



Financial Operations of South African Listed Firms: growth and financial stability in an emerging market setting

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Abstract

This paper explores financial operations of large listed non-financial firms in South Africa using an analytically relevant sample of the Johannesburg Stock Exchange (JSE). It argues that there is evidence for the over-capitalisation of these companies. In other words, large listed firms, that are not financial businesses, hold substantial volumes of liquid assets as share of their liabilities. Liquid assets are cash and cash equivalents, which are likely to be mostly channelled into bank deposits. Applying the concept of over-capitalisation, developed in the context of wealthier economies, to an emerging market constitutes the originality of the paper.

In an emerging market setting this is somewhat surprising because it is at odds with conventional economic theory. The existence of deep and increasingly liquid financial markets does not induce sustainable (investment-led) growth and development but volatile and financially fragile expansion dependent on household consumption and high house prices. In terms of policy, these findings suggest that facilitating access to finance for large companies is unlikely to strengthen sustainable (investment-driven) growth in an emerging market economy.

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1. Introduction

This paper explores financial operations of large listed non-financial firms in South Africa using an analytically relevant sample of the Johannesburg Stock Exchange (JSE). It argues that there is evidence for the over-capitalisation [Toporowski 1993, 2000] of these companies. In other words, large listed firms, that are not financial businesses, hold substantial volumes of liquid assets as share of their liabilities. Liquid assets are current or short-term financial assets, cash and cash equivalents. The latter are likely to be mostly channelled into bank deposits. The paper shows how the liquidity preference of non-financial listed corporations in a sophisticated banking system¹ [Chick 1992] can induce credit expansion, contributing to asset price inflation in the South African housing market.

Contrary to what is typically suggested by conventional economic theory however, banks do not transform household saving into investment credit. Quite the contrary happens: idle but liquid corporate funds facilitate credit extension, especially of consumer credit and mortgage loans, which are the main focus of credit activity for South African banks. Growth in such an economic system is often driven by the expansion of consumption credit. Moreover, expansion in mortgage loans potentially results in house price inflation, exacerbating the dependence of growth on consumption. Households can finance consumption, taking out loans against the value of their property.

Hence, deepening financial markets might not lead to accelerated growth and dynamic development as often advocated by conventional economic theory (Dahou et al. 2009). Contrary, the financial market and in particularly capital markets providing cheap capital to large listed companies can in fact contribute to financial instability and asset price inflation, undermining sustainable growth.

Following the work on over-capitalisation [Toporowski 1993, 2000], this paper constitutes a theoretical critique of the Modigliani-Miller theorem [1958]. The theorem implies that financing structures of non-financial firms are random, while completely neglecting the possibility of active balance sheet management by non-financial corporations.

The paper is organised as follows: after introducing the issue, it will explore the concept of over-capitalisation in section 2. The case of over-capitalisation in emerging market economies will be discussed in further detail (section 3). Subsequently, in section 4, the paper will apply the concept to an analytically relevant sample of South African listed non-financial companies. In order to analyse the relationship of liquid assets to current and total liabilities within the firms in the sample the author has gathered balance sheet

¹ This means banks are not purely dependent on deposits to expand credit because they operate in a fractional reserves system and engage in financial innovation to manage their liabilities, which further reduces the relevance of the reserve requirement for credit generation. Nevertheless, it will be shown that increased cash volumes held as claims on the banking system can favour credit expansion.

information, creating an original data set. The paper will argue that the substantial volume of cash and cash equivalents held by South African listed firms potentially accelerates credit extension by domestic banks. Since South African banks focus on consumption and mortgage loans, unsustainable consumption-led growth and housing bubbles can emerge. The policy implications of these findings (section 5) are that facilitating access to finance for large companies is unlikely to result in strengthened (and investment-driven) growth.

2. Balance sheet management by non-financial firms

Each economic unit can be analytically understood as individual balance sheet carrying assets, that potentially generate cash flow, and liabilities, which must be serviced [Minsky 1976]. Individual units are interwoven in the economy since the asset of one entity can simultaneously be the liability of another. Hence, micro- and macroeconomic perspectives are closely interlinked.

Balance sheets are managed with respect to prospective cash flow, i.e. income and capital gains. Households, for example, can postpone consumption or request bank credit if their cash flow falls short of previous expectations because a household member has lost employment for instance. Non-financial firms can defer investment if revenue does not meet estimated volumes, take on debt or potentially issue new equity. The ability to manage the balance sheet will vary across units and depend on access to financial markets and the structure of existing assets and liabilities. Hence, large listed non-financial companies can access financial instruments – including equity issuance – that non-listed medium-sized ones are unable to use. The range of instruments that financial institutions have at hand is even more diverse while small enterprises and the average household are limited in their possibilities to manage cash flow through external finance.

Large listed non-financial companies are the focus of this paper because their balance sheet management is hardly accounted for in conventional economic theory. Nevertheless, their activities constitute a major share of economic production while their links amongst themselves as well as to financial and government institutions – through purchases and sales of debt and equity instruments – mean they are crucially interwoven with a large number of major economic units. Despite this central position of companies in the economy their balance sheet operations are rarely considered by economic theory. Within conventional theory the Modigliani-Miller theorem [1958] claims the irrelevance of firm's financing decisions for the true value of a company since in the absence of market imperfections finance structures, i.e. the choice between debt and equity financing, are regarded to be random across firms.

The Modigliani-Miller theorem [1958] influenced conventional economic theory, emphasising firms' liabilities and the uncertain profit stream they generate for shareholders,

which became the analytical focus of corporate finance theory (see Fama 1991). Hence, Modigliani and Miller implicitly acknowledged the fact that every liability is simultaneously an asset (here, firms' liabilities are investors' assets), but failed to account for the corporate balance sheet.

In mainstream theory production and commercial activity yields an uncertain stream of profits to shareholders. In reality, owners of corporate bonds and even more so of equity are mostly subject to the uncertainty of secondary markets, i.e. to value gains or losses of their asset. With respect to the production process it is the firm, which experiences uncertainty over its cash flow on a daily basis. This makes it difficult for enterprises to validate their commitments towards their suppliers, workers and creditors. One of the safest ways to insure itself against shortfalls in cash flow for a firm is to hold liquid assets in the form of cash, cash equivalents or liquid financial instruments, resulting in the firm's liquidity preference [Toporowski 1993].

The conscious choice of assets by firms also impacts their choice of liabilities and therefore financial structures in general. Placing their focus on corporate liabilities and their impact on private investors' returns, Modigliani and Miller overlooked that asset and liability management is closely interlinked. This is especially the case in a world with sophisticated financial markets, e.g. where secondary financial markets exist. There are no secondary financial markets in the mainstream (corporate finance theory) framework, since financial profits are assumed to be exclusively determined by profits generated by firms in production and trade.

More unconventional research accounts for active balance sheet management, starting off with the realisation that the risk of company default rises with increasing leverage, i.e. the share of debt to own liquid assets (*principle of increasing risk*, Kalecki 1937). In modern Anglo-Saxon capitalism certain large listed companies deal with this risk through over-capitalisation, which is an outcome of *capital market inflation* [Toporowski 1993, 2000]. Non-financial firms are over-capitalised if they hold liabilities that exceed the value of their productive assets including their "plant, equipment, materials and stocks of unsold products and semi-fabricates" [Toporowski 2008, p. 4]. In other words, an over-capitalised firm would hold liquid financial assets – such as debt or equity of certain other corporations – or cash and cash equivalents – in form of deposits with financial institutions – corresponding to a substantial share of its liabilities. These financial assets, cash and cash equivalents constitute excess capital.

In the United Kingdom (UK) and the United States (US) over-capitalisation of non-financial corporations strongly interacts with capital market inflation, being a potential source but also an outlet for excess capital. The theory of capital market inflation [Toporowski 2000] systematises fundamental changes in financial and economic institutions of Anglo-Saxon

markets, triggered by the rise and strengthening of institutional investors such as pension and insurance funds.

Capital markets inflate as result of liquidity inflows beyond the volume of traded and newly issued corporate equity or debt. If the amount of shares publically offered by listed companies in primary capital markets and those traded in secondary markets is insufficient to meet demand share prices will increase. Rising share prices further attract liquidity since investors expect price increases to persist. As a consequence, equity prices inflate until investors are unable or unwilling to continue their financial investment, or their share buying is off-set by issues of new equity or long-term bonds, at which point capital market inflation is reduced. If investors start withdrawing liquidity, selling off equity in the expectation of continued falling prices a deflationary dynamic can be triggered.

Capital market inflation is an analytically powerful economic theory since it allows for complex financial institutions and processes – in contrast to mainstream economic theory – while constituting a qualitative explanation for the intensifying dominance of finance in Anglo-Saxon capitalism in the post-World War II era – in contrast to many ‘financialisation’ approaches, focusing on the growth in volumes of financial transactions.

Conventional economic theory lacks relevant depth because it does not account for secondary financial markets, characterised by the above described disequilibrium price dynamics, resulting in gains or losses in asset value, which importantly drive financial investment decisions. According to conventional theory, rising equity prices relative to other assets should reduce further demand for increasingly expensive shares because of the substitution effect. In a Walrasian general equilibrium framework relatively less expensive assets should replace equity in the investment portfolio [Toporowski 2000]. Hence, inflationary and deflationary price forming processes cannot be acknowledged since the price mechanism is assumed to be self-equilibrating at all times in the absence of market frictions.

In more unconventional economic theory, such as the ‘financialisation’ literature, balance sheet management by non-financial companies is also often overlooked or only partially explored (e.g. in approaches centred on shareholder value, see Lazonick and O’Sullivan 2000) [Toporowski 2012]. The strength of the capital market inflation theory lies in its explicit analysis of financial operations undertaken by the corporate and household sectors. These are assumed to be active – actively managing their balance sheets – in their interactions with financial institutions and markets.

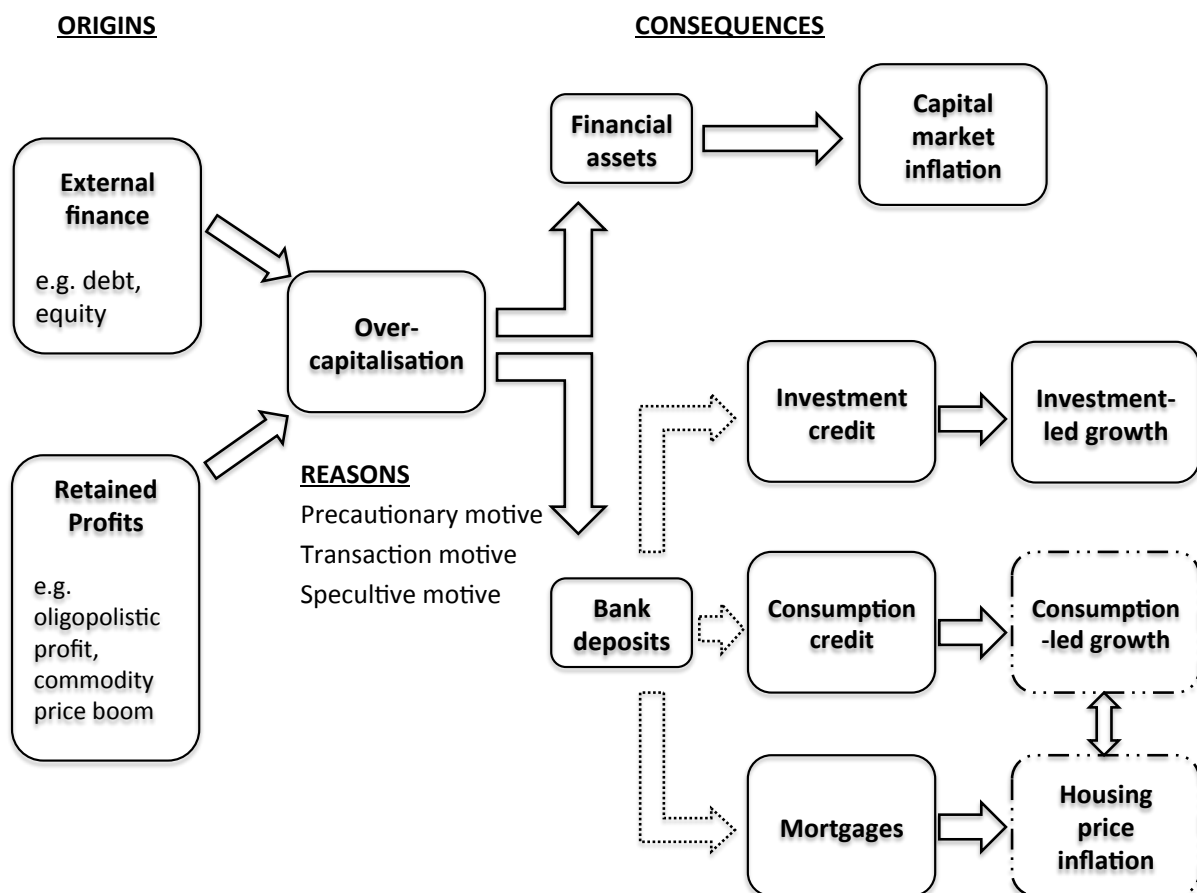
Although it might be perceived as firm-level phenomenon, over-capitalisation has far-reaching impacts and consequences for the economy as a whole. Figure 1 summarises the potential origins, reasons and consequences of over-capitalisation. There are broadly speaking two major sources of over-capitalisation, namely external finance and retained

profits. Non-financial firms might hold excess capital out of a precautionary (or liquidity, see Toporowski 1993), transaction or speculative motive. Finally, excess capital will be either held as liquid financial assets or as cash and their equivalents in bank deposits on corporate balance sheets. While the purchase of financial assets by non-financial enterprises is likely to contribute to capital market inflation, deposit holdings might facilitate credit expansion.

Conventional economic theory assumes that the bulk of credit accrues to private corporations, financing investment spending and supporting growth [see Mishkin et al. 2006]. In actual fact, consumer credit and mortgage finance has become the focus of bank lending in wealthier economies – and as will be shown for the case of South Africa below – and is also increasingly gathering pace in emerging markets.

The sustainability of credit booms and consumption-led growth is questionable, recently demonstrated by the US subprime mortgage crisis. The link between house price inflation and consumption-led growth appears especially toxic because asset-owning households credit-finance their consumption through value gains of their property.

FIGURE 1. THE CONCEPT OF OVER-CAPITALISATION: ORIGINS, REASONS AND CONSEQUENCES



In the following, the paper will focus on the origins (i.), the reasons (ii.) and consequences (iii.) of over-capitalisation, leaving the complex issue of investment- and consumption-led

growth aside. Discussing different growth drivers from a macroeconomic perspective in detail would go beyond the scope of this paper. The analysis will raise some growth considerations, discussing policy implications in sub-section (iii.) on the consequences of over-capitalisation.

i. The origins of over-capitalisation

The primary origin of excess capital in the US and UK are capital markets. Because of the above-described process of capital market inflation [Toporowski 2000] it is relatively easy for large listed companies to issue new equity or debt during stock market booms. As long as demand for these financial assets matches or exceeds supply in the primary market (i.e. new issues) and the secondary market (i.e. former investors selling on corporate shares or bonds) the share price of the company will not be affected negatively while the cost of its debt (i.e. the interest payable at or until maturity) will not increase.

For listed companies there is a fundamental difference between equity and debt financing. In contrast to non-listed firms they enjoy access to equity markets where they can offer their shares. Debt finance – if only in the form of bank credit – is available to most enterprises whether they are non-incorporated firms, incorporated non-listed firms or listed companies. Certainly, the cost of debt finance will vary across firms depending on the volume and structure of their balance sheets. Listed corporations, however, enjoy the rare privilege of being able to absorb liquidity at near-to-nothing cost [Toporowski 2000].

Of course listed companies are expected to pay dividends on their equity, which effectively represents a cost. Consequently, equity and debt are both grouped under liabilities on corporate balance sheets. Nevertheless, dividend payments can be withheld with the consent of the majority of shareholders, in order to finance investment for example. Shareholders often accept such financing decisions because dividend payments are typically not the main source of their return. They realise profit when cashing in on value gains of the equity they hold. Hence, their primary source of profit is not the company whose shares they acquired and whose dividends they receive but the secondary market where another investor has to be found to purchase the shares at a higher market price.

It is important to note, that capital market inflation [Toporowski 2000] is a macroeconomic theory explaining developments in capital markets in aggregate. Hence, individual companies might experience falling share prices during periods of stock exchange booms. This would have firm-specific reasons: technologies might turn obsolete leaving companies with an out-dated product; or investment projects might fail, wiping out assets while debt has to be repaid.

In Anglo-Saxon financial markets, external finance is stressed as a source of excess capital particularly for listed firms. Alternatively, excess capital could have its origins within the company, e.g. in retained profits that are not re-invested into the company's trade or

production activities but held as liquid assets instead. Under perfect competition in textbook economics, company revenue should just suffice to cover production costs, thus, retained profits would not accrue [Varian 2002]. Of course, most conventional economists will admit that the assumption of zero-profit is only an approximation of economic reality. However, they will rarely agree that pricing power and oligopolistic profits are rather the rule than the exception, i.e. a market friction or failure.

Oligopolistic profits pose an important origin of excess capital. By definition, oligopolistically operating firms, i.e. companies that control a substantial share of their product market and consequently exert pricing power, possess spare capacity [Steindl 1976]. Therefore, their investment spending will be depressed and most likely focused on maintaining existing capacity. Concurrently, profit margins, preserved by market control and pricing power, can be expected to be high. Hence, oligopolies are able to generate substantial retained profits but have very little need to invest in production. In this sense, oligopolistic profit could be a source of excess capital.

But high profit margins are not necessarily linked to oligopolistic competition patterns. Firms might be able to generate large retained profits while not being able to exercise any control over the market price. In commodity markets for example international prices are rarely set by individual companies² – e.g. through mark-up pricing. Michał Kalecki argued that commodity prices tend to be determined in a relatively competitive manner according to supply and demand interaction because of the homogeneity of the product and the size of the international market [Lee 1998]. This is because the commodity extracting primary sector hardly ever possesses excess capacity, in contrast to oligopolistic manufacturers, who use excess capacity to keep control of the price, while deterring potential competitors from entry [Lopez 2010].

Thus, an increase in demand for iron ore as consequence of buoyant Chinese construction activity translates into high iron ore and steel prices. High capital intensity of extraction, especially in mining-related industries, means that additional demand can only be addressed with a significant time lag. Meanwhile, high prices and profit margins prevail, forming another potential source of excess capital for large companies.

ii. The reasons for over-capitalisation

From the perspective of the non-financial corporation types of rationale for holding excess capital might be broadly grouped into three categories: (a.) the precautionary (or liquidity) motive, (b.) the transaction motive and (c.) the speculative (or profit) motive.

² Although the dominance of the De Beers group's over the international supply of diamonds proves that even international commodity prices can be largely determined by individual companies.

a. Precautionary motive

Conventional theory neglects to deal with historical (or real) time. General equilibrium analysis operates in a time vacuum with no dynamic considerations and therefore no sequencing of events [Henry 2003]. In equilibrium firm production is determined by prices and the equality between marginal cost and marginal revenue. This means that firms produce output using given technology and inputs at given prices up to the point where an additional unit of produce equals the additional cost the business incurs in its production [Varian 2002].

In historical time, costs and revenues do not accrue simultaneously. Typically, costs have to be met first while revenue only materialises after the production and subsequently successful sale of these commodities. Rejecting the idea that supply creates its own demand, i.e. Say's law, success in transforming the produced commodity into money or revenue is far from certain [Tugan-Baranowsky 1901].

Therefore, excess capital can constitute an effective insurance against unexpected shortfalls in cash flow. It reduces the riskiness of the firm's economic activity. Missing cash flow can be caused by failure of individual investment undertakings with reasons that are specific to the company (i.e. idiosyncratic reasons). Cash flow can also fail to materialise because of cyclical fluctuations in economic activity, which during a downturn depresses demand, reducing cash flow for firms across sectors and the economy (i.e. systemic reasons). Excess capital reduces dependence on uncertain banking and financial markets.

In both cases, channelling parts of retained profit into safe financial investment, e.g. government bonds, guarantees a minimum level of cash flow while reducing the company's gearing ratio. According to the principle of increasing risk [Kalecki 1937], the risk of default rises with increasing gearing ratio or leverage, i.e. the share of debt to own liquid assets. As risk increases so does the cost of borrowing for firms. Therefore, to minimise cost over the medium run during which some shortfall in cash flow is likely to occur it makes sense for non-financial firms to keep excess capital in the form of highly liquid financial assets. Hence, firms will hold excess capital out of a precautionary or liquidity preference [Toporowski 1993] motive.

In the case of an idiosyncratic investment failure, the business might consider seeking external financing to compensate foregone cash flow necessary to meet payment commitments vis-à-vis its workforce, suppliers and creditors. The presence of excess capital on the firm's balance sheet might prompt more favourable credit conditions or lower borrowing costs, since liquid assets are an extremely robust collateral. In fact, the company itself could sell these assets to cover their cash needs. During economic downswings it might be forced to do so because borrowing conditions and rates would have tightened in response to depressed economic activity and prospects.

Liquid assets are either financial instruments with deep secondary markets such as government bonds, meaning demand for these assets is present at any point in time, or cash and its equivalents mostly held in deposits with banks or other financial institutions.

Other assets, be they non-current such as machinery and equipment or current such as inventories, run the risk of illiquidity. This means it might be difficult to sell them promptly because secondary markets in these assets do not attract many buyers and sellers at all times. Hence, if a company is under financial stress while neither holding sufficient liquid assets to borrow at affordable conditions nor possessing adequate cash and cash equivalents to meet payment commitments internally, it might be forced to sell off less liquid assets such as machinery below their value to generate necessary cash flow.

Excess capital held by non-financial firms out of the precautionary motive does not exist in mainstream economic theory because historical time, uncertainty and cyclical fluctuations in economic activity (i.e. the business cycle) are ignored by general equilibrium analysis.

b. Transaction motive

The transaction motive is typically employed to cast doubt on the idea that businesses, and especially large listed companies, manage their balance sheets actively. In essence, the transaction motive states that large firms, maybe not unlike wealthier households³, simply possess larger volumes of liquid assets because they must be able to carry out spontaneous transactions corresponding to their size.

The picture of a capricious but well-endowed shopper imposes itself on this argument. While the idea that wealthier households will maintain high levels of cash and cash equivalents to allow for instant unforeseen consumption might have some appeal, it appears thoroughly inadequate in the context of corporate finance. This is because large enterprises develop well-established supplier networks over time. Purchases are not once-off fancy buys but typically standardised and repeated transactions with well-known suppliers. Hence, it could be possible for the business to reduce holdings of cash and cash equivalents for the mere purpose of transaction payments, e.g. through trade credit.

c. Speculative motive

Finally, it is possible that non-financial firms acquire liquid financial assets out of a speculative motive. Excess capital could be held because there are limited opportunities for productive investment in an oligopolistic industry as argued above under 2.(i). The argument could be made that oligopolistically operating businesses could branch out into other industries or new technologies. In fact, business conglomerates, such as those often found in

³ This argument is formulated alluding towards the transaction motive inducing households to hold money according to Keynes [Keynes 1936].

dynamic Asian economies, investing across a range of diverse industries might be a case in point.⁴

Nevertheless, investment projects are always difficult and uncertain in their outcomes, since they depend on aspects that lie outside the control of the investing enterprise, e.g. demand for a new product to use a simple example. These difficulties and uncertainties can be assumed to intensify when a company attempts to enter an unknown industry [Steindl 1976]. Therefore, financial investment might pose an alternative.

From a textbook economics perspective, the return on liquid assets held as substantial share of financial liabilities, i.e. the return on excess capital (r_c), is a mere income return (r_i) [Toporowski 2008]. This might be a correct assumption for excess capital taking the form of bank deposits, i.e. cash and cash equivalents. Such assets do not gain in value over time. Furthermore, their income return is likely to be negative ($r_i < 0$) since r_i will be the difference between the borrowing rate, which the company has to pay on liabilities such as bank loans, and the lending rate, which the firm receives on its assets held with the banking system. Cash and cash equivalents are assets that typically obtain very low – if any – lending rates. Therefore a *rental cost of excess capital* [Toporowski 2008] accrues as negative income return on cash and cash equivalents, which equals the cost of liquidity, the so-called liquidity premium.

Financial assets such as bonds and equity typically generate a positive income return ($r_i > 0$). Furthermore, the underlying value of the asset fluctuates over time and can therefore be used for speculation, i.e. the asset also generates a speculative return (r_s). The stronger the asset price fluctuates the higher are the potential speculative gains or losses. Price fluctuation, in turn, is a function of capital market inflation as described in section 2.

Generally, the inflation of prices for government or corporate bonds is limited by their maturity period and the underlying principle value. When a debt instrument approaches its maturity its price moves towards the repayment value, which is the amount to be repaid to the bond holder on maturity. In contrast, equity instruments do not possess a maturity period, meaning their resale value is entirely dependent on demand and supply present in primary and secondary markets. If demand for equity exceeds new issues in the primary market and offering in the secondary markets, share prices will increase, attracting further liquidity into the stock exchange in a process of price inflation. At this point a non-financial firm selling equity acquired earlier for financial investment will make a positive speculative return ($r_s > 0$).

⁴The Malaysian Genting Group is such an example, having initially operated hotels and resorts, subsequently branching out into running plantations, oil and gas exploration and power generation [Genting Group 2012].

Once the influx of liquidity into the stock market stalls, because investors are unwilling or unable to keep demand up, or if the influx of new liquidity is matched or exceeded by newly issued corporate shares, fully absorbing liquidity inflows, price growth will halt and might reverse into deflation. Anticipating the end of price gains, a downward price spiral is set off since investors try to cash in on their previous gains or at least to minimise losses. So the speculative return of a firm selling financial assets during a deflationary price fall depends on the timing of its investment. The earlier during the boom and the bust it manages to purchase and also sell equities, i.e. the lower their buying price and the higher their selling price, the higher the speculative return. If the firm enters the equity market while inflation is well under way and offers purchased assets for resale in the secondary markets after the deflationary spiral has set off, it is likely to incur speculative losses ($r_s < 0$).

iii. The consequences of over-capitalisation

As the preceding analysis of the speculative motive for holding excess capital shows, non-financial firms can contribute to financial market inflation. If the source of their excess capital are also the equity markets this process is almost self-propelling: firms issue equity during stock exchange booms and channel the funds back into other companies' financial paper. Anticipating that stock markets are volatile, excess capital has to be held to support the company's share price if necessary. Toporowski [1993] shows that in this manner the preference of non-financial firms to hold liquid assets raised in the capital markets depresses their investment activity. The higher a company's leverage, i.e. the share of liabilities and equity to liquid assets, the more its actions will be confined to further increasing liquidity. Investing into non-current and therefore illiquid assets such as plant and equipment would run counter to this liquidity preference.

Consequently, companies using capital markets extensively to raise funds are likely to become rentier firms as opposed to entrepreneurial firms.⁵ This is because the inherent volatility of capital markets – and particularly the stock exchange – makes them unsuitable to finance long-term investment projects characterised by a high degree of uncertainty [Toporowski 2000]. Issuing equity results in an increased liquidity preference (for highly liquid financial assets or cash) by non-financial firms: On the one hand, buy-backs of shares by the issuing companies themselves to prevent share price falls are not uncommon. On the other hand, cash and cash equivalents will be needed to pay investors' dividends. Despite economic downswings dividends are demanded by investors. Since equity markets are often depressed during economic slowdowns these demands might even intensify. The realisation of a speculative return becomes increasingly impossible during the downswing, which shifts investors' attention towards the income return arising from dividend payments. Yet, the firm is likely to suffer falls in cash flow from operations because domestic demand is depressed

⁵ Rentier companies use capital markets extensively to raise funds but also to generate profits. As consequence, they typically possess excess capital. Entrepreneurial firms, in contrast, focus on commercial trade, production and investment as sources of income, trying to keep their leverage, i.e. the sum of total liabilities and equity to liquid assets low, by minimising external finance [Toporowski 1993].

during economic slowdowns. Once again, excess capital is essential to fill missing cash flow either through sale of excess capital or borrowing against it.

Hence, the speculative engagement of non-financial firms with capital markets and especially equity sets off dynamics contributing to financial fragility, namely the process of capital market in- and deflation, which exacerbates disequilibrium price dynamics. This describes the case in which non-financial enterprises source excess capital externally and reinvest it into financial assets. This is the top branch in figure 1.

But even if excess capital has a different origin, e.g. high profit margins on international commodities, which was an important driver of growth in many emerging markets during the early 2000s, balance sheet management can induce financial fragility. This is somewhat paradoxical because balance sheet management aims at reducing financial fragility of the individual economic entity, e.g. the listed corporation. Hence, the fact that all economic units are interwoven through their assets and liabilities can give rise to a financial fallacy of composition where the outcome of individual stabilising actions destabilises the economy as a whole.

In section 4 the case of cash and cash equivalents held by non-financial firms as claims on the banking system, i.e. in deposits, in South Africa will be examined. Abstracting from the foreign and state sectors, banks can generate assets to balance these deposits, which show up as liabilities on their balance sheets, through credit extension to the private sector. Broadly speaking, this borrowing can be either investment credit for non-financial firms, consumption credit for households or mortgage loans mainly financing households' purchases of residential property (see figure 1).

Once excess capital appears on banks' balance sheets as liabilities it does not inevitably generate credit extension. In fact, banks can also hold their assets with other financial institutions or the central bank. They can equally take part in the process of capital market inflation purchasing debt and equity instruments of other financial and non-financial businesses. Therefore, the step from bank deposits to credit extension is symbolised as dashed arrow in figure 1 above. Nevertheless, there seems to be evidence – which will be discussed in section 4 – that the swelling of corporate bank deposits facilitates banks' credit expansion.

3. An emerging market perspective on balance sheet management

Analysing the existence and impact of excess capital and over-capitalisation in emerging markets is crucial to understand growth dynamics especially given the dynamic expansion in their financial markets. The prominent involvement of large multinational companies (MNC), which typically manage their balance sheets actively, in emerging economies means the phenomenon of over-capitalisation is most likely also present in these markets.

This section deals with corporate balance sheet management amongst large non-financial firms in emerging markets. Following the structure of the preceding section, it will deal with the origins (i.), reasons (ii.) and policy consequences (iii.) of over-capitalisation in emerging markets.

i. The origins of over-capitalisation in emerging markets

As discussed above there are two potential sources of over-capitalisation: external finance and retained profits. Although the theory of capital market inflation has been developed in the context of wealthier economies large corporations originating or operating in emerging markets might equally generate excess capital through financial markets. This could happen because large enterprises can access financial markets in wealthier economies. Furthermore, they could use domestic financial markets to accumulate excess capital.

Contrary to popular belief emerging economies often possess financial markets, which are long-standing, deep and liquid. The Johannesburg Stock Exchange (JSE) Limited⁶ in South Africa, for example, is the largest stock exchange in Africa. Its establishment can be traced back to 1887 when it emerged out of the need to finance capital-intensive mining production in the country [JSE 2012]. Similarly, the Kuala Lumpur Stock Exchange (KLSE) was founded in 1930 and has a leading regional (and potentially global) role in trading Islamic financial products [KLSE 2012]. Financial markets in emerging economies as a source of excess capital are likely to gain in importance with intensifying international integration of financial markets, strengthening focus on emerging markets by investors from wealthier economies, and growing innovation and imitation of Anglo-Saxon financial institutions and practice in emerging economies.

Alternatively retained profits can be a source of excess capital for companies based in emerging markets. In internationally integrated and open emerging economies oligopolistic profits might be less likely to occur than commodity price-induced ones. In the international market, emerging market companies typically face competition by enterprises from wealthier economies, which are often technologically superior or better established. Hence, it is difficult for emerging market enterprises to impact the international price, being effectively a price taker. If the domestic market is open and globally integrated, the domestic price will be determined by international prices and competition, once again leaving little scope for oligopolistic profits.

Industrial policy might protect domestic price margins somewhat in the attempt to allow domestic companies for technological catch-up vis-à-vis international and technologically advanced corporations. In this context it is conceivable that industrial policy – if non-favourably designed – together with deep and liquid financial markets allow for the

⁶ Previously the JSE Securities Exchange and Johannesburg Stock Exchange.

generation of excess capital by large corporations in emerging market, replacing productive investment. This is an issue that would have to be analysed in detail in a separate study.

But the case of Malaysia demonstrates that corporations in dynamically growing can exhibit signs of over-capitalisation, induced by trade-generated retained profits [Karwowski 2009]. Malaysia has experienced a structural current account surplus during the early 2000s and in the run-up to the 2008/09 financial crisis. This surplus has mainly accrued to Malaysian non-financial firms, whose operations were to a significant extent resource-based. Given the dependence of many emerging and developing countries on resource extraction commodity price booms are a potential origin of excess capital for their companies. Nevertheless, Malaysia is also a significant exporter of manufactured goods. Hence, strong exporting performance in emerging economies – such as in the case of China – could equally be a source of excess capital if firms feel the need to hold liquid assets.

Finally, a third source could be classified as somewhere between external finance and internally generated retained profits: namely transfers within MNC groups. It is conceivable that emerging market subsidiaries – such as the South African Kumba Iron Limited, which is part of the British Anglo American PLC group – have to service intra-MNC loans that effectively are shifting profits from the subsidiary to the mother company [Toporowski 2012].

ii. The reasons for over-capitalisation in emerging markets

In an emerging market, relative shortfalls in cash flows might be more unpredictable and frequent than in wealthier economies. Apart from potential fluctuations in the domestic economy emerging markets are often also strongly affected by economic swings in wealthier economies because they are dependent on export demand or inflows of financial funds from these economies. Large emerging markets such as China or India are notable exception due to high levels of internal demand. However, for the bulk of emerging economies, which are small open economies, this seems an appropriate assumption.

Since the institutions underlying global trade and financial markets are dominated by wealthier economies, international transactions are undertaken in their currencies, i.e. mainly the US dollar but to some lesser extent also the British pound, the Euro and the Japanese yen. This remains true, notwithstanding China's active attempts to break out of this institutional setting by promoting its own currency, the renminbi, by putting financial infrastructure into place to support its use in trade [Financial Times 2012].

Operating in international markets exposes emerging market firms to fluctuations in exchange rates, so-called currency risk, even if they are subsidiaries of mother companies with seats in wealthier economies. Hence, if the exchange rate of the domestic currency weakens an enterprise will face higher costs for importing inputs and servicing foreign-denominated debt, while export revenue rises in terms of domestic currency. If this

exchange rate strengthens the reverse is true: importing components becomes relatively cheaper together with foreign-denominated liabilities, while export proceeds are worth less in domestic currency. The interaction between cost and revenue gives rise to either positive or negative cash flow, which the company accumulates as retained profits or losses.

Generally, in the case of emerging markets there seem to be more sources of uncertainty lurking, justifying the existence of excess capital out of the precautionary motive. Precaution appears to be a cyclical phenomenon, declining during economic booms while shooting up in and after busts. This is illustrated in the volume of excess capital held by listed Malaysian firms, which has expanded markedly after the 1997/98 East Asian crisis [Karwowski 2009].

iii. The policy consequences of over-capitalisation in emerging markets

In the policy realm the disregard of excess capital explains the popular misconception that private investment is mainly constrained by capital and its cost, represented by the interest rate. Companies are believed to withhold investment if the interest rate is too high, meaning that marginal revenue of the project would not cover the marginal cost of external financing. Lowering the cost of capital should therefore, according to mainstream theory, induce private investment activity, pushing borrowing rates to or below the level of the investment's rate of return. Consequently, monetary easing is regarded as panacea to economic stagnation.

In wealthier economies, and particularly in the UK, investment rates have been low and disappointing despite monetary easing. The reasons for economic stagnation in the OECD world are multifaceted. However, lacking understanding of firms' financial operations explains exaggerated expectations of the impact of policies aiming at lowering interest rates on growth. It might be adequate to assume that the investment by the bulk of small and medium-sized enterprises (SMEs) is constrained by capital. Nevertheless, SMEs tend to finance investment internally not least because borrowing often remains costly despite low interest rates offered to commercial banks by the central bank. In contrast, large companies typically enjoy easy access to external finance on favourable terms because they are clients with little risk. In large corporations, however, low lending rates might be used for liquidity management and balance sheet restructuring rather than for investment. Monetary easing allows large companies to take out new liabilities with lower servicing costs, letting them pay off their old liabilities, which incurred higher servicing costs. The desired effect on growth is missing.

Less wealthy economies are perceived to be even more constrained by lacking capital in their growth and development. Consequently, policies to extend and deepen financial markets are advocated as growth-enhancing [Dahou et al. 2009]. The existence of excess capital suggests that only some companies – most likely SMEs – are capital-constrained. Therefore, understanding financial operations of heterogeneous firms (i.e. ranging from

large listed companies to small non-incorporated enterprises) is crucial for the analysis of the effects of financial markets dynamics on growth.

The existence of excess capital also changes the direction and purpose of lending. Alongside the emergence of over-capitalisation among large corporates as consequence and source of capital market inflation, households in aggregate became net borrowers in Anglo-Saxon economies by the late 1990s [Shaik 2011]. Hence, the textbook case was reversed. Households as a group are no longer a source of capital surplus but rather have transformed into a sector characterized by a capital deficit, while firms at least in aggregate started generating saving. In this institutional setting banks channel corporate saving towards households. A similar development has been observed for the South African economy in the early 2000s as will be discussed in the next section.

With the change in lending direction there is also a shift in the purpose of credit. While corporate credit is assumed – not always rightly so – to be used in productive investment, household loans typically flow into consumption credit or mortgage finance. The sustainability of consumption-led growth, which is credit-financed, is highly questionable because it often depends on the continuous expansion of credit coupled with steadily increasing house prices. Therefore, excessive mortgage expansion might result in house price inflation. If households use their residential property as collateral for credit-financing consumption, economic expansion comes at the cost of rising financial fragility.

Hence, it is conceivable that encouraging the deepening and widening of financial markets in emerging economies (see Dahou et al. 2009) might encourage unsustainable growth and potential house price inflation instead of supporting corporate investment, production and employment creation. Section 4 will demonstrate that emerging market economies can exhibit sign of over-capitalisation. Hence, in contrast to popular belief their financial markets are relatively liquid and deep, large corporations manage their balance sheets actively and policies supporting further growth of financial markets are unlikely to benefit employment creation and development.

4. Over-capitalisation among South African listed firms

This section will show evidence for the over-capitalisation of South African listed non-financial firms. Abstracting from the origins of excess capital of these companies it will then focus on the potential impact of extensive cash and cash equivalents held in South African bank deposits on credit extension.

First, the sample of South African listed non-financial firms will be introduced, showing its analytical significance. It will be argued that there are signs of over-capitalisation within the presented sample since companies hold cash and cash equivalents equal to substantial shares of their liabilities. Finally, it will be shown that strong expansion of consumer credit

and mortgage loans could be a potential consequence of these cash holdings in bank deposits. In nominal terms, the South African housing market experienced unmatched price inflation during the early 2000s. The abundance of mortgage loans certainly favoured this asset inflation, generating economic instability. If property-owning households use their mortgages to credit-finance consumption, the instability could be aggravated because it links domestic demand to volatile housing market in- and deflation.

i. The analytically relevant sample of South African listed firms

The sample of firms considered in the following analysis consists of 30 non-financial firms listed on the JSE. The sample is deemed to be analytically relevant and representative of large listed non-financial companies operating in South Africa since it covers all non-financial firms within the top 20 JSE-listed companies according to market capitalisation as of 2010 (see figure 2). Financial companies are excluded from the sample because the focus of analysis is balance sheet management of non-financial listed corporations. Furthermore, firms, which are part of a company group, are not accounted for separately but in aggregate as group (e.g. Anglo Platinum, AngloGold Ashanti and Kumba Iron are all part of the AngloAmerican group).

FIGURE 2. TOP 20 JSE-LISTED FIRMS BY MARKET CAPITALISATION

Rank of capitalisation as of September 2010	Company	Subsidiary	Financial companies (FIN)
1	MTN Group Ltd		
2	Sasol Ltd		
3	Anglo Platinum	AngloAmerican	
4	Standard Bank		FIN
5	Naspers Ltd		
6	Anglogold Ashanti	AngloAmerican	
7	Impala Platinum		
8	Firstrand		FIN
9	Kumba Iron Ltd	AngloAmerican	
10	Vodacom Group		
11	Absa Group Ltd		FIN
12	Gold Fields Ltd		
13	Nedbank Group		FIN
14	Remgro Ltd		FIN
15	Shoprite Holdings		
16	Sanlam Ltd		FIN
17	Bidvest Group		FIN
18	Investec Ltd		FIN
19	Exxaro Resources		
20	RMB Holdings		FIN

Source: Bloomberg 2010.

From this sample of top 20 JSE-listed companies, 9 meet the required conditions: they are non-financial company groups listed at the South African stock exchange. This initial sample

is complemented by the Financial Mail's 2008 and 2009 rankings of the top 20 South African companies [Financial Mail 2012].

The Financial Mail publishes a review of listed South African (financial and non-financial) companies annually, announcing the top 20 listed firms based on quantitative and as of 2003 also qualitative criteria. The quantitative measures considered are based on historical financial and share price performance of companies. These measures are the internal rate of return, earnings per share as five-year compounded growth rate and return on equity for the latest year. The qualitative indicators refer to corporate governance, investor communication, strength of management, industry profit and individual company profit prospects. Only listed companies with a market capitalisation of at least ZAR1 billion are assessed [Mosalakae 2007]. Quantitative indicators draw on research by the Bureau of Financial Analysis (BFA) based at the University of Pretoria.

The top 20 South African companies for 2008 and 2009⁷ are listed in figure 3 below.

FIGURE 3. FINANCIAL MAIL'S TOP 20 SOUTH AFRICAN COMPANIES IN 2008 (LEFT PANEL) AND 2009 (RIGHT PANEL)

Rank of Financial Mail's top 20 companies in 2008	Company	Subsidiary	Financial companies (FIN)	Rank of Financial Mail's top 20 companies in 2009	Company	Subsidiary	Financial companies (FIN)
1	Massmart			1	MTN		
2	Grindrod			2	Basil Read		
3	Brimstone			3	Assore		
4	Highveld			4	Palabora	Rio Tinto	
5	Sentula			5	HCI		FIN
6	Famous Brands			6	WBHO		
7	CMH			7	Massmart		
8	Dawn			8	York Timber		
9	BHP Billiton			9	Naspers		
10	MTN			10	Dawn		
11	Sasfin		FIN	11	Buildmax		
12	Sun International			12	Tiger Brands		
13	Yorkcor			13	Shoprite		
14	Woolworths			14	ArcelorMittal		
15	Advtech			15	Peregrine		FIN
16	Northam			16	Advtech		
17	Digicor			17	Highveld Steel		
18	African Bank		FIN	18	Brait		FIN
19	Aspen			19	BHP Billiton		
20	PSG		FIN	20	Simmer & Jack		

Source: Financial Mail 2012.

⁷ As discussed, excluding financial corporations and not taking subsidiaries into account separately but rather as company group.

Another 23 non-financial companies have been identified for the analytically relevant sample through the Financial Mail ranking. The mining company Simmer & Jack has been omitted from the sample even though it would fit the specified requirements because balance sheets for 2007 and 2011 are missing.⁸ Overall the sample considered for analysis contains 31 non-financial company groups listed at the JSE.

This sample is considered analytically relevant and representative for large non-financial firms listed in South Africa because it covers the major non-financial companies operating in South Africa according to both quantitative and qualitative criteria.

ii. Evidence of over-capitalisation among South African listed firms

The compiled sample will be analysed for signs of over-capitalisation in the following. As measure of over-capitalisation two ratios will be constructed from the firms' balance sheets: (1) the over-capitalisation ratio (OCR) and (2) a narrowly defined quick ratio (QR).

The over-capitalisation ratio is the ratio of cash and cash equivalents assets to total liabilities of the company:

$$(1) \quad OCR = \frac{\text{Cash and cash equivalents (assets)}}{\text{Total liabilities}}$$

Therefore, it indicates what share of liabilities could be paid off at any time, using existing cash holdings. The entrepreneurial (non-over-capitalised) firm focusing on commercial activity, production and investment can be expected to have a low and decreasing OCR. Holding liquid assets that do not yield income returns ($r_i < 0$) is costly. The over-capitalised non-financial company, i.e. the rentier firm [Toporowski 1993], will have a relatively high and possibly increasing OCR because it is minimising its risk by holding high volumes of liquid assets, i.e. cash and cash equivalents.

Nevertheless, it is difficult to establish threshold values for these two firm types – entrepreneurial and rentier firm – as they are inevitably country-specific and related to the specific industries, in which companies operate. Balance sheet data might be systematically under-reported in order to reduce positions, which are taxable and to increase items that are tax deductible. Tax legislation is of course country specific. Equally, the amount of excess capital held by firms might be motivated by the requirements and conventions of the domestic banking sector as to what are perceived as robust levels of collateral.

For instance, Malaysian listed non-financial firms held around 25% of its liabilities in cash and cash equivalents as share in the early 2000s. This percentage rose to close to 30% in the

⁸ The company webpage has been under construction since early this year, while balance sheets gathered by the author in 2010 do not cover the year 2007. There is a significant expansion in holding of cash and cash equivalents in that year according to available data. Since this can neither be double-checked nor explained given the missing 2007 annual report the company has been excluded to ensure the soundness of the sample.

course of the commodity price boom, which might have been driven by resource-exporting Malaysian companies to whom the majority of Malaysia's structural trade surplus accrued. In 2008, this share shot up to 45% [Karwowski 2009]. Nevertheless, the East Asian crisis in 1997/98 is likely to have induced particular precaution among Malaysian firms as the memory of financial distress and collapsing cash flow was fresh during the 2000s. In 2008, the OCR might have shot up in anticipation of the following global crisis, which started unfolding in wealthier economies in 2007, hitting emerging markets by the end of 2008 if not earlier. Hence, there is preliminary evidence that movements in the OCR might be cyclical. It rises in the aftermath of economic downturns and declines again during times of 'economic tranquillity' [Minsky 1986], i.e. during periods of relative economic stability, which lead to optimistic expectations of future economic performance.

Apart from the OCR a narrowly defined QR will be reviewed. The QR is typically calculated as current assets minus inventories over total current liabilities. Hence, it aims at measuring the ability of working capital of the firm to meet current obligations. Inventories are by their nature relatively illiquid – especially during economic downturns – and are therefore excluded. The ratio used here is narrowly defined because it not only leaves out inventories but equally so receivables, prepaids and notes receivable. Effectively, these current assets are also illiquid, because they do not constitute immediately usable funds and in fact represent another unit's liabilities. During economic downswings or crises it might be impossible for economic units in financial distress to pay off their liabilities, hence making receivables expected from other economic units uncertain.

Hence, the narrowly defined QR, which will be used in the following analysis, is the ratio of cash and cash equivalents to total current liabilities:

$$(2) \quad QR = \frac{\text{Cash and cash equivalents (assets)}}{\text{Total current liabilities}}$$

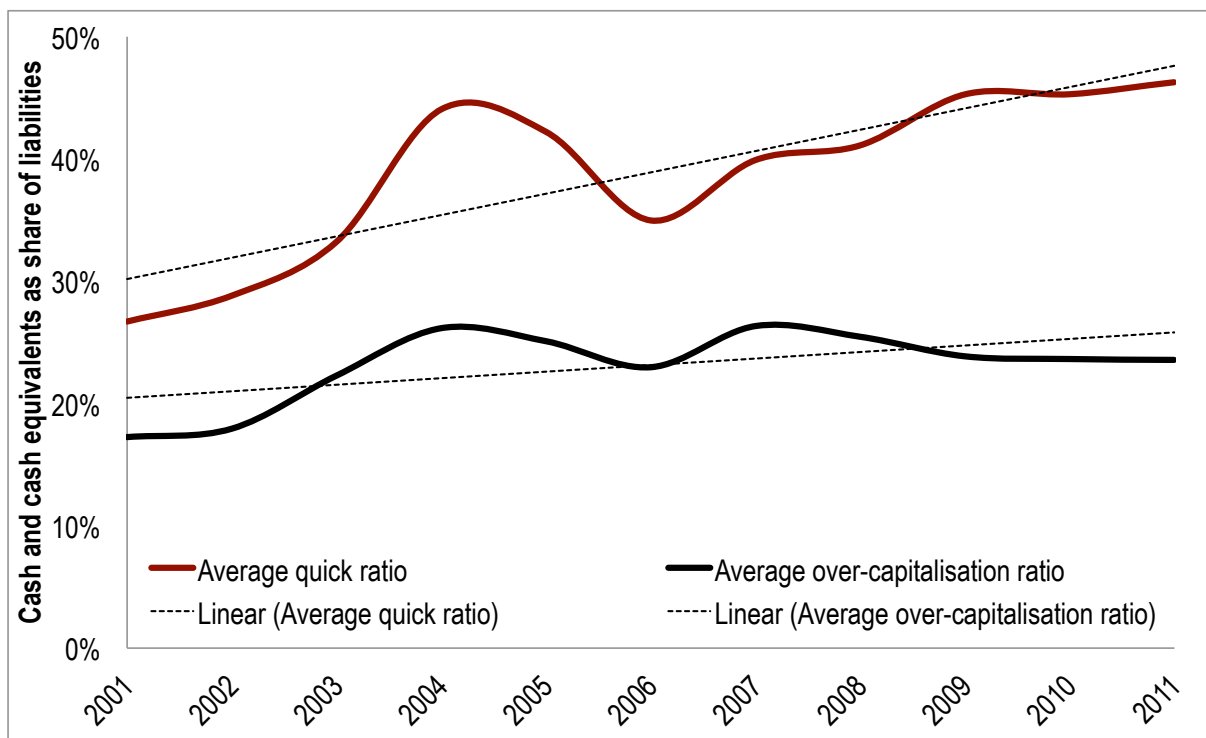
The QR is a ratio commonly used in business accounting and might therefore actively determine company policies regarding desirable levels of excess capital. Once again the entrepreneurial (non-over-capitalised) company can be expected to possess a low, potentially decreasing QR, while the rentier (over-capitalised) firm will have a relatively high and possibly increasing QR.

The number of years for which financial data is available for the 31 companies in the sample varies. The oldest available figures go as far back as 1995 (for Shoprite). The least amount of balance sheet observations is accessible for Buildmax, only going back to 2005. The 10-year period between 2001 and 2011 was chosen as period of observation because data for at least 20 out of the 31 companies in the sample is available since 2001.

Nevertheless, the minimum number of observations per year during the sample period shrinks to 19 since the mining company Northam has to be excluded. Northam is clearly

over-capitalised with an OCR of around 300% (of total liabilities) in the early 2000s accompanied by a narrowly defined QR of around 500% (of total current liabilities) – see graph 10 in the annex. In subsequent years, Northam’s OCR and QR decreased while remaining at very high levels, most of the time holding as much cash and cash equivalents as total liabilities or more (OCR \geq 100%). The sheer volume of its excess capital skews the average of the sample and suppresses average trends within the sample, imposing its own development of asset to liability ratios onto the sample as a whole. Consequently, figure 4 shows the average OCR and QR for a sample of 30 companies.

FIGURE 4. AVERAGE OVER-CAPITALISATION AND QUICK RATIOS FOR A PANEL OF JSE-LISTED NON-FINANCIAL SOUTH AFRICAN COMPANIES



Source: Author’s calculations based on annual reports for 30 companies.

At first glance, a steady increase in the sample average⁹ QR can be observed from a level of just above 25% of total current liabilities in 2001 to more than 40% by 2011. The sample average OCR, in contrast seems to have remained relatively constant over the 10-year period, slightly fluctuating around 20% of total liabilities.

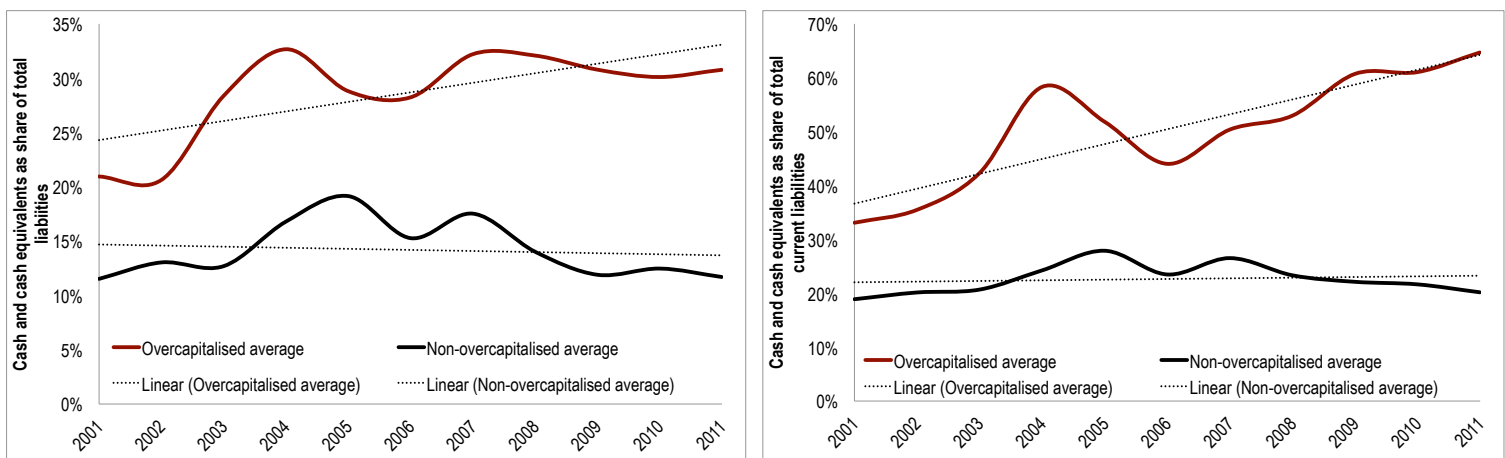
In the next step of analysis, the sample was divided into companies that showed signs of over-capitalisation and those that did not. The two groups were chosen according to criteria based on the findings for Malaysian listed companies, which arguably do possess excess capital [Karwowski 2009]. Average OCRs were calculated for the 30 companies over the available time periods, for which balance sheet data is available. If one quarter (25%) of total

⁹ All sample averages are calculated as unweighted means.

liabilities are held in cash and cash equivalents by a company on average, it has been grouped with the potentially over-capitalised firms, i.e. rentier firms. Also, firms with very high OCR ranges, i.e. the difference between the highest and the lowest OCR during the time period, of close to and exceeding 50 percentage points have been included into this group. A strong variation in the OCR might indicate that excess capital has been actively accumulated at least during some years in the sample. Finally, firms that showed strongly rising and high levels of OCRs during the run-up to the 2008/09 global crisis have been included in the over-capitalised sample. These companies have typically a QR of 40% (of current liabilities) or more.

As consequence, the following businesses are part of the over-capitalised firms group: AngloAmerican, Aspen, Assore, Basil Read, BHP Billiton, Buildmax, DigiCore, Exxaro, Famous Brands, Goldfield, Highveld, Impala Platinum, MTN, Naspers, Rio Tinto, Sasol, WBHO, Woolworth and Yorkcor. The remaining companies – AdvTech, ArcelorMittal, CMH, Dawn, Grindrod, Massmart, Sentula, Shoprite, Sun International, Tiger Brands and Vodacom – are in the non-over-capitalised firms group.

FIGURE 5. OVER-CAPITALISATION RATIOS (LEFT PANEL) AND QUICK RATIOS (RIGHT PANEL) FOR A PANEL OF JSE-LISTED NON-FINANCIAL SOUTH AFRICAN COMPANIES



Source: Author's calculations based on annual reports for 30 companies.

Figure 5 illustrates that the OCR and the QR for the over-capitalised firm group have been steadily increasing over the past 10-year period. In the years from 2001 to 2011, the OCR increased from just above 20% to around 30% of total liabilities for the over-capitalised group on average, while the ratio stagnated at just above 10% (possibly with a slightly decreasing trend) for the non-over-capitalised companies in aggregate. The QR grew from 35% to more than 60% of total current liabilities for the over-capitalised firms on average. The non-over-capitalised firms kept a constant QR at around 20% of total current liabilities on average.

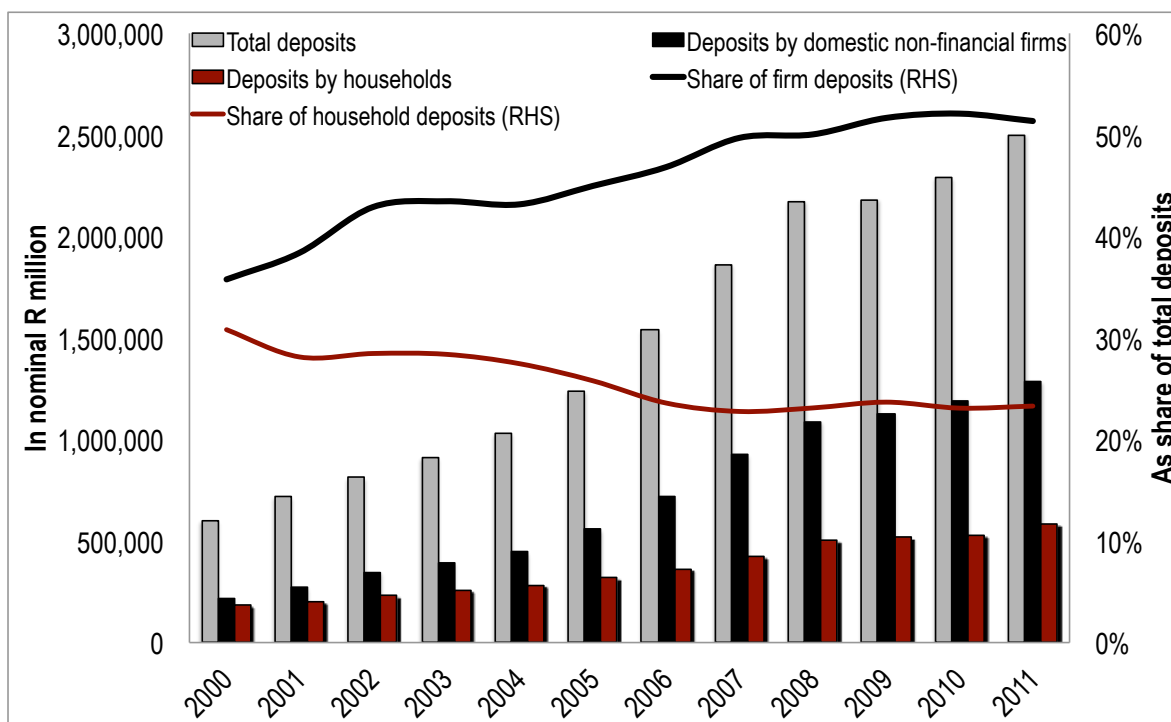
Since the group of over-capitalised firms covers 20 companies and therefore the majority of the present sample, which simultaneously represents most of the 9 non-financial firms listed

among the top 20 companies by market capitalisation at the JSE, evidence strongly suggests that a substantial part of large listed non-financial corporations operating in South Africa possess excess capital. Consequently, a substantial share of JSE-listed large non-financial companies is managing their balance sheets actively.

iii. Potential consequences of over-capitalisation for financial stability

The paper abstracts from the origins of excess capital on the balance sheets of JSE-listed non-financial firms and focuses instead on its consequences. This section will illustrate that there is evidence that corporate excess capital held as claims against the banking system, i.e. in bank deposits, fuels credit extension to the household sector. Household credit is mostly used for purchases of residential property, resulting in house price inflation.

FIGURE 6. FIRMS' AND HOUSEHOLDS' DEPOSITS AS SHARE IN TOTAL DEPOSITS HELD WITH SOUTH AFRICAN BANKS



Source: South African Reserve Bank (SARB) through Global Insight Southern, 2012.

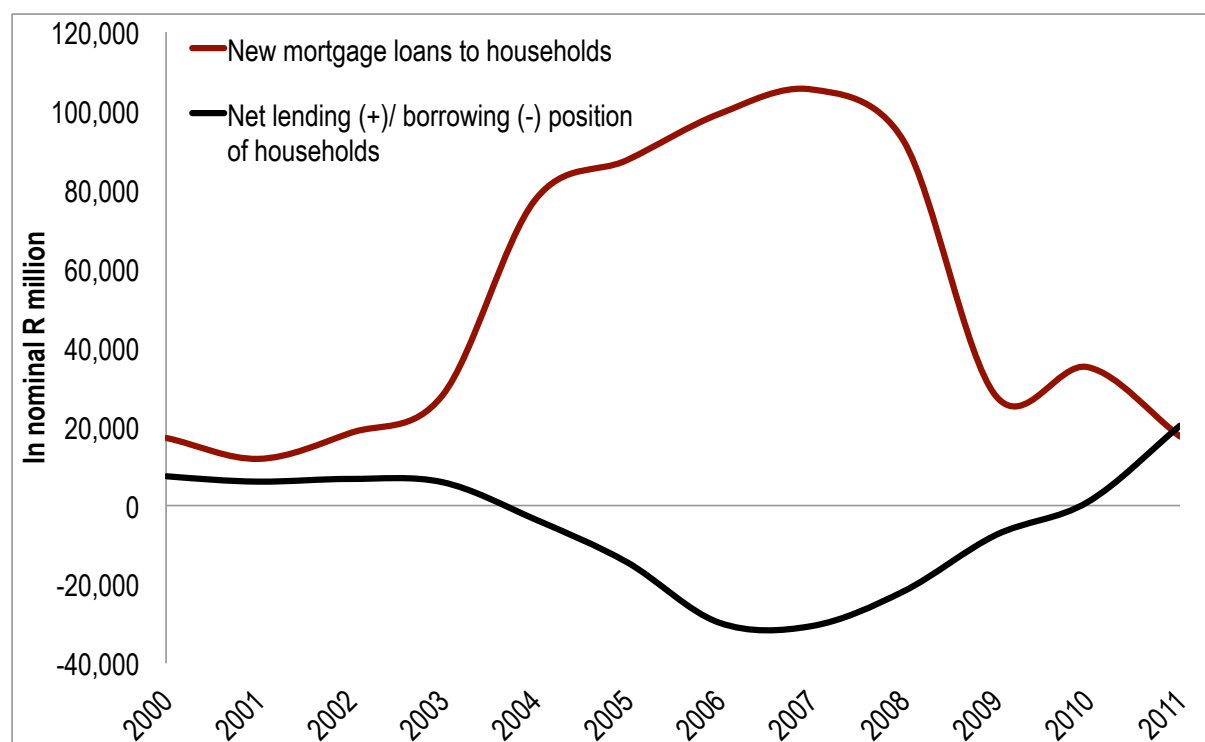
Excess capital is mostly held as bank balances by the companies considered in the sample. The importance of these deposits in the total volume of bank liabilities held as deposits has been rising over the past decade. Figure 5 demonstrates that total deposits of the private sector carried on banks' balance sheets more than quadrupled from R600 billion in 2000 to R2.5 trillion by 2011. During this expansion the share of firms' claims on the banking sector increasingly gained in weight, while household deposits constituted a declining share of overall deposits. In 2000, households and firms both provided roughly one third of all deposits. By 2011, corporate claims on the banking sector exceeded 50% of all deposits while households only accounted for 23% of total deposits. Total deposits make up 90% of overall bank liabilities.

Hence, the growth in cash balances held in banks and equally the growth in bank liabilities appear to be driven by excess capital on business balance sheets. The acceleration in bank deposit growth was particularly strong between 2005 and 2007, when corporate deposits expanded in the range of 25% to 30% on an annual basis.

More than 60% of banks' assets are loans and advances to the private sector. More than half of these advances flow towards the household sector and within this category home loans account for the bulk of household credit [SARB 2012]. Therefore, it is likely that a substantial volume of corporations' excess capital was channelled into mortgage loans towards households. National financial account data depicted in figure 6 supports this hypothesis.

New mortgage extension towards the household sector was particularly strong between 2005 and 2007, when the net saving position of the household sector in aggregate dipped substantially into negative territory, reaching its lowest point at -R31 billion in 2007 (see figure 7).

FIGURE 7. MORTGAGE LOANS TO HOUSEHOLDS AND HOUSEHOLDS NET SAVING POSITION



Source: South African Reserve Bank (SARB) through Global Insight Southern, 2012.

The increasing demand for mortgage finance by households had an inflationary impact on house prices. In nominal terms, South African house prices quadrupled during the past decade, i.e. between 2000 and 2010 (see figure 8). This means that South Africa experienced one of the strongest – if not the strongest – housing booms worldwide. Even in real terms

annual growth in South African home value topped price gains in the US and UK since 2004 (see figure 9).

Consequently, there is reason to believe that since the mid-2000s increasing cash balances on corporate balance sheets raised banks' liabilities in form of deposits. Banks channelled these funds into loans and advances, generating assets. Mortgage loans to households constituted a substantial share of this credit extension. In this way, excess capital of non-financial firms played an important role inflating house prices in the South African economy.

FIGURE 8. NOMINAL HOUSE PRICE INDICES, SELECTED ECONOMIES

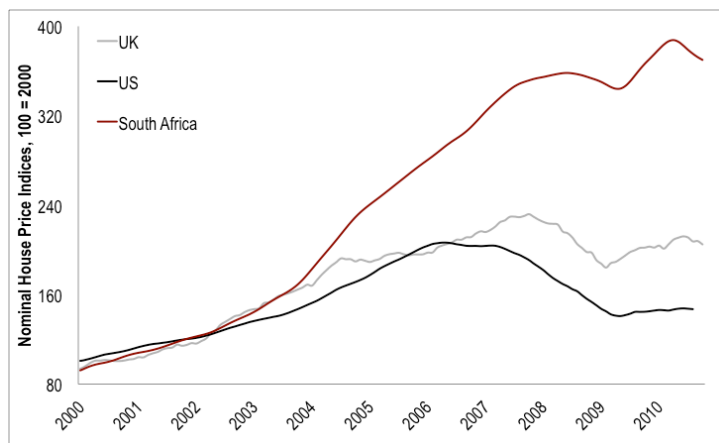
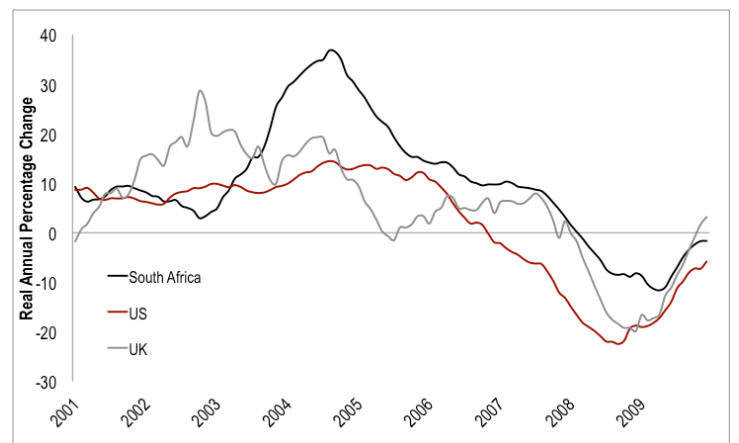


FIGURE 9. REAL HOUSE PRICE GROWTH, SELECTED ECONOMIES



Source: ABSA, Halifax, S&P/Case-Schiller, South African Reserve Bank.

5. Conclusion and Policy Implications

This paper showed how the liquidity preference of non-financial listed corporations can induce credit expansion, contributing to asset price inflation in the South African housing market. This finding shows that the operations of the corporate sector are crucial determinants for the credit and financial system of a country.

From a policy perspective it is important to realise that private sector investment and therefore (sustainable) growth are not necessarily capital constrained. Hence, deepening financial markets might not lead to accelerated growth and dynamic development as often advocated by conventional economic theory. On the contrary, financial markets and in particularly capital markets providing cheap capital to large listed companies can in fact contribute to financial instability and asset price inflation, undermining sustainable growth.

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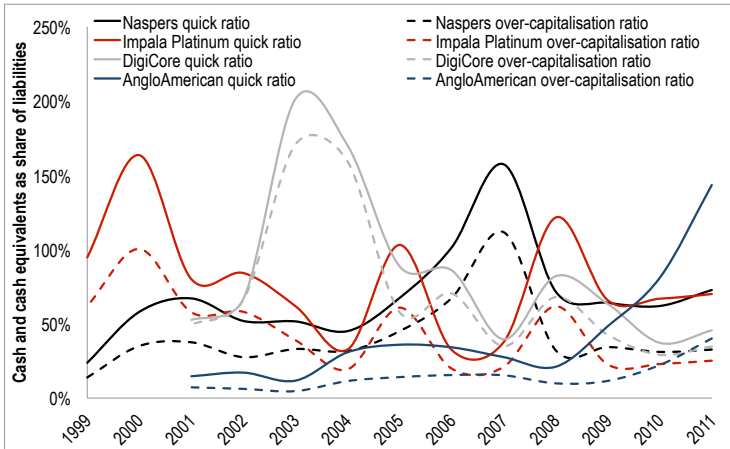
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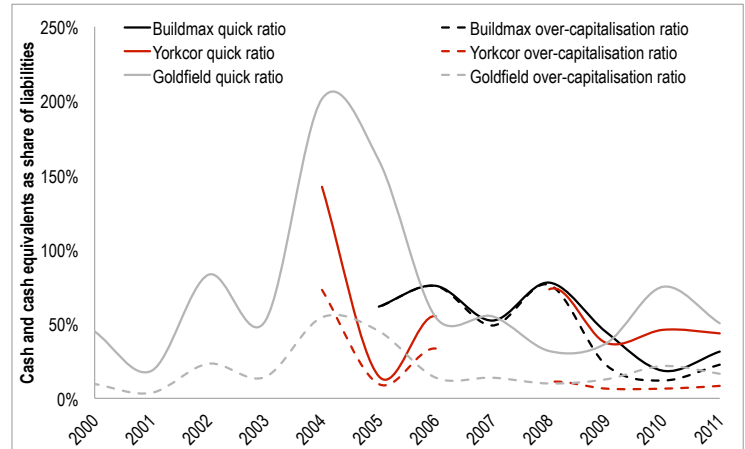
ADvTECH, AngloAmerican, ArcelorMittal, Aspen, Assore, BHP Billiton, Basil Read, Brimstone, Buildmax, CMH, Dawn, DigiCore, Famous Brands, Gold Fields, Grindrod, HCI, Highveld, Impala Platinum, Massmart, MTN, Naspers, Northam, Rio Tinto, Sasol, Sentual, Simmer & Jack's, Shoprite, SUN International, Tiger Brands, Vodacom, WHBO, Woolworth and Yorkcor.

7. Annex

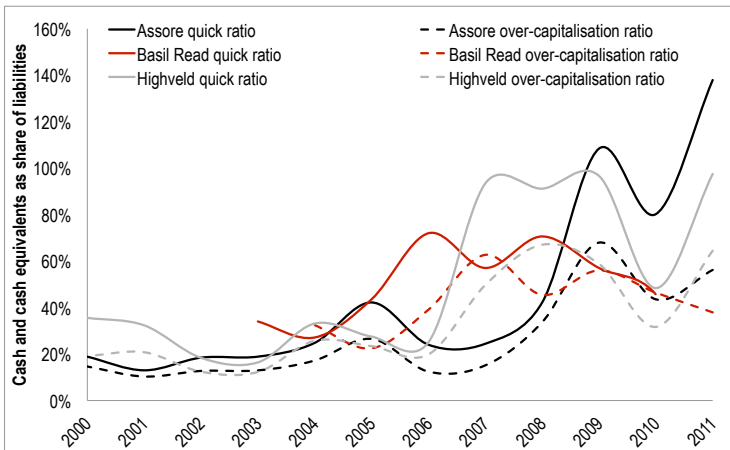
Graph 1. QR and OCR for Naspers, Impala Platinum, DigiCore and AngloAmerican



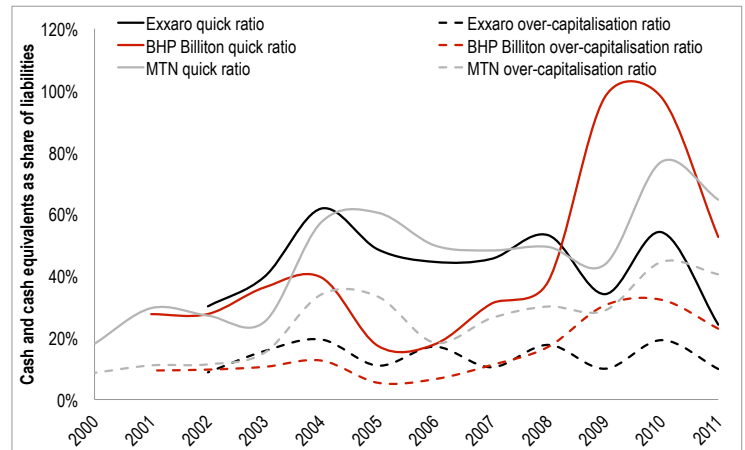
Graph 2. QR and OCR for Buildmax, Yorkcor and Gold Fields



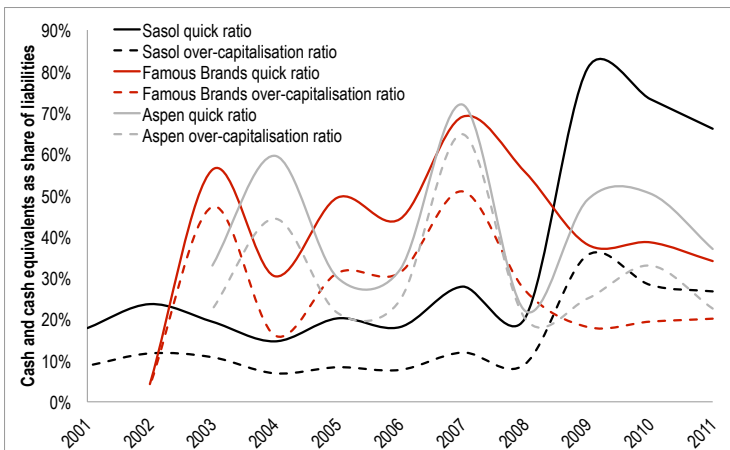
Graph 3. QR and OCR for Assore, Basil Read and Highveld



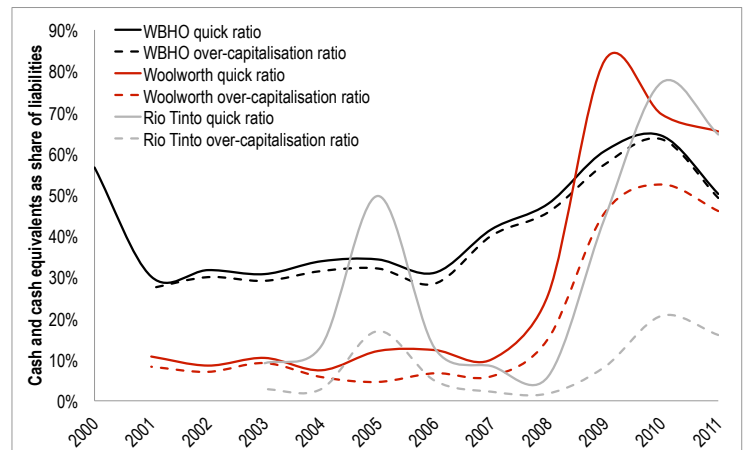
Graph 4. QR and OCR for Exxaro, BHP Billiton and MTN



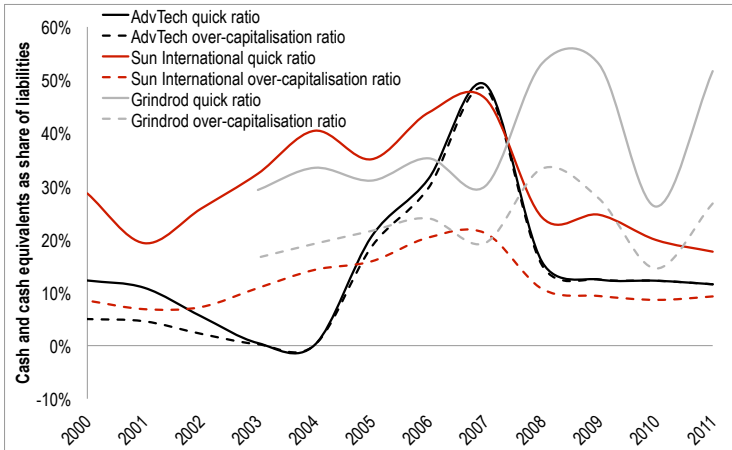
Graph 5. QR and OCR for Sasol, Famous Brands and Aspen



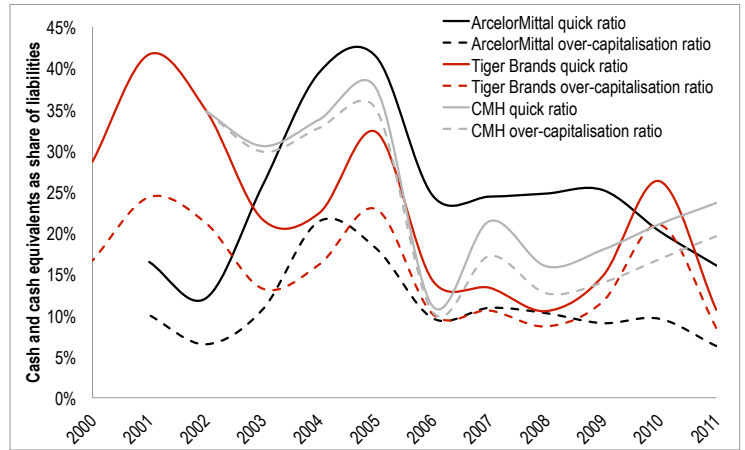
Graph 6. QR and OCR for WBHO, Woolworth and Rio Tinto



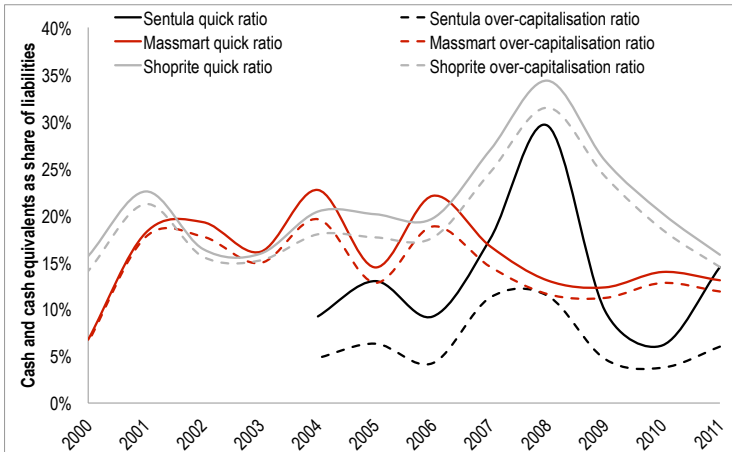
Graph 7. QR and OCR for AdvTech, Sun International and Grindrod



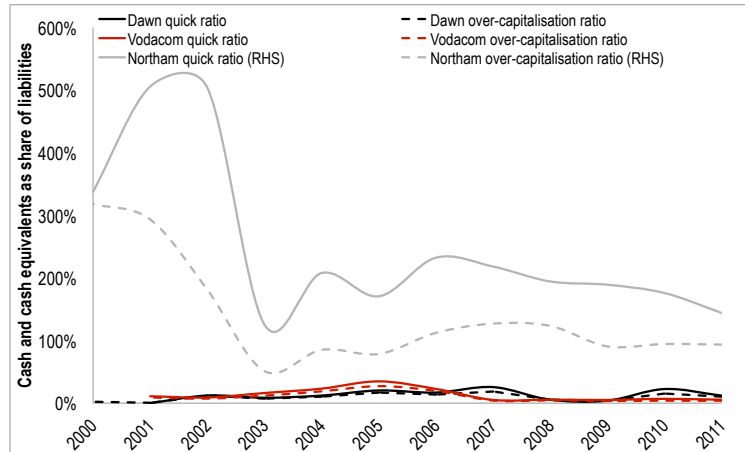
Graph 8. QR and OCR for ArcelorMittal, Tiger Brands and CMH



Graph 9. QR and OCR for Sentula, Massmart and Shoprite



Graph 10. QR and OCR for Dawn, Vodacom and Northam



Source: Author's calculations based on companies' annual reports.



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