The role of equities in corporate finance in Belgium

V. Baugnet
G. Wuyts

Introduction

In the long term, firms face two types of financial decisions. The first concerns which investments to effect, known in the literature as *capital budgeting*, and the second concerns how to finance those investments. A firm generally has a range of ways of financing its real investments, such as the use of internal resources, borrowing or share issues. This article concentrates on that last source of finance, and aims more specifically to analyse the role of equities in the financing of non-financial corporations in Belgium, in terms of both their importance and the underlying factors determining that choice.

The first section of this article analyses the position of equities in the financing of non-financial corporations in Belgium on the basis of the financial accounts. It then examines the respective importance of quoted and unquoted shares.

The second section deals with the determinants of the capital structure and examines the factors which may cause firms to opt for equity financing. The presentation of the capital structure theory in general is followed by an empirical analysis of the capital structure of non-financial corporations in Belgium.

Finally, the third section discusses how macroeconomic variables, such as real and financial investment and financing costs, influence the timing of share issues. That analysis is based on an estimate of the cost to Belgian firms of issuing quoted shares.

1. Financing of non-financial corporations in Belgium

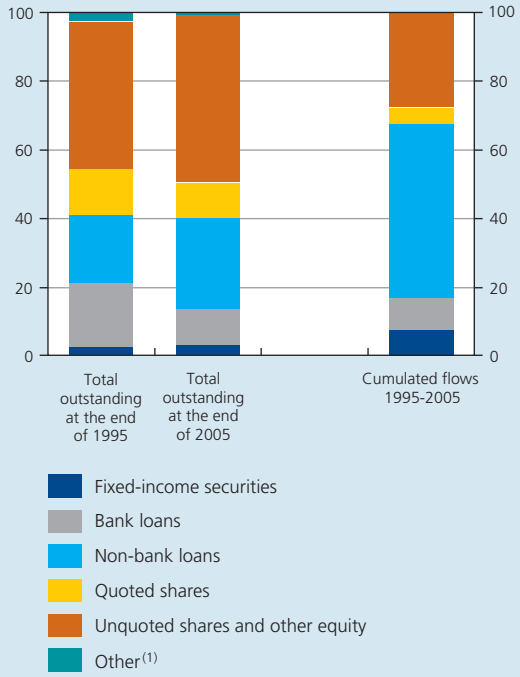
1.1 Overview

Share issues represent an important source of finance for non-financial corporations in Belgium. During the period 1995-2005, they accounted for 32 p.c. of the cumulative new liabilities of non-financial corporations, namely 27 p.c. for unquoted shares and other equity and 5 p.c. for quoted shares. They were the second most important source of finance, the primary source – representing 51 p.c. of the total – being non-bank credit, which essentially covers loans from other Belgian and foreign non-financial corporations. Non-financial corporations also make use, albeit to a lesser extent, of bank credit and the issue of fixed-income securities, which represented respectively 9 and 7 p.c. of the total cumulative financing flows for the period 1995-2005.

Compared to the financing structure of Belgian firms in the past, the last decade produced a decline in the importance of the role played directly by banks, and a strong growth of the flow of funds between firms, both affiliated and non-affiliated companies, and both Belgian and foreign; these flows of funds took the form of loans or equity investments. Direct recourse to the financial markets, via the issue of quoted shares or fixed-income securities, remained stable in the overall financing structure of Belgian firms, although – as this article will proceed to illustrate – there were nevertheless certain periods of low volumes followed by periods when large volumes of shares were issued, particularly quoted shares.

CHART 1 FINANCIAL LIABILITIES OF NON-FINANCIAL CORPORATIONS IN BELGIUM

(Breakdown by instrument, percentages of the total)



Source : NBB.

(1) Includes certain trade credit and transitory items.

On the basis of the partial statistics available for the euro area, it seems that, over the past ten years, Belgian firms have raised more finance via unquoted share issues and less by borrowing (bank credit and corporate bonds taken together), than firms in the euro area. Overall, recourse to the stock market was more or less the same as in the euro area.

The statistics on flows of quoted and unquoted share issues discussed in this article cover the cash contributions made at the time of the establishment of a company or a capital increase, and the cash issue premiums at the time of a capital increase less the capital reductions in the form of repayments to shareholders. Contributions in kind, delistings, bankruptcies and admissions to listing without the issue of new shares are not included in the flow statistics but do influence the statistics on outstanding totals.

1.2 Unquoted shares

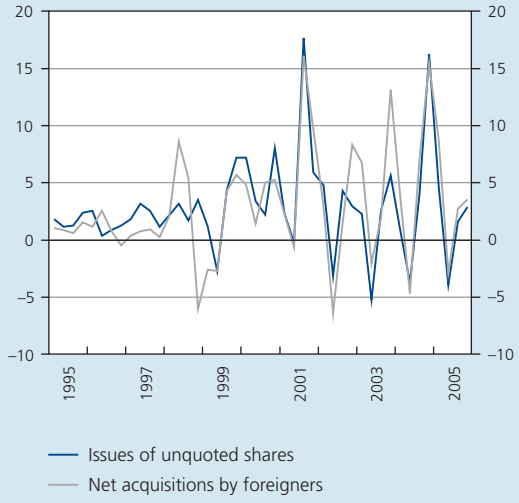
Share issues by Belgian firms consist mainly – over 85 p.c. – of unquoted shares and other equity.

There are sometimes very different motives and circumstances underlying the issue of unquoted shares. For instance, it seems that foreign direct investment represented a major part of these issue flows, as is evident from the combined movement in these two variables since the mid-1990s. These flows are probably attributable to fairly large firms, which may be affiliated with one another or linked to foreign companies which supply them with funds by buying their shares or acquiring a stake in their capital. The coordination centres based in Belgium, which channel funds to both Belgian and foreign companies, are financed mainly by the issue of unquoted shares, and are thus at the root of a large proportion of these flows.

As a result, 45 p.c. of the stock of unquoted shares issued by Belgian non-financial corporations is now held by non-residents, whereas at the end of 1995 that figure was only 25 p.c.; at the same time, cross-shareholdings by other resident non-financial corporations represented 44 p.c. of that total at the end of 2005, against 35 p.c. ten years earlier.

CHART 2 ISSUE OF UNQUOTED SHARES BY BELGIAN NON-FINANCIAL CORPORATIONS AND NET ACQUISITIONS BY FOREIGNERS

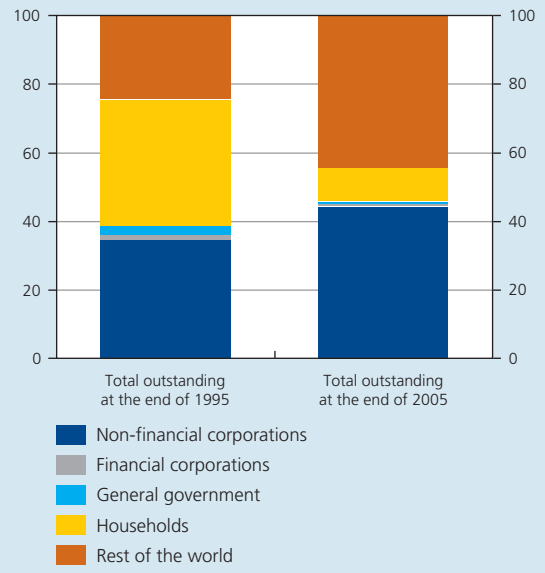
(Quarterly flows, billions of euro)



Source : NBB.

CHART 3 HOLDING OF UNQUOTED SHARES ISSUED BY BELGIAN NON-FINANCIAL CORPORATIONS

(Breakdown by holding sector, percentages of the total)



Source: NBB.

Unquoted shares may also be acquired by professional investors who are willing to operate in non-liquid markets in order to take advantage of the strong growth potential offered by certain companies. This form of financing, which is often geared to businesses in the initial stages of their development, is more commonly known as venture capital. Nonetheless, the amounts involved are fairly small from an aggregate viewpoint: on the basis of data issued by the European Venture Capital Association, it seems that around 4 billion euro was invested in Belgian firms by European venture capital companies during the period 1999-2005, representing just 1.2 p.c. of their total new liabilities. The Belgian venture capital market is still much smaller than the European average. Over half the funds granted to Belgian companies during the period 1999-2005 came from venture capital companies based abroad.

Finally, unquoted shares are also issued by small companies which are not well known and therefore have more difficulty in gaining access to the stock markets. These firms generally have a family shareholder structure, and are often reluctant to open up their capital for fear of losing control. Assuming that family share issues are mainly subscribed by the households sector, it seems that – over the past decade – such issues have declined considerably, compared to issues relating to foreign investments or venture capital. Thus, the proportion of Belgian households in the holding of the stock of unquoted shares issued by Belgian companies declined from 37 p.c. at the end of 1995 to 10 p.c. at the end of 2005.

1.3 Quoted shares

Belgian firms make far less frequent use of the stock market than of unquoted share issues. Even during the stock market euphoria of the late 1990s, quoted shares never represented more than 7 p.c. of their new financial liabilities.

This low volume of share issues should be viewed in the light of the relatively small number of listed Belgian companies. At the end of July 2006, there were 130 Belgian non-financial corporations whose shares were listed on Euronext, including 12 on the Free Market and 3 on Alternext. After reaching a peak in 2000, when no fewer than 152 Belgian non-financial corporations were listed – including 13 on Easdaq/Nasdaq –, this number had declined until 2004. In 2005 there was a marked acceleration in the stock market launch of Belgian companies, with no fewer than 13 newcomers. This trend continued in the first seven months of 2006, when there were nine new introductions of Belgian companies on Euronext.

Mainly large companies are admitted to the stock exchange, since the size criterion is undoubtedly important. Introduction onto the stock market is associated with specific requirements, particularly those concerning financial aspects, accounting and transparency, which are more onerous for small company budgets. Also, in order to attract investors, the instruments issued must be sufficiently liquid, and that means making a minimum quantity of securities available to the public. That is why admission to a regulated market is generally conditional upon a minimum amount of freely tradable capital (free float) or a minimum volume of capital to be acquired.

However, the Belgian economic fabric is typified by a large number of small and medium-sized firms. That is reflected in the relatively modest number of Belgian companies in the Euronext European indices with the largest capitalisations, namely the Euronext 100 and Next 150: at 11 July 2006, 11 Belgian companies representing 8.4 p.c. of the market capitalisation of the index, were included in the Euronext 100 while 22, representing 12.8 p.c. of the market capitalisation of the index, were listed in Next 150. Conversely, there was a stronger Belgian presence in the indices which use criteria other than size, such as NextPrime and NextEconomy, which respectively comprise companies active in the traditional sectors and in

the new economy, satisfying stringent criteria in terms of financial transparency: 36 Belgian companies (30.1 p.c. of the market capitalisation of the index) on NextPrime and 18 Belgian companies (23.4 p.c. of the market capitalisation of the index) on NextEconomy. In the light of these figures, medium-sized Belgian firms appear to be well represented on Euronext in comparison with their French, Dutch and Portuguese counterparts.

However, smaller organisations are being encouraged to open up their shareholdership by the recent creation of markets or indices appropriate to them. On Euronext Brussels, for example, there are the Bel Mid and Bel Small indices, introduced on 1 March 2005, and the compartments of the Free Market and Alternext, created in November 2004 and June 2006 respectively. These developments coincided with the desire of international investors to shift their investments into smaller companies, generally focusing more on the domestic market and less sensitive to the international, macroeconomic climate, especially in periods of great uncertainty.

Aimed at promoting SMEs in an expansion phase, the Euronext Brussels Free Market is, as its name implies, unregulated, i.e. it keeps the requirements imposed on new entrants to a strict minimum. In particular, there is no minimum capitalisation, no minimum free float, no obligation to publish interim results and no need to conform to the IFRS standards; the only requirements which must be met are a prospectus approved by the BFIC and compliance with the traditional rules on investor protection. During the twenty or so months since its establishment, no fewer than 12 Belgian SMEs with a market capitalisation of less than 25 million euro have been admitted, and several more introductions are expected in the second half of 2006.

Alternext, which occupies an intermediate position between the regulated market Eurolist and the Free Market in terms of admission requirements and listing requirements, is aimed primarily at substantial SMEs, because companies are only admitted if they were established at least two years previously and wish to raise a minimum of 2.5 million euro – unless a prior private placing has been arranged in the preceding two years for a total of 5 million euro or more. The listing requirements are less strict than on Eurolist, the main difference being the absence of any obligation to adhere to the IFRS model.

However, an institutional factor may continue to have an adverse effect on the issue of quoted shares: the Belgian legislation on commercial companies does not ensure effective separation between the right of ownership and the right to vote at the general meetings, so that there is less protection against undesirable shareholders. Consequently, few business owners could be inclined to open up more than half of their capital for fear of losing control, and that may lead to an inadequate free float.

TABLE 1 PRESENCE OF BELGIAN COMPANIES[1] IN THE MAIN EURONEXT INDICES

(Data as at 11 July 2006)

	Number of companies in the index	Belgian companies in the index (number)	Belgian companies in the index (percentages of the market capitalisation)
Euronext 100			
100 largest capitalisations	100	11	8.4
Next 150			
Next 150 capitalisations	150	22	12.8
NextPrime			
Traditional sectors	117	36	30.1
NextEconomy			
New economy	109	18	23.4

Source: Euronext.

(1) All companies listed on Euronext, including banks and financial holding companies.

TABLE 2 EURONEXT BRUSSELS : THREE SEPARATE, COMPLEMENTARY MARKETS

		ADMISSION REQUIREMENTS	REQUIREMENTS DURING LISTING	FOCUS
EUROLIST	Regulated market	+++	+++	Large, Mid & Small caps (compartments A, B and C)
ALTERNEXT		++ (compared to Eurolist : less free float, shorter track record)	++ (compared to Eurolist : no requirement concerning adherence to the IFRS model or the corporate governance code)	Mid & Small caps
FREE MARKET	Unregulated market	none (except BFIC prospectus)	none (except compliance with investor protection rules)	Micro-caps

Source : Euronext.

2. Determinants of the capital structure

2.1 The capital structure theory

Companies have various ways of financing their investments, such as internal resources, borrowing or share issues. The question is whether there is an optimum mix of these options which maximises the value of the company. In other words, can firms determine an optimum capital structure ? According to Modigliani and Miller (1958), that is not the case and, under certain conditions, the capital structure does not influence the value of the company. However, the capital structure is important in practice. There are various reasons for this, such as taxation or the costs associated with bankruptcy (trade-off theory), asymmetric information (pecking order theory) and conflicts of interest between stakeholders (agency theory).

Taxes are a first reason why the choice of finance is important. Firms can in fact deduct from their taxable income the interest charges on their borrowings, thus creating a "tax shield". This influences the firm's value and encourages the use of borrowing rather than the issue of shares. This advantage may be partly offset for the investor if interest income attracts a higher rate of tax than dividends or capital gains on shares. Generally speaking, however, it should be noted that firms borrow in order to make use of the tax shield[1], but that situation cannot continue indefinitely since over-use of debt also entails certain costs. It puts a business at greater risk of financial difficulties, of being unable to repay its debts or of becoming bankrupt. This illustrates the theory of the capital structure trade-off, which thus predicts moderate debt ratios. More specifically, a firm increases its debt until the marginal value of the tax advantage is exactly offset by an increase in the (discounted) value of the costs relating to financial problems[2].

The pecking order theory looks at the capital structure from a different angle, on the basis of asymmetric information. The basic model was developed by Myers and Majluf (1984). These authors assume that investors do not know the true value of the assets of a business or its investment opportunities, whereas the managers do have that information and act in the interests of the existing shareholders. The fact that a company is issuing new shares may then mean one of two things. The company may have an attractive investment opportunity and is looking for ways to fund it. However, it is also possible that the manager is aware that the assets are overvalued and is trying to issue overvalued shares. The presence of asymmetric information prevents the investor from distinguishing between these two possibilities. That creates an equilibrium in which firms can only issue shares at a lower price. The undervaluation of equity financing is therefore

(1) Measures such as the deduction of notional interest naturally influence this conclusion and make share issues more attractive.

(2) This type of costs includes reorganisation expenses, the cost of reduced solvency and bankruptcy, but also agency costs (see below).

linked to the level of asymmetric information, making share issues more expensive and giving rise to the capital structure pecking order (cf. e.g. Myers, 2001):

- Firms prefer internal to external financing;
- Dividends are rigid so that it is difficult to reduce them in order to finance projects. In the short run, changes in financing requirements cannot be covered by adjusting dividends. Consequently, net cash flow fluctuations are reflected in changes in the need for external financing.
- If external finance is needed, firms will opt first for the source which is safest for investors, namely borrowing.
- When more funds are required, firms will go through the pecking order, from safe to riskier debt, by issuing convertible bonds or preference shares and – as a last resort – traditional shares.

Agency costs arise because of conflicts of interests between different parties. There are two types of conflict that are relevant for the choice of the capital structure: the conflict between shareholders and managers, and the conflict between shareholders and creditors. The first type of conflict arises because managers generally act in their own interests. For example, they may invest in unattractive projects (e.g. producing a return of less than the cost of capital) or waste the assets in "organisational inefficiencies", as suggested by Jensen's free cash flow theory (1986). One example might be a project which enhances the manager's prestige (e.g. a corporate aircraft) while being of little economic value. Although remuneration systems, share options, etc. offer a partial solution to the problem, the objectives of the managers are never perfectly in harmony with those of the shareholders[1]. Debt may help in this respect: the firm is required to pay interest, and the manager's power over the cash flow is therefore limited. Leveraged buy-outs[2] (LBOs) are one example. Following an LBO, the managers have to cut down on unproductive investments and generate cash. This shows that, although a high debt ratio does entail risks, it may also have its advantages. One positive side-effect of debt is that bankruptcy seriously damages a manager's reputation. A high level of debt encourages him to work harder, to invest in better projects and curb the inefficient use of the cash flow in order to reduce the risk of bankruptcy and preserve his reputation.

Apart from the divergent objectives of managers and shareholders, conflicts of interest may also arise between shareholders and creditors. However, they occur only if there is a high risk of payment default or financial problems. That is mainly the case if the managers, as is often assumed, act in the interests of the shareholders rather than the creditors. If the risk of bankruptcy increases, the managers will be inclined to act such that the value is transferred from the creditors to the shareholders. There are various ways of achieving that (see Brealey and Myers, 2003 or Myers, 2001). First, the managers can invest in higher-risk projects. That increases the potential return for the shareholders, whereas much of the higher risk is borne by the creditors. This risk transfer behaviour was modelled for the first time by Jensen and Meckling (1976). Secondly managers may refrain from certain investments which would need to be financed by share issues, as part of the proceeds would in fact revert to the creditors. Myers (1977) looks more in depth at this problem of under-investment. Thirdly, managers may try to gain time by concealing financial problems which might alarm the creditors, who could insist on bankruptcy or corporate restructuring. Finally, managers may try to borrow even more and pay the cash obtained to the shareholders. Creditors are aware of these problems and try to conclude contracts which counterbalance for these four points. However, contracts are never perfect.

2.2 Empirical analysis

The preceding section reviewed the factors determining the choice of corporate finance from a theoretical perspective. In this section we shall conduct an empirical analysis of the determinants explaining the method of financing chosen by Belgian firms, with specific emphasis on equity financing.

2.2.1 Methodology

On the basis of the theoretical literature mentioned above and existing empirical studies, the following possible determinants of equity financing for firm i during year t, quoted by $Eq_{i,t}$, were selected:

- *Lev*: the firm's debt level, i.e. the long-term debts divided by the total assets;
- *Size*: the natural logarithm of the total assets, a measure of the firm's size;
- *Internal*: the volume of internal resources divided by the total assets;
- *Intang*: the volume of intangible fixed assets divided by the total assets;
- Quoted: a dummy variable which takes the value 1 if the firm is quoted on the stock market and 0 if it is not.

(1) Obviously, the problem disappears if the manager is also the owner and shareholder of the business.

(2) In the case of an LBO, a company's shares are bought, e.g. by a venture capital company, and the deal is financed by borrowing (bank loans or bonds). Owing to the relatively large proportion of debt on completion of such a transaction, bonds issued in these circumstances are generally accorded a low rating (often "junk bond" status).

Table 3 offers a detailed view of the different variables. By combining all the elements, we obtain the following equation:

$$Eq_{i,t} = \beta_0 + \beta_1 Lev_{i,t} + \beta_2 Size_{i,t} + \beta_3 Internal_{i,t} + \beta_4 Intang_{i,t} + \beta_5 Quoted_{i,t} + industry\ dummies + year\ dummies + u_{i,t} \quad (1)$$

in which the indices refer to firm i and year t. β_i denotes the regression coefficients to be estimated, and $u_{i,t}$ the error terms. The dummies relating to the sector to which the firm belongs are based on the NACE 1-digit codes; a dummy is also introduced for each year [1].

2.2.2 Description of the sample

The equity financing determinants are analysed on the basis of a sample of Belgian companies, over the period from 2000 to 2004. For each of those years, all Belgian firms publishing their annual accounts in the full format were included. It should be noted that a firm does not necessarily appear in the sample every year. For example, if the firm was not established until after 2000, or if it went bankrupt during the period in question, it will not be included every year [2]. Altogether, the dataset contains 28,594 individual firms, the figure varying between 17,292 and 18,208 firms in any year. For each firm, variables relating to the balance sheet were selected in order to conduct an empirical test on the theories mentioned earlier. This information was obtained from the database of the National Bank's Central Balance Sheet Office.

2.2.3 Results

The results of the estimation of equation (1) are shown in table 4. Various versions of the model were estimated in order to verify the robustness of the estimations. More specifically, each of the variables considered was introduced separately in models 1 to 5 (in addition to a constant). Model 6 included all the variables. The coefficients of the year and sector dummies are not shown in table 4. The models were estimated by the least squares method. *White standard* errors are shown in brackets in the table. All coefficients are significant at 5 p.c.

(1) For each NACE sector, a variable is included which is equal to 1 if firm *i* in year *t* belongs to that sector and 0 if it does not. A variable is also defined for each year, equal to 1 for the year concerned and 0 for the other years. To avoid perfect multicolinearity in the estimations, one sector and one year have been omitted from the model specification.

(2) Technically, this is referred to as an "unbalanced panel".

TABLE 3 OVERVIEW OF THE VARIABLES [1]

Symbol	Variable	Item
Eq	Capital + issue premiums	10 + 11
Lev	Long-term debt	17 + 42
Size	Size	ln (20/58)
Internal	Internal resources	12 + 13 + 14
Intang	Intangible fixed assets	21
Quoted	Quoted company	

(1) This table shows the variables used in equation (1). The *Item* column refers to the balance sheet items used to measure the variable. *Eq*, *Lev*, *Internal* and *Intang* are divided by the total assets.

The results obtained show that the conclusions are robust for the different model variants. Moreover, the (adjusted) R^2 is in line with other studies on leverage, and the model is highly significant (the *F*-statistic was not reported).

The analysis indicates that the quantity of intangible fixed assets and stock market listing are positive determinants of equity financing. In other words, quoted firms which own more intangible fixed assets will be more inclined to finance their investments by issuing shares.

Conversely, other variables exhibit a negative correlation. Firms with a high debt level will use less shares. Moreover, large firms make less use of equity financing. One possible explanation is that such firms have readier access to bank loans and/or they resort to issuing bonds. Firms with greater internal resources issue fewer shares.

A more detailed analysis of the results will reveal the extent to which they correspond to the capital structure theories mentioned earlier (trade-off, pecking order and agency theories). More specifically, if the sign of the result shown in table 4 corresponds to a particular theory, that will be indicated.

The negative sign of *Lev* is explained by the agency theory. In the event of financial problems, managers may refrain from making certain investments which would have been financed by issuing shares, because part of the proceeds would revert to the creditors.

The negative coefficient of *Size* can be explained by the trade-off theory, because the larger firms have a higher tax bill which they can reduce by deducting the interest charges. The fact that large firms have been in existence for a long time and enjoy a good reputation may be reflected in a better rating for their debt and/or an

apparently reduced risk of financial problems. They therefore have easier access to credit and can take on larger debts, so that there is less incentive to issue shares.

The negative link between equity finance and the variable *Internal* is in line with the three theories. The trade-off theory predicts that firms have fewer financial difficulties and can take on higher levels of debt if they generate more internal resources. According to the pecking order theory, a firm without sufficient internal resources has to use other forms of finance by working its way through the pecking order. The agency theory implies that an increase in the internal resources may tempt a manager to invest the money for unproductive purposes. Borrowing may be helpful here, so that debt financing is preferred to equity financing.

The positive coefficient of *Intang* is in line with the trade-off theory. In the event of financial problems, intangible assets are more difficult to realise than tangible assets. The firm is less able to contract debts and therefore has to make more use of equity financing.

The agency theory explains the positive sign of *Quoted*. Potential investors can form a more accurate idea of a quoted company which increases its capital, compared to one which is not quoted. The greater transparency required of quoted companies reduces the problems of asymmetric information. It is therefore easier (and cheaper) to issue additional shares if a company is already quoted.

In conclusion, the study does not enable us to identify one single theory explaining the form of financing chosen by Belgian firms; instead, that choice is based on a combination of factors taken from the various theories.

3. Macroeconomic determinants of share issue volumes

Like financial liabilities taken as a whole, the volumes of quoted or unquoted shares issued are highly cyclical. Over the past twenty years there have been at least two periods of rapid growth in share issues, defined by issue volumes exceeding the long-term trend. The first occurred at the end of the 1980s for quoted shares and slightly later, in the early 1990s, for unquoted shares. The second began in the late 1990s and continued until 2001. Those periods of accelerating issues were followed by varying periods of substantial deceleration, as in the period 1993-1997 and in the years 2002 and 2003. More recently, the issue volume has increased again.

The periods of intense stock market activity in terms of issue volumes coincide with those in which the number of quoted companies is growing. Thus, between 1997 and 2000, the number of quoted Belgian companies increased from 138 to 173, boosting the number of potential issuers by 25 p.c. The ensuing four years saw many companies disappear from the stock market, while new introductions were very rare, so that there was a net reduction of 35 units in the number of quoted Belgian companies.

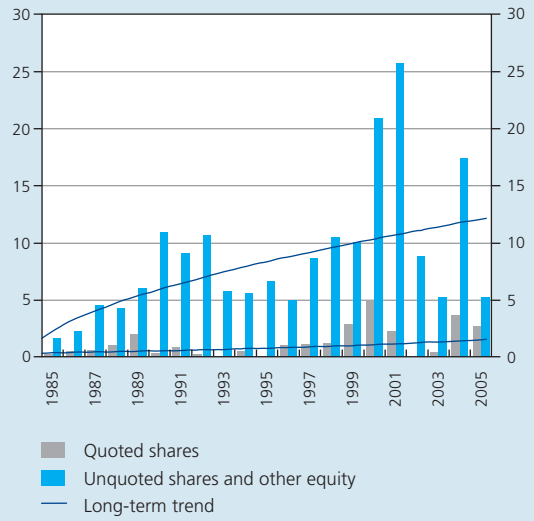
TABLE 4 **RESULTS** (1)

Symbol	Dependent variable: *Eq*					
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
C	**0.445** (0.005)	**1.335** (0.015)	**0.378** (0.004)	**0.386** (0.004)	**0.388** (0.005)	**0.951** (0.022)
Lev	**–0.313** (0.007)					**–0.299** (0.009)
Size		**–0.061** (0.001)				**–0.034** (0.002)
Internal			**–0.221** (0.016)			**–0.213** (0.016)
Intang				**0.274** (0.036)		**0.169** (0.044)
Quoted					**0.242** (0.006)	**0.336** (0.002)
Adj. R²	*0.045*	*0.072*	*0.266*	*0.025*	*0.025*	*0.308*

(1) This table shows the results of the estimations of equation (1). Models 1 to 5 include the explanatory variables one at a time, while model 6 includes all the variables which are defined in Table 3. The *white standard* errors are shown in brackets. Significant coefficients are shown in bold.

CHART 4 ISSUES OF QUOTED AND UNQUOTED SHARES BY BELGIAN NON-FINANCIAL CORPORATIONS

(Annual flows, billions of euro)



Source : NBB.

Finally, more recently, Belgian firms seem to be returning to the stock market, with 13 new introductions recorded in 2005, and 9 in the first seven months of 2006. The parallel trend in the number of quoted firms and the volume of issues seems to show that, when conditions are favourable for equity financing, not only the existing quoted companies step up their use of this form of finance, previously unquoted companies also decide to go public.

3.1 The role of real and financial investments

There are various factors which motivate a firm's decision to go public, one of the main ones being to obtain permanent funding to finance long-term real and financial investments. A correlation is therefore to be expected between corporate investment behaviour and share issue volumes.

During the first period when share issues were seen to increase, at the end of the 1980s, a parallel movement was observed in gross fixed capital formation, where the annual growth rate exceeded 10 p.c. for three consecutive years. Then followed a period of shrinking investment which corresponded to a very small volume of share issues. At the end of the 1990s, the parallelism of the two variables seemed to diminish, as gross fixed capital formation, while expanding very rapidly, appeared to lag behind the exceptionally large volume of share issues.

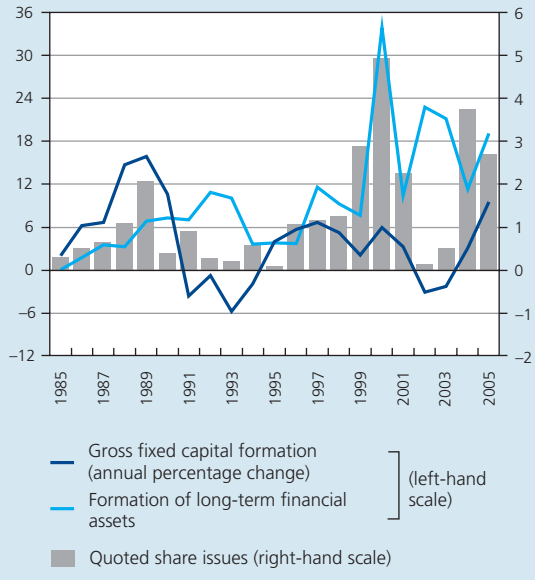
Conversely, firms effected very substantial long-term financial investments – including foreign direct investment – during this period, and more particularly in 2000. Moreover, the number of notifications submitted in Belgium to the Competition Council concerning business concentrations confirms the intense merger and acquisition activity prevailing at the time of the new millennium. Firms may also issue shares for the purpose of financing the acquisition of other companies, either via the proceeds of issues for general subscription or by issuing shares which are then exchanged for the shares in a target company.

Share issue volumes are linked to the business cycle by factors other than the direct channel of investment. Boom periods tend to coincide with periods of low risk aversion on the part of investors, periods when there is less marked asymmetry of information between managers and investors, reducing the cost of equity financing. Moreover, it is clear that share issues are to a large extent related to stock market prices, which are in turn determined by the expectation of future profits, and those profits are themselves connected with the pattern of activity and interest rates.

This leads to another key factor determining the ideal timing of these issues, namely the cost of capital.

CHART 5 QUOTED SHARE ISSUES AND REAL AND FINANCIAL INVESTMENTS OF BELGIAN NON-FINANCIAL CORPORATIONS

(Annual flows, billions of euro, unless otherwise stated)



Source : NBB.

3.2 The role of capital cost

A decisive factor in the choice of the optimum financing structure for a firm, which may therefore determine whether it becomes a quoted company, is the relative cost of each of the instruments at its disposal. Apart from the fixed launch costs – production of a prospectus, possible adjustments to the accounting scheme, etc. – and compliance with the listing requirements, particularly those concerning information and transparency, financing by means of quoted shares tends to be more expensive than financing via borrowing, in view of the risk premium required by shareholders and because the different tax treatment usually favours borrowing rather than equity.

3.2.1 Theoretical framework

While the financial cost of bank credit or bond issues is easy to measure on the basis of the corresponding interest rates, the cost of a share issue is harder to estimate, since it has to include the expected future dividends, which are – by definition – uncertain and therefore subject to a risk premium.

The yardstick used here to measure the cost of equity financing is based on a *simple dividend discount model*, in accordance with the classical Gordon-Shapiro formula which states that, in equilibrium, the value of a share must equal the discounted value of the expected future dividend flows. The discount rate, which may also be interpreted as the yield demanded by the investor, corresponds to the cost of financing entailed in issuing the security. That discount rate comprises a risk-free interest rate and a risk premium.

In accordance with certain simplifying assumptions – in particular, the assumption that dividends increase at a constant rate – it is found that, in equilibrium, the cost of equity financing depends only on the dividend yield and the long-term dividend growth rate.

While dividend yields can be observed *ex post*, the long-term dividend growth rate has to be estimated. A classical assumption stipulates a long-term dividend growth rate equal to the potential growth rate of the economy. If the share of value added distributed to the capital and the pay-out ratio – i.e. the ratio between dividends paid and profits achieved – are stable over time, the real long-term dividend growth will be equal to the potential growth of the economy. Another solution is to take the net return on equity after tax (ROE) as reflecting what the firm has available for spending after payment of all expenses and taxes, and to multiply that ratio by the fraction of profits reinvested in the business. Assuming that the firm's net investments are financed solely out of undistributed profits, the rate obtained corresponds to the long-term dividend growth rate.

The cost of equity (or COE) for quoted Belgian companies was calculated for the period from 1995 to the present day. It was assumed that the long-term dividend growth rate varies over time. During an initial four-year period, it is equal to 5.5 p.c., the rate obtained by multiplying the ROE of quoted companies (10.6 p.c.) by the undistributed share of the profits (64.1 p.c.), after adjusting for inflation (1.8 p.c.). The calculations were based on the mean values of the different variables over the period considered. The second phase is a transitional period of eight years during which the dividend growth rate gradually tends towards an equilibrium value. Then comes the third and final phase (in principle, infinite) in which the dividend growth rate is equal to that equilibrium value, estimated on the basis of the potential growth rate of the economy (2.1 p.c.).

3.2.2 Influence of financing costs on quoted share issues

The cost of equity is compared with the movement in the price of other sources of finance (bank loans and corporate bonds). In view of the important role of the assumption made regarding the long-term dividend growth rate, but also the fact that this exercise disregards a whole range of expenses, such as those relating to various obligations which must be met by companies admitted to the regulated stock market, and the distortions introduced by the tax system, which does not in fact accord the same treatment to the various forms of financing, attention should focus not so much on the respective levels of costs but on their relative movement over time.

The period examined can be divided into three phases: from mid-1996 until spring 1999, the COE declined steadily, mainly as a result of the significant rise in share prices. The low level of the risk premium demanded by the market during that period also lowered the cost of issuing bonds, while bank rates remained fairly stable. From mid-1999, all the financing costs began to rise as the financial markets first anticipated and then incorporated successive increases in the ECB's key interest rates. The rising cost of equity persisted until the autumn of 2002, when it peaked, while bank rates, which are closely linked to the key rates, continued to fall, reaching an all-time low in the spring of 2003. The cost of issuing corporate bonds remained at a high level until the end of 2002, before also beginning to fall. Apart from the deteriorating economic situation, this period was marred by various accounting scandals involving certain large foreign companies, causing the market to continue demanding an abnormally high risk premium. After the peak in the autumn of 2002,

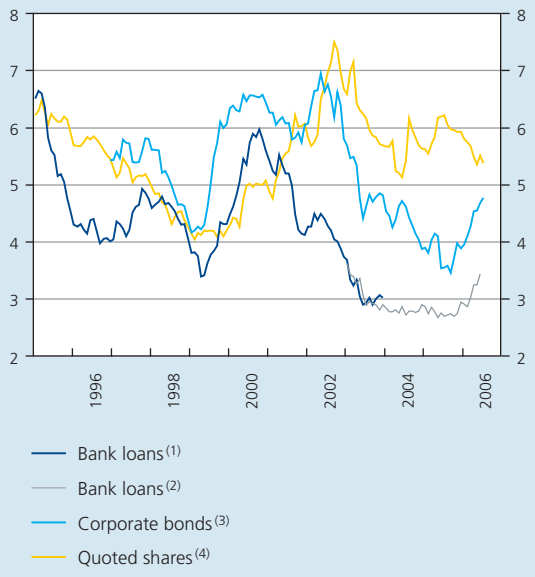
the COE declined before stabilising today at a level slightly below its long-run average.

Examination of the link between the deviation of the COE from its long-run average and the flows of quoted share issues reveals a negative correlation, albeit with a certain time lag. That is due partly to the method of annual flow smoothing, but is also attributable to the respective movement in the cost of other sources of funding: e.g., in 1999 and 2000, bank rates and bond rates climbed much faster than the COE. During the long phase of very low issues, extending from early 2002 to mid-2004 – or even the end of 2004, when excluding the public offer to exchange Interbrew shares for Ambev shares, giving rise to the Inbev group – the COE was well above its long-run average value, and the movement in the price of alternative sources of funding was much more favourable.

Since mid-2005, the COE has been falling, in contrast to the movement in the price of other forms of finance, so that it is now slightly below its long-run value. At the same time, a number of non-financial corporations seem to be showing renewed interest in raising finance by issuing quoted shares. The launch of new segments, such as the Free Market and Alternext, has probably encouraged that development. The improvement in the business outlook should continue to favour that trend.

CHART 6 FINANCING COSTS OF NON-FINANCIAL CORPORATIONS IN BELGIUM

(Percentages)



Sources: Thomson Financial Datastream, NBB.

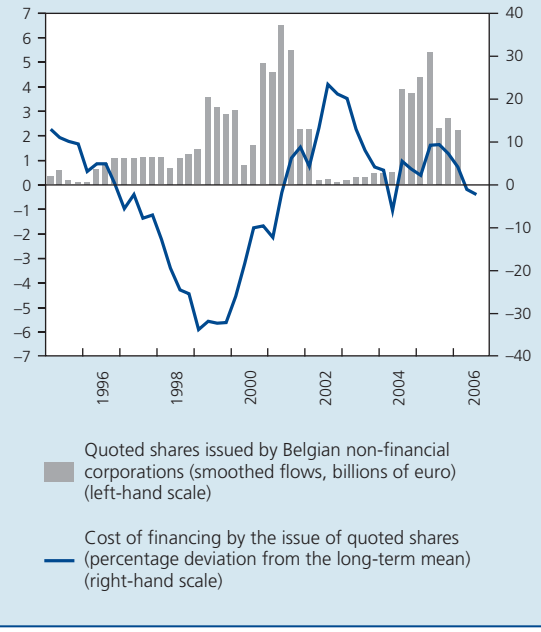
(1) Fixed-term advance.

(2) Loans of over 1 million euro, variable rate, initially fixed for a period of less than one year.

(3) Yield on a BBB bond denominated in euro, maturity of five to seven years.

(4) On the basis of the model explained in 3.2.1; with a dividend growth rate equal to 5.5 p.c. for the first four years and a transitional phase of eight years, after which the dividend growth rate is equal to 2.1 p.c.

CHART 7 COST OF FINANCING BY THE ISSUE OF QUOTED SHARES AND FLOW OF ISSUES (1) BY BELGIAN NON-FINANCIAL CORPORATIONS



Sources: Thomson Financial Datastream, NBB.

(1) In view of the rather irregular quarterly profile of flows of quoted share issues, the flows were smoothed on an annual basis. Consequently, the flow in any particular quarter corresponds to the annual average calculated on the current quarter and the three preceding quarters.

The new system of deducting notional interest could give rise to a structural increase in equity financing by Belgian companies. This measure, which came into effect on 1 January 2006, allows firms to deduct from their taxable income an amount based on the value of their own funds, adjusted for certain balance sheet items, and using a rate equal to the annual average yield on linear bonds (OLOs). This ends the tax discrimination between financing by borrowing and equity financing, and thus brings the costs of these two methods of financing more closely into line.

Conclusion

Share issues are a significant source of funding for non-financial corporations in Belgium. Between 1995 and 2005, they represented around 32 p.c. of the cumulative new liabilities of non-financial corporations. Share issues are therefore the second most important source of funding,

the first being non-bank credit, which accounted for 51 p.c. of the total. Share issues are a much more important source of funding than bank loans or issues of fixed-income securities. Unquoted shares represented the major part of this, namely 27 p.c., mainly because of the high level of foreign direct investment. Quoted shares represented only 5 p.c. of the cumulative new liabilities of non-financial corporations during the period 1995-2005.

An empirical analysis of the determinants of the capital structure highlights the fact that quoted companies having more intangible fixed assets are more inclined to opt for equity financing. Conversely, other factors, such as the company's debt level, size and internal resources have a negative influence on equity financing.

The timing of the use of this type of financing depends partly on macroeconomic factors such as real and financial investments. The cost of capital may also be regarded as a key determinant of the use of equity financing over time. Substantial issues were recorded during the period 1999-2001 and from mid-2005 onwards. These developments coincided with either a cost of capital well below its long-run average or a movement in the cost of capital which was more favourable than the price of alternative sources of finance. The recent government measure aimed at allowing the deduction of notional interest could also give a substantial boost to new share issues.

Bibliography

Brealey, R., Myers S.C., 2003, Principles of Corporate Finance, *McGraw-Hill*.

Jensen, M.C., 1986, Agency Costs of Free Cash Flow, Corporate Governance, and Takeovers, *American Economic Review*, 76, pp. 323-339.

Jensen, M.C., Meckling, W., 1976, Theory of the Firm : Managerial Behavior, Agency Costs and Ownership Structure, *Journal of Financial Economics*, 3, pp. 305-360.

Modigliani, F., Miller, M.H., 1958, The Cost of Capital, Corporation Finance and the Theory of Investment, *American Economic Review*, 48, pp. 261-297.

Myers, S.C., 1977, Determinants of Corporate Borrowing, *Journal of Financial Economics*, 5, pp. 147-175.

Myers, S.C., 2001, Capital Structure, *Journal of Economic Perspectives*, 15, pp. 81-102.

Myers, S.C., Majluf, N., 1984, Corporate Financing and Investment Decisions when Firms Have Information that Investors Do Not Have, *Journal of Financial Economics*, 13, pp. 187-224.