fees for Eurobond and Euro-MTN issues
listed on different markets

	Underwriting fees (%)	Number of observations
LSE	0.20	477
Luxembourg SE	0.15	893
Irish SE	0.25	46
Deutsche Boerse	0.25	217
Euronext	0.35	167
Swiss SE	0.75	351
Total	0.33	2,151

Notes: Median values of underwriting fees are reported.
Source: Oxera calculations based on Bloomberg.

⁵⁷ For example, in the Eurobond market, Esho et al. (2004) find a positive relationship between underwriting fees and the reputation of the underwriter. Esho, N., Kollo, M.G. and Sharpe, I.G. (2004), 'Eurobond Underwriter Spreads', discussion paper, London School of Economics, Financial Markets Group, June. Melnik and Nissim (2004) look at the impact of the Euro on underwriting fees, and report that underwriter fees in the legacy currencies were higher than those charged for USD-denominated Eurobond issues; following the introduction of the Euro, underwriting fees declined and largely came into line with those charged on USD issues. Melnik, A. and Nissim, D. (2004), 'Liquidity and Issue Costs in the Eurobond Market: The Effects of Market Integration', Working Paper, University of Haifa and Columbia University. There is also considerable evidence on the relationship between underwriter spreads and the characteristics of the issuer and the issue, for example with underwriter spreads being positively related to the riskiness and maturity of the issue. See Livingston, M. and Miller, R.E. (2000), 'Investment Bank Reputation and the Underwriting of Nonconvertible Debt', *Financial Management*, 29, 21–34, Roden, P. and Bassler, J. (1996), 'Effect of Underwriter Prestige on the Interest Cost of Municipal Bond Offerings', *The Financial Review*, 31:3, 641-66, and Esho, N., Kollo, M.G. and Sharpe, I.G. (2004), 'Eurobond Underwriter Spreads', discussion paper, London School of Economics, Financial Markets Group, June.

Issues listed in Luxembourg incurred, on average, the lowest underwriting fees, followed by the LSE and then the Irish SE and Deutsche Boerse. However, fee levels are comparatively low, falling in the range of 0.15–0.75% across the exchanges. This is considerably below the underwriting fee levels observed for IPOs and subsequent issues in equity markets (see section 3.2).

Further analysis was conducted to examine underwriting fees, while controlling for issue-specific factors that may influence fee levels (e.g., type of security, currency, size, time to maturity, rating).

Overall, the underwriting fee levels for debt issues are small, certainly much smaller than in the case of equity issues. There appears to be some variation in underwriting fees for debt issues that are listed on different European exchanges. This variation can partly be explained by differences in the characteristics of the issues listed on the exchanges. It is difficult to control for all relevant characteristics and isolate the impact on fee levels of the choice of listing venue, if such an impact exists. Given the role played by listing venues in the debt-issuing process and consistent with the views of interviewees, the choice of where to list in Europe is unlikely to affect the underwriting costs for bond issues.

Discounting

In addition to underwriter fees, at the issuing stage companies may incur costs associated with price discounts of the issues. As shown in section 3, in the case of equities, new issues are often considerably discounted, as evidenced by significant returns immediately after flotation.

Table 4.2 presents average discounts of new debt issues listed on the exchanges, as measured by initial returns. The sample of issues is the same as the underwriting fee sample above, subject to the further data restriction that market prices for the issues were available for the first week following issuance. The resulting sample consists of 1,631 issues of Eurobonds and Euro-MTNs from January 1st 2004 and June 30th 2005.

Table 4.2 Discounting of debt issues listed on different markets

	Initial returns (%)	Number of observations
LSE	-0.12	290
Luxembourg SE	-0.05	479
Irish SE	0.01	32
Deutsche Boerse	-0.19	382
Euronext	-0.70	143
Swiss SE	-0.39	305
Total	-0.24 (average)	1,631

Notes: Initial returns are as the percentage difference between the market price one week after the issue and the offer price. Median values are reported.

Source: Oxera calculations based on Bloomberg.

The results suggest that discounting is not a significant cost for debt issues. Initial returns are very small—indeed, on average they are negative rather than positive. The absence of significant discounts in debt issues is supported by evidence in the literature. For example, Wasserfallen and Wydler (1988) and Helwege and Kleiman

(1998) report very slight discounts,⁵⁸ and Fung and Rudd (1986) and Melnik and Nissim (2003) conclude that there are no discounts.⁵⁹

Since discounts appear to be negligible, the question of whether there are differences between listing venues is largely irrelevant. In any case, given the nature of the debt markets, systematic differences in price discounts depending on the choice of listing venue would not be expected.

Costs directly associated with listing

Given the limited link between listing and bond trading, and between listing and other parts of the debt capital-raising process, cost differences across exchanges largely come down to those elements of cost that are directly associated with the listing—i.e., listing fees, professional fees required to obtain listing, speed and certainty of the listing process, and regulatory requirements.

While listing fee information is available, it is difficult to obtain information on the comparative costs of regulatory compliance, and the professional fees associated with the preparation and approval of a debt listing on different exchanges. The following therefore provides only a partial analysis, using published information and evidence obtained during the interviews with market participants.

Listing fees

Table 4.3 summarises the listing fees (for Eurobonds) on the LSE's Main Market and the five other European exchanges, distinguishing between fees levied at the initial stage and the annual fees of maintaining the listing.

⁵⁸ Wasserfallen, W. and Wydler, D. (1988), 'Underpricing of Newly Issued Bonds: Evidence from the Swiss Capital Market', *Journal of Finance*, **43**:5, 1177–91. Helwege, J. and Kleiman, P. (1998), 'The Pricing of High-Yield Debt IPOs', *Journal of Fixed Income*, **8**, 61-8.

⁵⁹ Fung, W. and Rudd, A. (1986), 'Pricing New Corporate Bond Issues: An Analysis of Issue Costs and Seasoning Effects', *Journal of Finance*, **41**, 633-45. Melnik, A. and Nissim, D. (2003), 'Debt Issue Costs and Issue Characteristics in the Eurobond Market', Working Paper No. 9/2003, International Centre for Economic Research.

Table 4.3 Debt listing fees on different exchanges

Exchange	Listing fees
LSE	<p>The fee structure is made up of three initial fees: an application fee, a vetting fee charged by the UKLA and the admission fee charged by the LSE. There are no annual fees</p> <p>Application fee: £225</p> <p>Vetting fee: £2,500</p> <p>Admission fee: 6 pence per £1,000 face value of the security, subject to a minimum fee of £1,025 and a maximum fee of £4,100</p>
Luxembourg SE	<p>The fee structure is made up of three parts: the Visa fee and the listing fee (which make up the initial fee), and annual fees</p> <p>Visa fee: £1,029 for ordinary issuers (£429 for subsequent listings)</p> <p>Listing fee: £412 (applicable for each subsequent listing)</p> <p>Annual fee: from £195 to £549, depending on issue</p>
Irish SE	<p>The fee structure is made up of three parts: a document vetting fee, an annual fee and a fee for each tranche</p> <p>Document fee: £1,372</p> <p>Annual fee: £1,029</p> <p>Tranche fee: £343 for the first tranche and £171 for subsequent tranches</p>
Deutsche Boerse	<p>The fee structure for listing on the Regulated or Official Markets are made up of three initial fees. There are no annual fees</p> <p>Admission fee: £2,058</p> <p>Inclusion fee: £1,715</p> <p>Introduction (of securities on the stock exchange) fee: £343</p>
Euronext	<p>The fee structure is based on an admission fee and an annual fee.</p> <p>Admission fee: £273 for each €25m (£17m) outstanding, with a cap of £1,715</p> <p>Annual fee: £343</p> <p>For debt securities fungible with securities already listed, the fee is reduced by 50%. For bonds denominated in a currency other than euros, the admission fee is £1,715 per line</p>
Swiss SE	<p>The fee structure is made up of two initial charges and a document vetting fee. There are no annual fees.</p> <p>Basic charge (for processing the application): £1,329 (or £885 if submitted electronically)</p> <p>Variable charge: £10 for each £1m of the issue</p> <p>Document vetting fee: £2,213</p> <p>There are additional charges of £4,426 for new issuers</p>

Notes: Fees relate to Eurobonds as at January 2006. January 2006 exchange rates used for conversion into GBP. Source: Websites of the London Stock Exchange (Admission and Annual Fees, April 2003), the UKLA (Listing Fees), the Irish Stock Exchange (Listing and Admission to Trading—Guidelines for Debt Securities, Appendix 8), the Euronext (Fee Book: Listing Fees, January 2003), the Deutsche Boerse (Fee Regulation for the Frankfurt Stock Exchange, January 1st 2006), the SWX Swiss Exchange (List of Charges, July 2005), and the Luxembourg Stock Exchange (Listing fees). Exchange rates from Datastream.

The fee levels reported in Table 4.3 suggest that initial bond listing fees are very small, and, overall, similar across exchanges. Typically, the initial listing fees on the Irish and Luxembourg Stock Exchanges and on Euronext are lower, but companies also incur annual listing fees ranging from £195 to £1,029. Initial listing fees on

Deutsche Boerse, the LSE's Main Market, and the Swiss Exchange are higher, but no annual listing fees are levied.

Overall, listing fees are too low to be an important determinant of the cost of issuing corporate debt. For example, considering an average debt issue of £50m, listing fees amount to less than 0.01% of the amount issued. Listing fees are also very similar across the exchanges. This is consistent with the views expressed in interviews—given their size and similarity, listing fees tend to be irrelevant in deciding where to list corporate debt in Europe.

Legal, accounting and other advisory fees

As in the case of issuing and listing equities, the listing of debt involves compliance with regulatory and disclosure requirements, and an application to the listing authority for approval of the listing. As part of this process, companies incur direct costs that are paid to lawyers, accountants and other advisers in preparation for admission. The following appear to be the most relevant determinants of these costs.

- **Complexity of the issue**—for more complex types of issue, the legal, accounting and advisory costs are generally higher. For example, setting up a debt issuance programme is more complex than a stand-alone bond issue in terms of the required documents, and also more time-consuming, so the professional fees tend to be higher (at least on a one-off basis, since programmes are seen, overall, to be cheaper for regular issuers). This applies no matter where the issued debt is listed.
- **Experience and expertise of the lawyers, accountants and advisers**—more experienced professional advisers are likely to help draft all the necessary documents more quickly and may therefore be more cost-effective, even if they charge higher hourly fees. Such fee differences are again largely independent of the geographic location of the listing venue.
- **Ease of communication with the listing authority and certainty of the outcome**—a listing authority with clear review periods, sophisticated readers of the application documents, and the ability to turn around documents more quickly and with more certainty to an agreed timetable is likely to reduce the fees payable to the professional advisers.
- **Cost of disclosure**—accounting costs can be significant, for example if the issuer has to re-state financial statements according to different accounting standards. The listing application and ongoing disclosure require submission or dissemination of financial information, which can lead to diverging levels of accounting costs, depending on how much new material the issuer has to prepare.

Based on the views of interviewees, there appear to be no significant differences in professional fees paid by an issuer that are directly influenced by the choice of listing venue in Europe. For example, legal fees in the UK are around £20,000 for a typical issue (largely irrespective of amount issued). For a similar listing in Luxembourg, the issuer would have to work with a listing agent appointed by the Luxembourg authority. Listing agents in Luxembourg charge around £7,000, which appears to be lower. However, since issuers would usually have to appoint lawyers to deal with the listing agents, the total fees paid are about the same as in the UK.

Overall, no evidence was obtained to suggest that legal, accounting and advisory fees differ systematically and significantly depending on the location of listing in

Europe. Rather, the total cost of professional advisers depends on a multitude of dimensions that are specific to each debt issue.

In addition to listing fees and professional fees, issuers incur other direct costs, for printing, publishing documents, advertising, etc. However, as confirmed by the interviewees, these tend not to be relevant in deciding where to list corporate bonds.

Listing process and regulations

The ease and speed of the listing process can be critical in determining the direct costs associated with bond listing. As mentioned above, legal, accounting and advisory fees often depend on the complexity and hurdles in the listing process. Regulation of new debt issues and disclosure requirements in particular, are important considerations in the choice of the listing venue for the same reason.

- **Listing process**—according to interviewees, speed and certainty of the listing process are key elements for an issuer's choice of listing venue. Given the importance of listing for many institutional investors, any delays and uncertainty about outcomes would cause problems in the placement of the bond. A longer listing process could also increase underwriting fees.

The complexity and timeline of the process of listing bonds varies according to the type of the application (i.e., whether a bond is stand-alone, issued by a new issuer, part of an issuance programme, or a repeated issue), the experience of the advisers, as well as how promptly the listing authorities handle the documents. For example, a typical (stand-alone) Eurobond issue process begins with a mandate letter, followed by the launch three to eight weeks later (during this time, legal documents are negotiated and a prospectus is drafted). One or two weeks are then needed to finalise the legal documents and the prospectus, and the agreements are finally signed. Closing of the issuance takes a further two days to one week.⁶⁰ Where a bond is issued as part of a programme, the whole listing process would take three to ten days.

An important determinant of the ease of the listing process is how promptly and transparently the listing authorities handle the documentation. This influences both the time dimension of the listing process, and the certainty of the outcome. For example, the London and Dublin listing authorities commit to explicitly stated, fixed review periods. The UKLA guarantees initial comments within two working days (including MTN programmes), and the Irish Stock Exchange within three working days. One interviewee noted that the turnaround time for initial comments was less certain in the case of Luxembourg, although overall approval time was seen to be similar on average.

Since July 1st 2005, when the Prospectus Directive⁶¹ was implemented in all EU Member States, the listing authorities have been obliged to state their decisions regarding the approval of the prospectus within ten working days after submission of the draft prospectus and all the necessary documentation. It is difficult to forecast whether the implementation of this Directive will have an impact on approval time periods of different listing authorities or other aspects that may influence listing costs for issuers.

⁶⁰ Source: London Stock Exchange (website), 'A Practical Guide to Listing Debt in London', and Deutsche Bank (website), 'The Issuance of Debt Securities—Issue Briefing on Bond Prospectuses', May 7th 2003.

⁶¹ Directive 2003/71/EC.

Interviewees emphasised that certainty of the outcome is a key aspect of the listing process. For example, it was argued that many borrowers prefer London and Luxembourg to their domestic exchanges because of the longer experience and clarity of process—in the words of one market participant, ‘you know what to expect’.

- **Regulation**—listing rules can also differ across listing venues and may therefore affect the choice of where to list a bond and the costs involved. For example, there may be differences in minimum listing requirements or in the interpretation of rules by listing authorities, which mean that it is easier for certain types of debt issues to be admitted to listing on a particular exchange.

One particular element of the regulatory framework highlighted by interviewees concerns information requirements. For example, for companies seeking to list bonds in a country other than their country of incorporation, the requirement that financial statements must comply with specific accounting standards is of particular relevance when deciding on the location of listing. Flexible requirements that financial statements can be presented in accordance with the issuer’s local accounting standards or International Accounting Standards, for example, are likely to facilitate foreign companies’ compliance with meeting disclosure standards.

The regulatory environment has been changing at the EU level, with the implementation of the various Directives that have resulted from the European Commission’s Financial Services Action Plan (e.g., the Prospectus and Transparency Directives). The objective of the Directives has been to harmonise the disclosure and documentation for new issues within the EU.

While it is unclear whether the Prospectus Directive and the Transparency Directive will have an impact on the competitive position of the different exchanges within the EU, the new regulations may adversely affect their position relative to non-EU exchanges (e.g., the Swiss Exchange).⁶² However, the exchanges within the EU have responded by setting up ‘markets’ alternative to the regulated market that are more flexible in their listing requirements (such as the LSE’s PSM which has attracted a significant number of listings since its launch in July 2005).⁶³ The overall outcome of these changes remains to be evaluated.

Regulatory differences may exist across exchanges and may be important in the choice of where to list a particular debt issue. However, while potentially important for the ultimate choice of listing venue, there was no evidence to suggest that any such regulatory differences are sufficiently large between the European exchanges considered in this study to have a material impact on the cost of issuing debt. This conclusion applies to regulation as much as to the other costs directly associated with listing debt (i.e., listing fees and legal or other professional fees).

⁶² For example, Milne and Onorato (2004) suggest that the Directives impose ‘unreasonable disclosure costs’ on international bond issuers, in particular those from Canada and Japan, by requiring that the accounts be stated according to the International Accounting Standards. See Milne, A. and Onorato, M (2004), ‘An Absence of Regulatory Design? Recent European Directives and the Market for Corporate Bonds’, City of London Corporation, City Research Series No. 4, December.

⁶³ Since July 2005, issuers listing debt (as well as convertibles and depositary receipts) in London have the choice of being admitted to the LSE’s Main Market or the PSM. The PSM is operated by the LSE and approved as a Multilateral Trading Facility, rather than a regulated market as defined in the Directives. Six months after the launch of the PSM, a total of 404 securities were listed on it, with £27.6 billion raised through PSM issues.

4.4 Summary

Unlike in the case of equities, the listing of corporate debt on exchanges is a European phenomenon. The main reasons for the prominence of listing in Europe are regulatory requirements and restrictive client guidelines often set by European institutional investors. Therefore the focus of the comparative cost assessment is limited to the main European exchanges. Among these, Luxembourg is the largest listing venue for international bond listings, followed by the LSE.

In principle, the costs that arise in the process of issuing debt capital are similar to those associated with raising new equity capital. At the issue stage, for instance, companies incur underwriter fees and other direct costs associated with the listing process (e.g., listing fees and legal costs). Investors are also likely to demand compensation for the costs incurred for trading in the secondary markets, with implications for the cost of debt facing companies. Despite these similarities, the costs associated with new debt issues are, by and large, not related to the geographic location of the chosen listing venue:

- The European corporate debt markets are predominantly international, where most of the debt is issued in the form of Eurobonds and Euro-MTNs and simultaneously targeted at different pools of capital. The link between the listing location and particular national pools of capital therefore appears weak.
- Trading in the European corporate debt markets is largely off-exchange, and most of the trading in the dominant Eurobond and Euro-MTN segment takes place in London. The listing location is therefore largely de-linked geographically from trading in the secondary markets.

Interviews with market participants confirmed that the geographic listing location has a negligible impact on the ability to tap into different pools of capital, and that the nature of trading in the secondary markets—e.g., the choice of investor base, and geographic location of roadshows—would be the same regardless of whether the new issue was listed in, say, London or Luxembourg. Rather, choice of listing venue is largely driven by the ease and speed of the listing process.

The main issuing costs that depend on the particular geographic listing location are those that are directly associated with the listing and regulatory approval process. Among these costs, listing fees appear negligible in relation to the amounts issued and are similar across exchanges. There was also no evidence to suggest that legal, accounting and other advisory costs differ significantly depending on the choice of listing venue in Europe. Regulation may be an important consideration in the choice of where to list a particular debt issue, but there was no evidence to suggest that regulatory differences were large enough between the European exchanges to have a material impact on the cost of issuing debt. Going forward, due to implementation of European Directives, any such differences may decline further.

Overall, unlike in the case of equities, the geographic location of a listing venue for debt securities is of little importance to the cost of issuing corporate debt in Europe. This is because listing is largely de-linked from other parts of the capital-raising process as well as from debt trading, and because the few costs that are directly associated with listing are small and comparable across venues.

Appendix 1 What have been the markets of choice? Evidence based on actual decisions

While sections 3 and 4 in the main report examined the empirical evidence on the comparative costs of listing and raising capital associated with different listing venues, this appendix summarises evidence on the actual decisions made by companies in relation to the following questions.

- What have been the markets of choice for issuing equity? In particular, on which markets have foreign companies decided to float and where have they decided to raise additional equity? (section A1.1)
- What have been the chosen venues for listing corporate debt issues? (section A1.2)

A1.1 IPOs and additional equity issues

IPO activity since 2003

To evaluate the recent IPO activity of domestic and foreign companies, Oxera constructed a database of domestic and foreign companies that had an IPO on the LSE, NYSE, Nasdaq, Euronext or Deutsche Boerse during the period from January 1st 2003 to June 30th 2005, based on information available in Bloomberg's underwriter league tables. Only common stock and depository receipt issues are considered; collective investment vehicles are excluded from the sample. The data refers to underwritten transactions only; non-underwritten deals and privately placed transactions are not included. Also excluded from the analysis of IPO activity are IPOs announced during the time period studied but which have been postponed or withdrawn (e.g., due to being acquired) and IPOs for which relevant information on deal terms was not available (e.g., IPO date and issue value). The database of IPOs thus includes 804 equities.⁶⁴

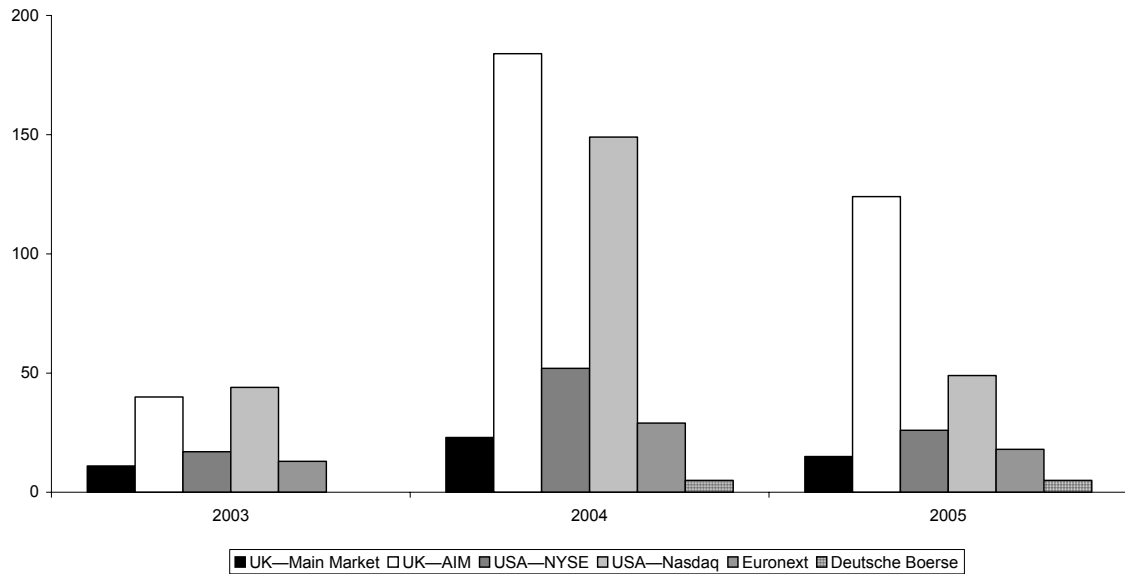
After the boom years that lasted until 2001 and the subsequent trough in IPOs, activity has picked up sharply (in particular since 2004), with most IPOs occurring on the LSE. While there were only 125 IPOs on the exchanges in 2003, the number rose sharply to 442 in 2004. 2005 continued to be a year of high IPO activity—in the first half alone there were 237 initial offerings. The LSE's AIM has had the largest number of initial offerings—348 in total from 2003 to the first half of 2005, followed by Nasdaq (242) and NYSE (92) (see Figure A1.1 below). Overall, in 2005, as well as in 2004, the LSE had the most active IPO market in the world.

A PriceWaterhouseCoopers survey of IPO activity in the full year 2005 supports these results: Europe raised more new money from IPOs than the USA and also attracted more international IPOs than the US exchanges. The increase in European IPO activity was driven by the continued success of AIM, which accounted for 52% of total European IPOs in the year. The LSE saw more IPOs than the US exchanges combined.⁶⁵

⁶⁴ In comparison, the WFE reports 388 and 783 newly listed companies in 2003 and 2004, respectively. The discrepancy is likely to be due to a number of factors: the difference between the definition of newly listed and IPO; the difference in the data sources used (WFE uses data provided by member exchanges, whereas this study uses raw data from Bloomberg); and because a number of observations were dropped from the full Bloomberg IPO list due to the lack of relevant data.

⁶⁵ PriceWaterhouseCoopers (2006), op. cit.

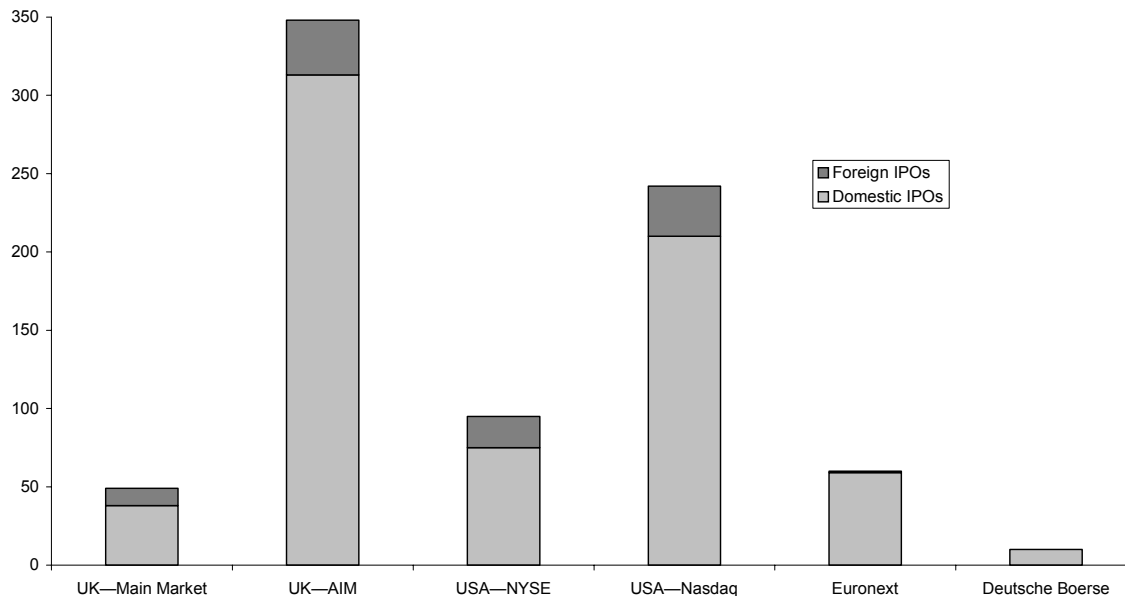
Figure A1.1 Annual number of IPOs, 2003–05



Notes: Numbers include IPOs by both domestic and foreign companies for which data was available from Bloomberg's underwriter league tables. 2005 includes IPOs in the first half of the year only.
Source: Oxera calculations based on Bloomberg.

In the period from January 2003 to the end of June 2005, a significant number of foreign companies chose the UK and US stock exchanges as venues for flotation. Figure A1.2 illustrates the number of domestic and foreign company IPOs on the exchanges: in total, 46 foreign companies had an IPO on the LSE, followed by Nasdaq and NYSE with 32 and 20 companies respectively.

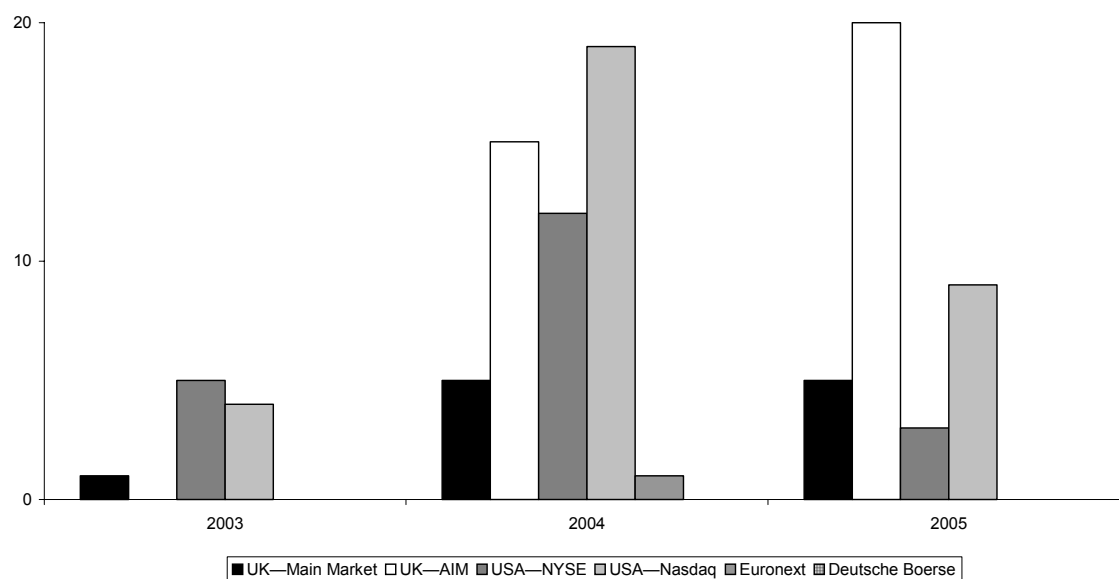
Figure A1.2 Total number of domestic and foreign IPOs, 2003–05



Notes: Numbers include all domestic and foreign company IPOs for which data was available from Bloomberg's underwriter league tables. Foreign companies on Euronext are all companies with country of origin outside France, Portugal, the Netherlands and Belgium.
Source: Oxera calculations based on Bloomberg.

The number of foreign company IPOs has tended to increase on all exchanges (see Figure A1.3). The LSE's AIM has seen the greatest rise in the number of foreign IPOs: from 0 in 2003, to 15 in 2004, and to 20 in the first half of 2005 alone. Moreover, the Main Market has seen a growing number of foreign IPOs. In the first half of 2005, 25 foreign companies had their IPO on the LSE (both Main Market and AIM), which is more than on NYSE and Nasdaq combined (12). The experience of the UK and US stock exchanges contrasts with that of the two European exchanges, which have failed to attract a significant number of foreign IPOs.

Figure A1.3 Annual number of foreign IPOs, 2003–05



Note: Numbers include IPOs by foreign companies for which data was available from Bloomberg's underwriter league tables. 2005 includes IPOs in the first half of the year only. Foreign companies on Euronext are all companies with country of origin outside France, Portugal, the Netherlands and Belgium.
Source: Oxera calculations based on Bloomberg.

Table A1.1 below shows the amounts issued in IPOs by domestic and foreign companies. Despite the large number of IPOs on LSE's AIM, the total value of capital raised is comparatively low, for both domestic and foreign companies. This reflects the large number of smaller companies floating on AIM. Nasdaq IPOs display a similar pattern. On average, the value of foreign company IPOs tends to be much higher than average domestic IPO value. For example, for the LSE, foreign IPOs are on average twice as high as domestic IPOs.

Table A1.1 Amounts issued in domestic and foreign IPOs, 2003–05

	Domestic IPOs		Foreign IPOs	
	Number	Total amount (£m)	Number	Total amount (£m)
UK—Main Market	38	6,055.8	11	2,940.5
UK—AIM	313	2,986.8	35	687.3
USA—NYSE	75	17,779.7	20	7,948.5
USA—Nasdaq	210	11,592.6	32	1,875.6
Euronext	59	10,040.3	1	24.4
Deutsche Boerse	10	2,588.2	0	–

Notes: Amounts issued calculated as the offer price multiplied by the number of shares issued. Data includes all IPOs between January 2003 and the end of June 2005 for which data is available from Bloomberg's underwriter league tables. Foreign companies on Euronext are all companies with country of origin outside France, Portugal, the Netherlands and Belgium.

Source: Oxera calculations based on Bloomberg.

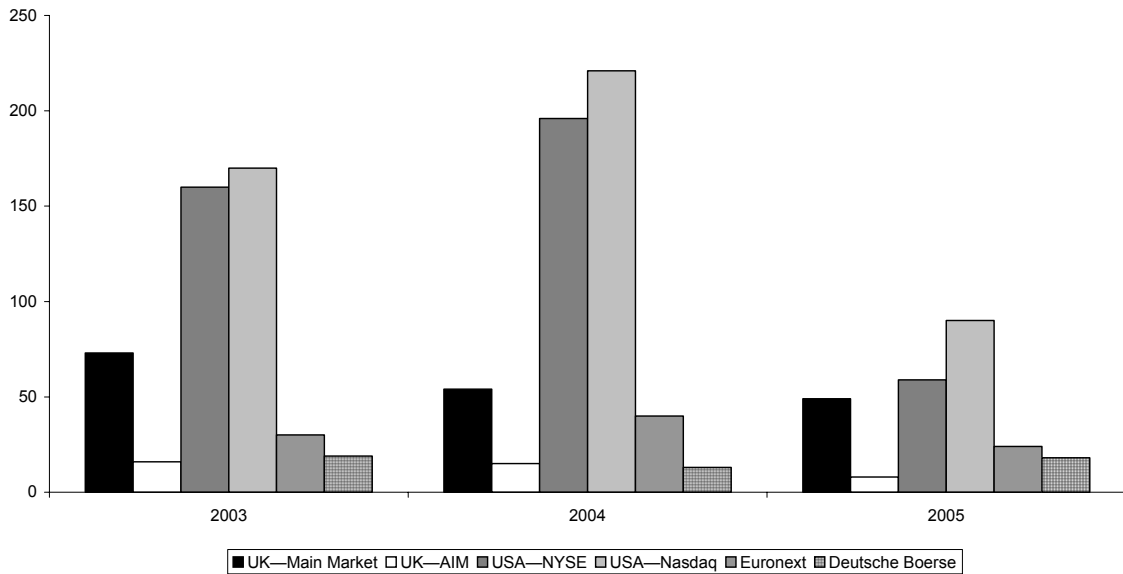
Additional equity issues since 2003

Oxera also performed a similar analysis for additional issues (secondary offerings) on the LSE, NYSE, Nasdaq, Euronext and Deutsche Boerse that took place between January 1st 2003 and June 30th 2005. For that purpose, a database was constructed of all secondary offerings of common stock and depositary receipts (by both domestic and foreign companies), based on the underwriter league tables for additional equity issues available from Bloomberg. The data does not include non-underwritten deals and privately placed transactions. Equities issued by investment funds and other collective investment vehicles were excluded, as were issues for which insufficient information (e.g., country of origin of issuer or amount of issue) was available. The resulting sample comprised 1,255 additional equity issues.

Figure A1.4 shows the number of additional issues for each market, from the beginning of 2003 to the first half of 2005. The US exchanges have had a significantly greater number of additional issues than the European exchanges. The LSE overall has had a more active additional issues market than either Euronext or Deutsche Boerse. Based on the data obtained from Bloomberg, the LSE's AIM shows very low additional issuing activity, compared with the Main Market or the other European exchanges.

Note, however, that the reported data does not include all additional issues (e.g., private placements) and therefore underestimates issuing activity on the markets. For example, LSE statistics suggest a significantly higher number of further issues on AIM than those reported here. The reported data may not be complete, but has been obtained from the Bloomberg underwriting tables as the single source and on a consistent basis for all exchanges.

Figure A1.4 Annual number of additional equity issues, 2003–05

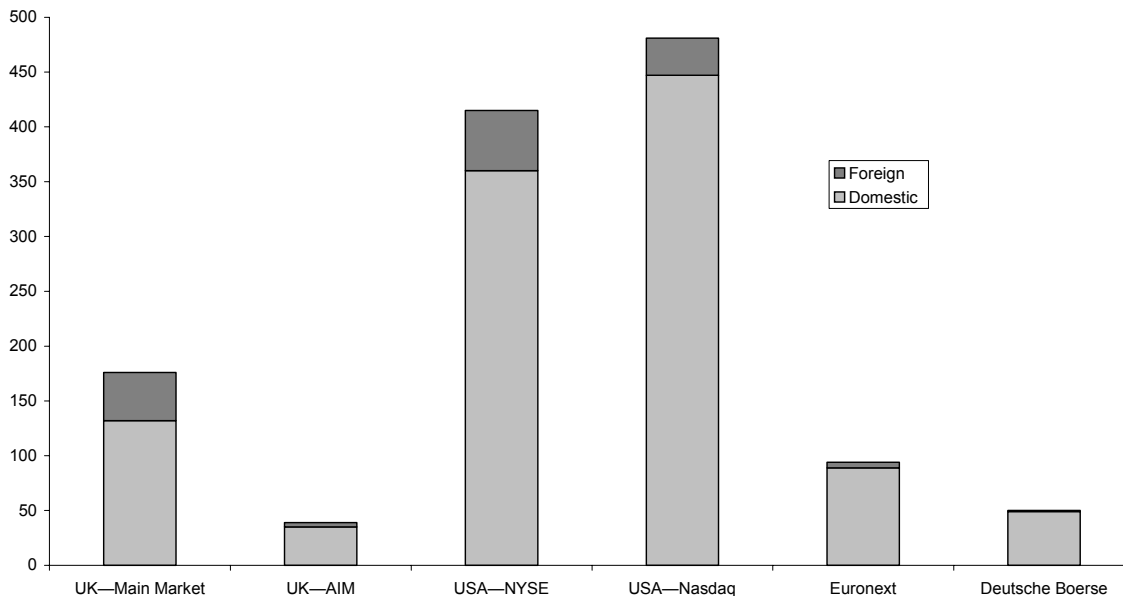


Notes: Numbers include both domestic and foreign company additional issues for which data was available from Bloomberg’s underwriter league tables (a sample of 1,255 additional issues). 2005 includes additional issues in the first half of the year only.

Source: Oxera calculations based on Bloomberg.

Figure A1.5 shows the number of domestic and foreign secondary offerings by market. The LSE, Nasdaq and NYSE had 48, 34 and 55 additional issues by foreign companies, respectively. In contrast, the issuing activity of foreign companies was limited on Euronext and Deutsche Boerse.

**Figure A1.5
Total number of domestic and foreign additional equity issues, 2003–05**

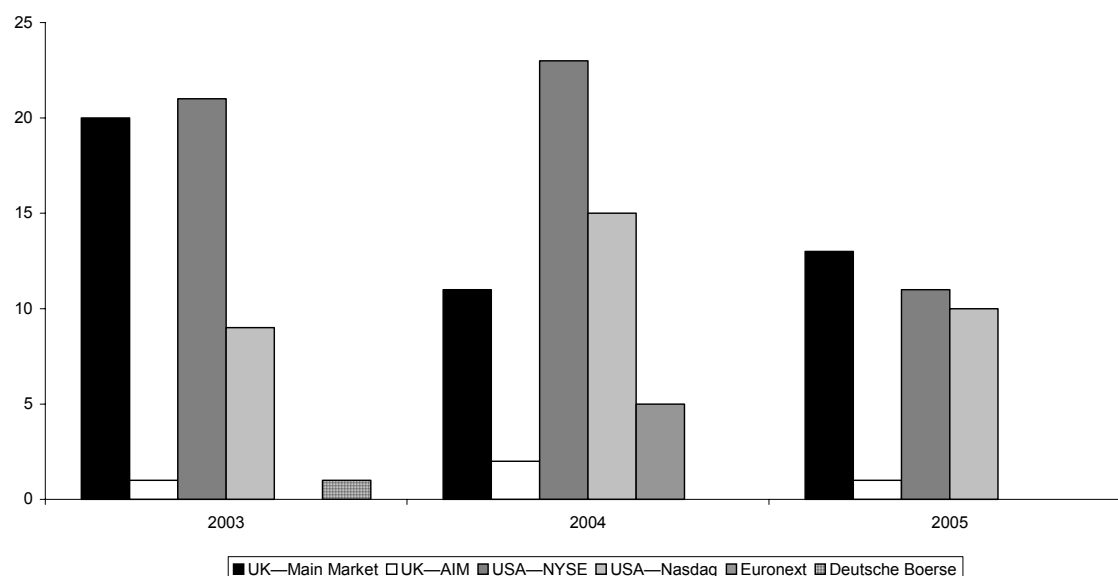


Notes: Numbers include all domestic and foreign company additional issues during the period from January 2003 to the end of June 2005 for which data was available from Bloomberg’s underwriter league tables. Foreign companies on Euronext are all companies with country of origin outside France, Portugal, the Netherlands and Belgium.

Source: Oxera calculations based on Bloomberg.

Figure A1.6 shows foreign company additional issues on the exchanges by year. The LSE had a high number of additional issues in 2003 (21); thereafter, the number dropped to 13, but additional issue activity seems to have picked up again in 2005, with 14 offerings during the first half of the year, which occurred mainly on the Main Market.

Figure A1.6 Annual number of foreign additional equity issues, 2003–05



Note: Numbers include foreign additional issues for which data was available from Bloomberg's underwriter league tables. 2005 includes additional issues in the first half of the year only. Foreign companies on Euronext are all companies with country of origin outside France, Portugal, the Netherlands and Belgium. Source: Oxera calculations based on Bloomberg.

Table A1.2 shows the total amounts issued in additional issues. On average, additional issue values on the LSE's AIM and Nasdaq are the lowest, whereas the average values of additional issues on Euronext or Deutsche Boerse tend to be the highest, although the number of issues is small.

**Table A1.2
Amounts issued in domestic and foreign additional equity issues, 2003–05**

	Domestic additional issues		Foreign additional issues	
	Number	Total amount issued (£m)	Number	Total amount issued (£m)
UK—Main Market	132	17,581.5	44	6,936.3
UK—AIM	35	986.1	4	53.2
USA—NYSE	360	55,415.5	55	11,266.9
USA—Nasdaq	447	23,564.2	34	3,222.3
Euronext	89	29,827.4	5	975.4
Deutsche Boerse	49	14,758.2	1	845.4

Notes: Amounts issued are as reported in Bloomberg underwriter league tables. The exchange rate used to convert from USD to GBP is 1.75. Data includes all additional issues between January 2003 and the end of June 2005 for which data is available from Bloomberg's underwriter league tables (1,255 observations). Foreign companies on Euronext are all companies with country of origin outside France, Portugal, the Netherlands and Belgium. Source: Oxera calculations based on Bloomberg.

A1.2 Corporate debt

The following presents statistics on new debt issues listed on the six European exchanges examined in the main part of the report. The issues occurred during January 2004 to the end of June 2005. The analysis is based on all new issues during the period, as reported in Bloomberg's underwriting tables. Where no information was available on the price and amount issued, or other relevant information (e.g., type of bond or issuer) was missing, new issue observations are excluded from the sample. The resulting database contains information for 7,314 debt issues.

The number of debt issues in the sample is, however, very different from the aggregate numbers of new bonds issued, as reported by the WFE, especially for some exchanges. However, since Bloomberg was used for all exchanges and the sample selection criteria were consistently applied for all exchanges, there is no reason to suppose that the results contain any systematic biases.

Table A1.3 shows the total number of debt issues in the sample, distinguishing between Eurobonds, Euro-MTNs, and domestic and other debt issues. It highlights the importance of Luxembourg, followed by London, as the main venues for listing Eurobonds as well Euro-MTNs, which constitute the most frequent type of debt issued in the sample. These statistics do not include listings on the LSE's PSM; as noted before, in the first six months since its launch in July 2005, a total of 404 securities were listed on the PSM.

Table A1.3 Number of debt issues by market of listing, 2004–05

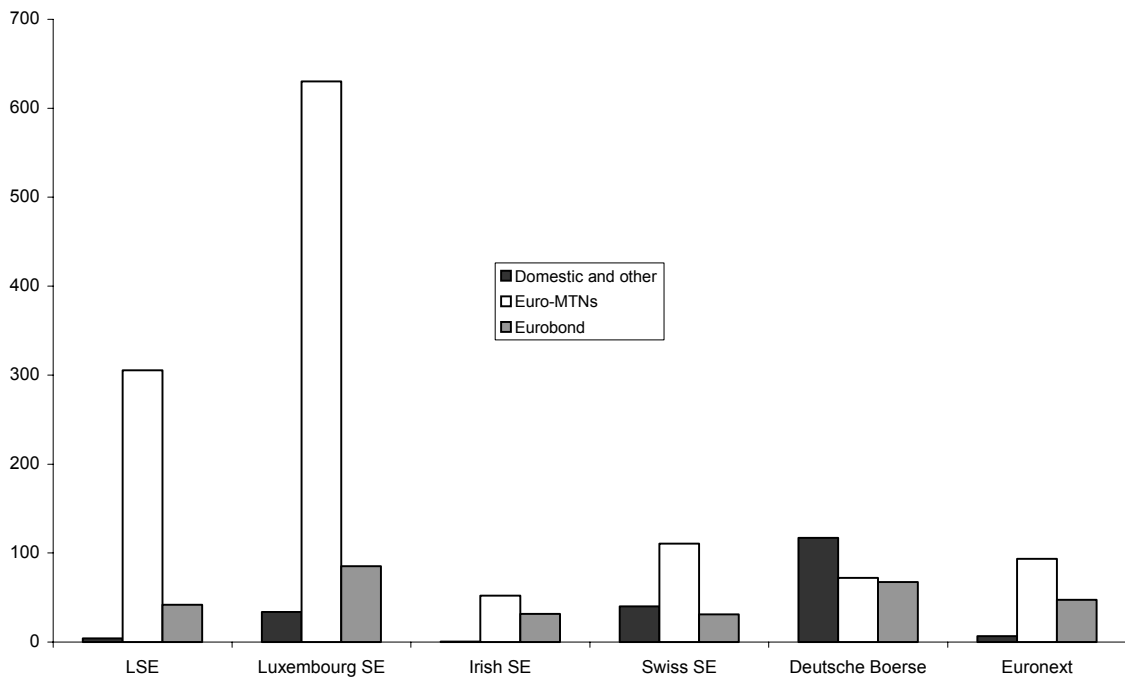
	Domestic and other	Eurobonds	Euro-MTNs	Total
LSE	56	99	1,273	1,428
Luxembourg SE	133	289	3,178	3,600
Irish SE	12	62	145	219
Deutsche Boerse	707	74	268	1,049
Euronext	25	93	381	499
Swiss SE	28	111	380	519
Total	961	728	5,625	7,314

Notes: The number of corporate debt issues is shown, by offer type, from January 1st 2004 to June 30th 2005, as available from Bloomberg's underwriter league tables. Other bonds include domestic and foreign MTNs, foreign bonds, global bonds, private placements, and other minor categories.

Source: Oxera calculations based on Bloomberg.

The lead of Luxembourg in Euro-MTN issues, followed by London, is also evident when considering the total amounts of corporate debt issued, as shown in Figure A1.7.

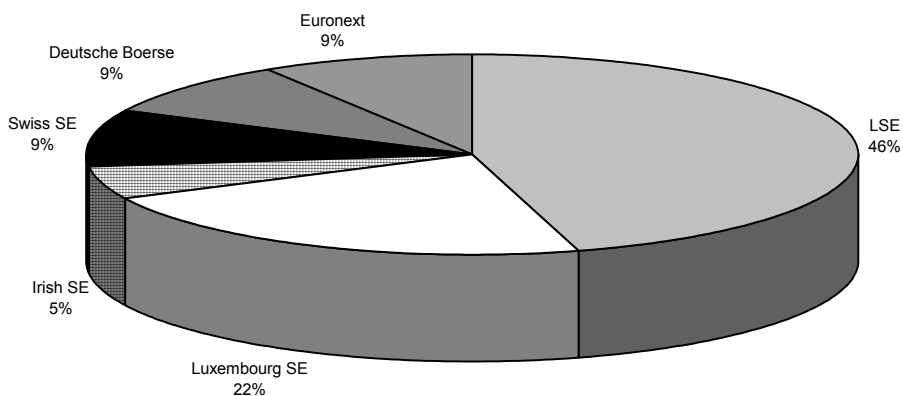
Figure A1.7 Value of debt issues by market of listing, 2004–05 (USD billion)



Notes: The total value of corporate debt issues is shown, by offer type, from January 1st 2004 to June 30th 2005, as available from Bloomberg's underwriter league tables.
Source: Oxera calculations based on Bloomberg.

Figure A1.8 essentially shows the same information, but presents market shares of the listing venues for both Eurobond and Euro-MTN issues combined. Of the total issues, 46% are listed in Luxembourg, followed by London with a market share of 22%. Markets evolve, and market shares have changed since the time period to which the data refers. In particular, with the launch of the LSE's PSM in July 2005, London has attracted a significant number of international debt listings that are not included in the statistics.

Figure A1.8 Market shares in international debt issue values, 2004–05

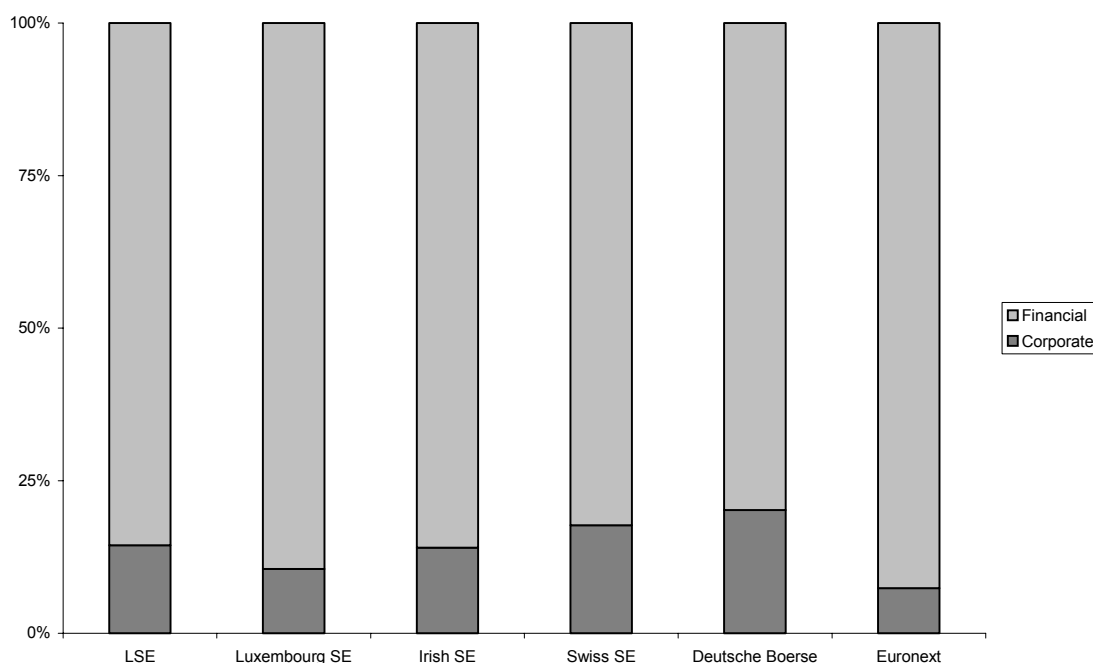


Note: Figures show the share of each market of listing in the total USD value of international corporate debt issues (January 1st 2004 to June 30th 2005) across the six markets, as available from Bloomberg's underwriter league tables. International bonds are Eurobonds and Euro-MTNs. Sample size is 6,353 international bond issues during the period studied.
Source: Oxera calculations based on Bloomberg.

Figures A1.9 to A1.13 provide a breakdown of Eurobond and Euro-MTN issues for each listing venue, to establish whether different types of issue or issuer are clustered on different listing venues. A clustering of certain types may indicate that specific listing venues are more attractive. However, as noted above, it does not provide information as to what explains attractiveness, and, since it is largely unrelated to cost, will not be commented on in any detail.

Figure A1.9 provides a breakdown of debt issues according to whether the issuer is a financial or non-financial company. Financial companies are the dominant issuers, making up more than three-quarters of all listed issues. This applies to all exchanges, and there appear to be no large differences between the exchanges.

Figure A1.9 Financial and non-financial international debt issuers, 2004–05

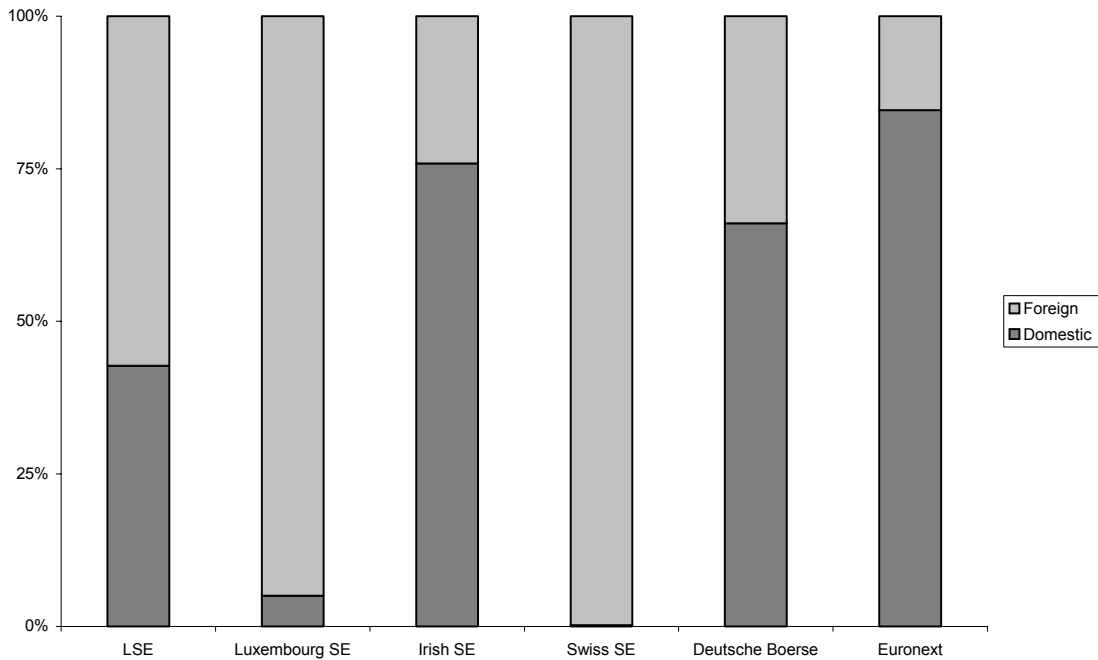


Note: International corporate bond issues of financial and corporate companies are shown as a % of the total number of international shares issued on each market (January 1st 2004 to June 30th 2005), as available from Bloomberg's underwriter league tables. Financial companies include banks, diversified financial services, insurance, real estate, savings and loans, and investment companies, as classified in Bloomberg's industry grouping. International bonds are Eurobonds and Euro-MTNs.

Source: Oxera calculations based on Bloomberg.

The difference is more marked when considering the breakdown of Eurobonds and Euro-MTNs by country of origin of the issuer (see Figure A1.10). Leaving aside the Swiss Exchange (in the sample, there is only one Swiss company issuing Eurobonds or Euro-MTNs), Luxembourg stands out as the most important exchange for foreign issuers—this applies not just in relative terms, but also in absolute numbers. London attracts more foreign issuers than Deutsche Boerse and Euronext, with more than half of all listed new Eurobond and Euro-MTN issues being by non-UK issuers.

Figure A1.10 Domestic and foreign international debt issuers, 2004–05

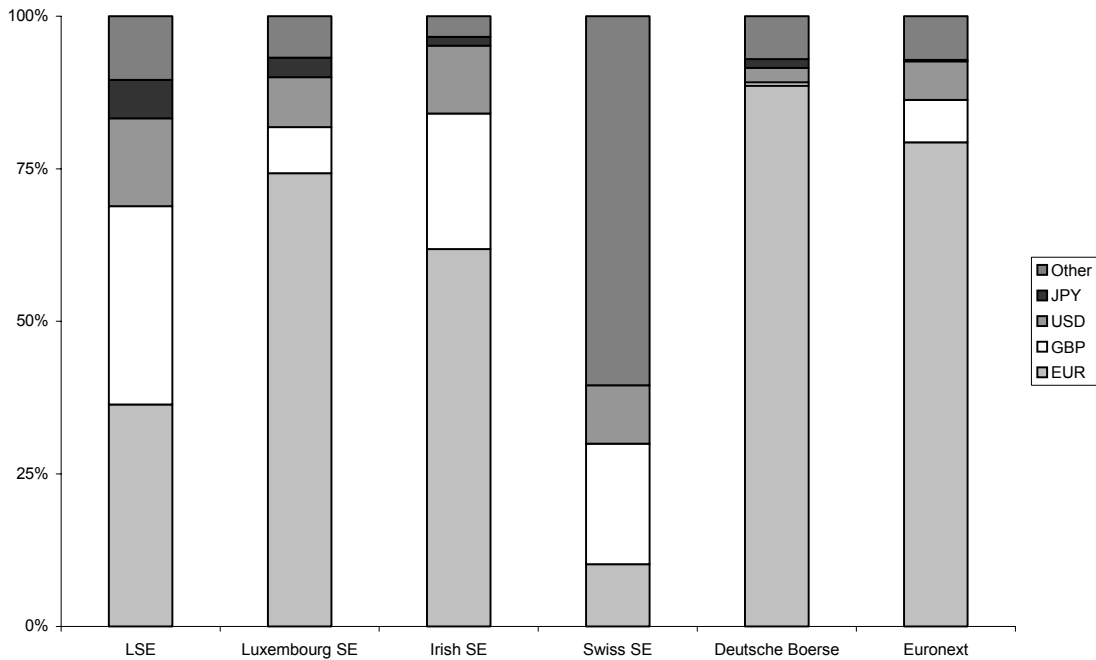


Note: Domestic and foreign issuers of international corporate bonds are shown as a % of the total number of international bond issues between January 1st 2004 and June 30th 2005, as available from Bloomberg's underwriter league tables. International bonds are Eurobonds and Euro-MTNs. An issuer of a bond is defined as foreign if its country of domicile is other than the country where the exchange is located. For international bonds listed on Euronext, the issuer is 'domestic' if its country of domicile is France, Netherlands, Belgium or Portugal.

Source: Oxera calculations based on Bloomberg.

In terms of currency of denomination, Euro-denominated issues make up 75% or more in Luxembourg and on Deutsche Boerse and Euronext, as shown in Figure A1.11. In London, these issues (36%) are somewhat more frequent than issues in GBP (32%). Overall, there appears to be some clustering according to the currency of the issue.

Figure A1.11 Currency denomination of international debt issues, 2004–05



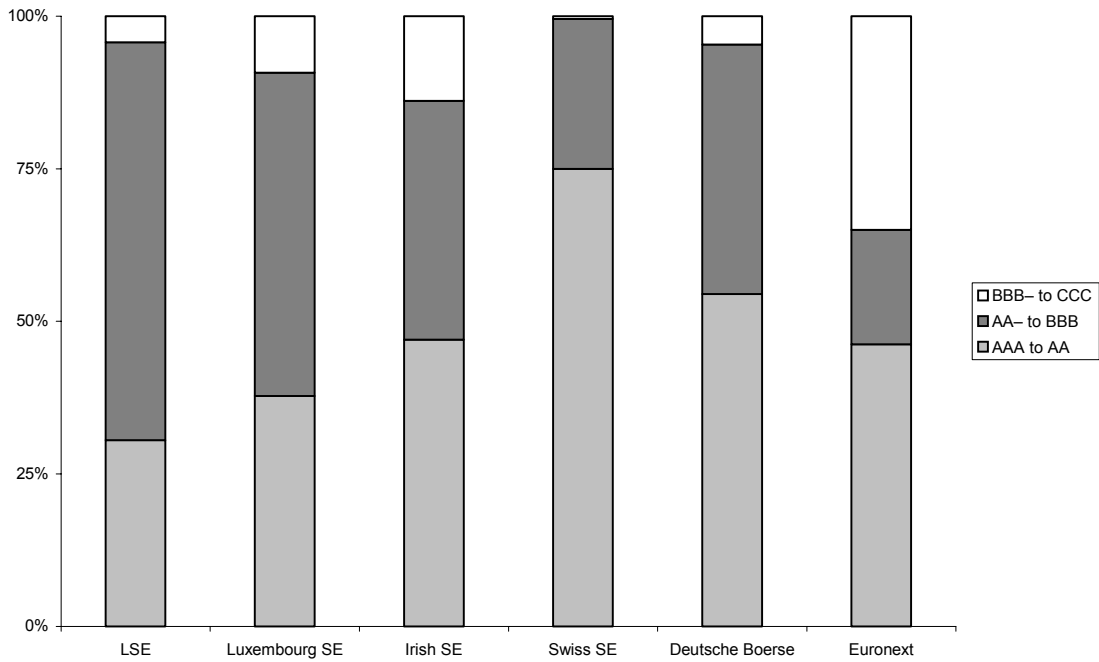
Notes: International corporate bonds per currency of denomination are shown as a % of the total number issued between January 1st 2004 and June 30th 2005, as available from Bloomberg's underwriter league tables. International bonds are Eurobonds and Euro-MTNs.
Source: Oxera calculations based on Bloomberg.

Figures A1.12 and A1.13 provide breakdowns based on the credit ratings and the maturity of the issues respectively. There appear to be some differences across listing venues. For example, the Swiss Exchange seems to have attracted mainly new listings from highly rated issuers, with a Standard & Poor's rating of AA or higher.

One interviewee noted that London has a small share in listings of high-yield debt securities, with Dublin being the location of choice for this end of the market. The share of bonds with a rating of below investment-grade status is indeed lower in London than it is in Dublin. However, when looking at absolute numbers of issues rather than shares within each market, there are still more low-rated securities in London than in Dublin.

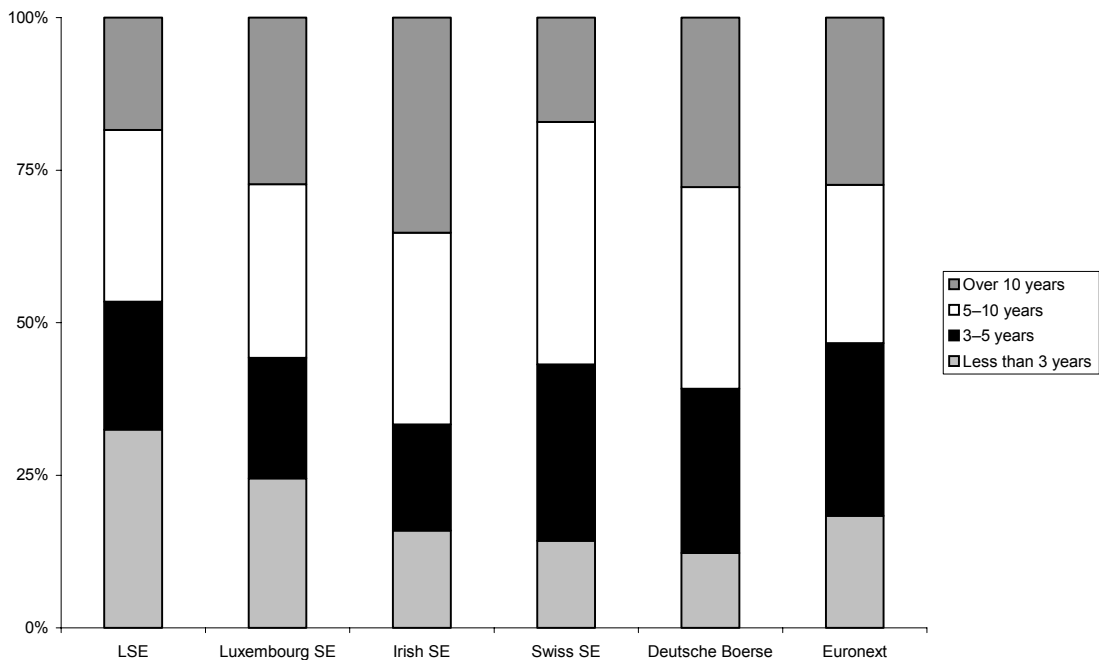
Overall, Luxembourg has attracted more new issues recently than any other of the exchanges considered. London comes second in terms of new issues, with significantly more international issues than both Deutsche Boerse and Euronext. It is beyond the scope of this study to identify the determinants of companies' actual issuing decisions, other than those that can be explained by cost differences. As noted above, decisions may be driven by differences in the listing process and regulations between the exchanges, but there was no evidence to suggest that the choice of listing venue was an important influence on the total cost of issuing debt.

Figure A1.12 Ratings of international debt issues, 2004–05



Notes: The share of bonds is shown by their Standard & Poor's credit rating category in the total number of international corporate bonds issued between January 1st 2004 and June 30th 2005, as obtained from Bloomberg's underwriter league tables. International bonds are Eurobonds and Euro-MTNs. A sub-sample of 4,786 issues is used, for which the credit rating data was available.
Source: Oxera calculations based on Bloomberg.

Figure A1.13 Maturity profile of international debt issues, 2004–05



Notes: The share of bonds is shown by maturity (at issue) category in the total number of international corporate bonds issued between January 1st 2004 and June 30th 2005, as available from Bloomberg's underwriter league tables. International bonds are Eurobonds and Euro-MTNs.
Source: Oxera calculations based on Bloomberg.

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