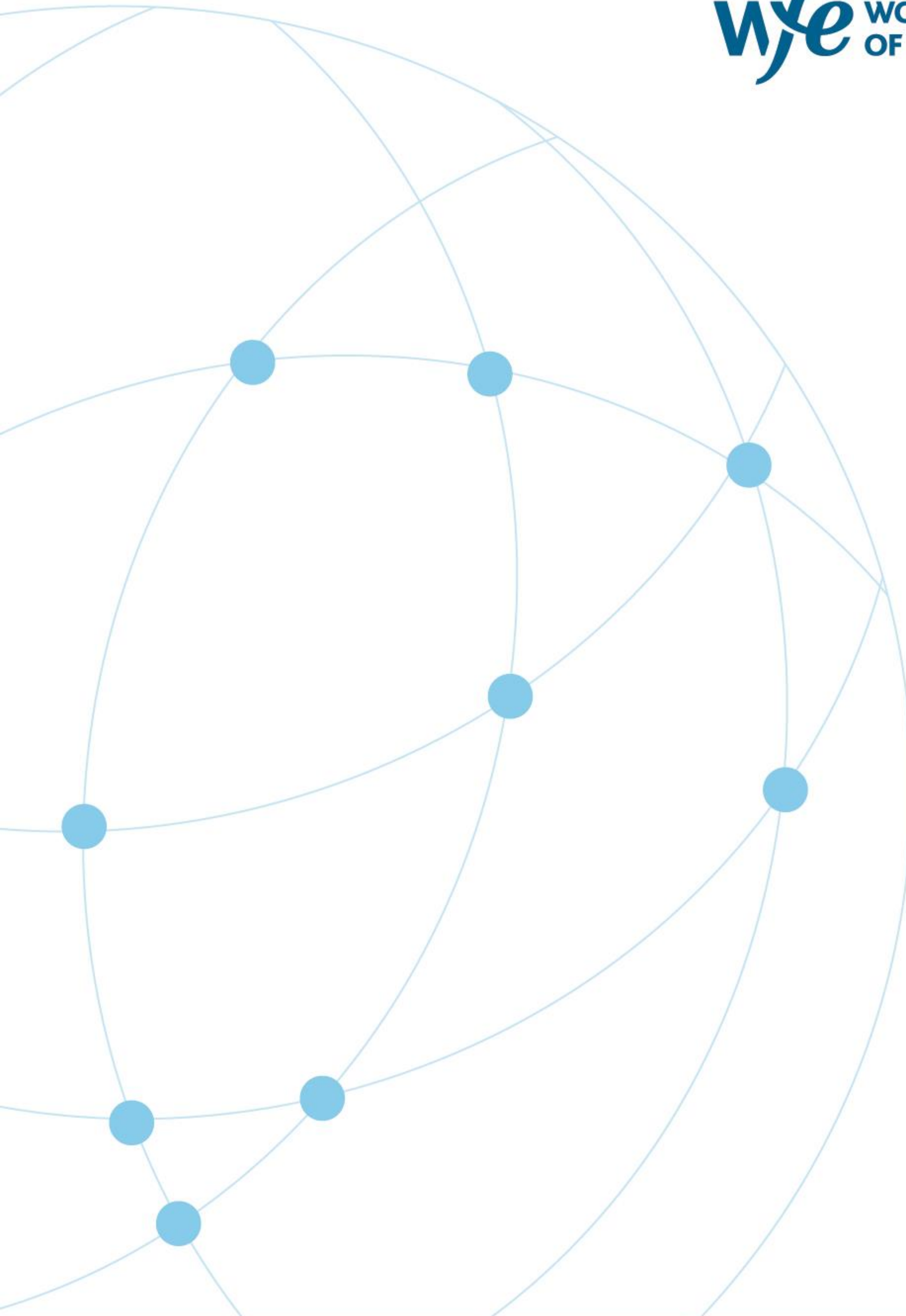

WORLD FEDERATION OF EXCHANGES

Financing the Future – A WFE White Paper

WFE Regulatory Affairs – 18th September, 2023

Background

Established in 1961, the WFE is the global industry association for exchanges and clearing houses. Headquartered in London, it represents over 250 market infrastructure providers, including standalone CCPs that are not part of exchange groups. Of our members, 34% are in Asia-Pacific, 45% in EMEA and 21% in the Americas. WFE's 90 member CCPs and clearing services collectively ensure that risk takers post some $1.3 trillion (equivalent) of resources to back their positions, in the form of initial margin and default fund requirements. WFE exchanges, together with other exchanges feeding into our database, are home to over 50,000 listed companies, and the market capitalisation of these entities is over $100 trillion; around $140 trillion in trading annually passes through WFE members (as of end 2022).

The WFE is the definitive source for exchange-traded statistics and publishes over 350 market data indicators. Its free statistics database stretches back more than 40 years and provides information and insight into developments on global exchanges. The WFE works with standard-setters, policy makers, regulators and government organisations around the world to support and promote the development of fair, transparent, stable and efficient markets. The WFE shares regulatory authorities' goals of ensuring the safety and soundness of the global financial system.

With extensive experience of developing and enforcing high standards of conduct, the WFE and its members support an orderly, secure, fair and transparent environment for investors; for companies that raise capital; and for all who deal with financial risk. We seek outcomes that maximise the common good, consumer confidence and economic growth. And we engage with policy makers and regulators in an open, collaborative way, reflecting the central, public role that exchanges and CCPs play in a globally integrated financial system.

If you have any further questions, the WFE remains at your disposal. Please contact:

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WORLD FEDERATION OF EXCHANGES

Executive Summary

- Banking and capital markets are broadly similar in size, each having a distinct role to play.
- Capital markets support collective investment and provide outstanding opportunities for growth over long time frames: growth of enterprises and for investors, combating the effects of inflation.
- Equity capital markets also provide good opportunities to diversify risk; and to recover after economic downturns.
- Market downturns are usually a response to – rather than the cause of credit squeezes – and may simply be the correction of a bubble.
- Capital markets support emerging enterprises and are more likely to offer breathing space to emerging enterprises than credit, even though the latter will always have an important part to play in the financing journey.
- Securities (shares and bonds) play complementary roles in capital markets, supported by derivatives.
- Volatility and risk are present in the whole financial system and, even though risk can spread (from credit channels to equity markets), it nonetheless plays out in very different ways and therefore cannot be treated as uniform. The freedom to adjust (buy/sell) investment positions is fundamental to the operation of the market. Volatility is not the same as credit constraints.
- Various types of measure can be used to incentivise investment and, while policy makers should ensure that they are not the only drivers of investment decisions, they should also ensure they do not artificially favour or distort investment flows.
- Impeding access to capital markets risks limiting growth (for both enterprises and investors) and limiting the ability of investors to make best long-term use of their assets.

Introduction

The world's banking system and the value of publicly traded shares on capital markets are roughly similar in size: both in the order of $100 trillion worth of assets.[1] But the future may require capital markets to shoulder much more of the responsibility for investment and growth. This paper is about why equity capital markets are well placed to do that and why public policy should encourage it, in light of the distinct and positive risk-reward profile of capital market-based finance.

This paper sets out the thoughts of the world's exchanges on this issue. The World Federation of Exchanges (WFE) represents over 250 venues where, among other products, shares are listed and traded in a transparent, accessible and user-friendly way.[2] (*See Annex 2 for the benefits that regulated markets bring to the world of finance*.)

We will look not just at the differences between (equity) capital markets and banking, which in benign times act as twin engines for growth, but also at their interaction. We will look at the related incentives

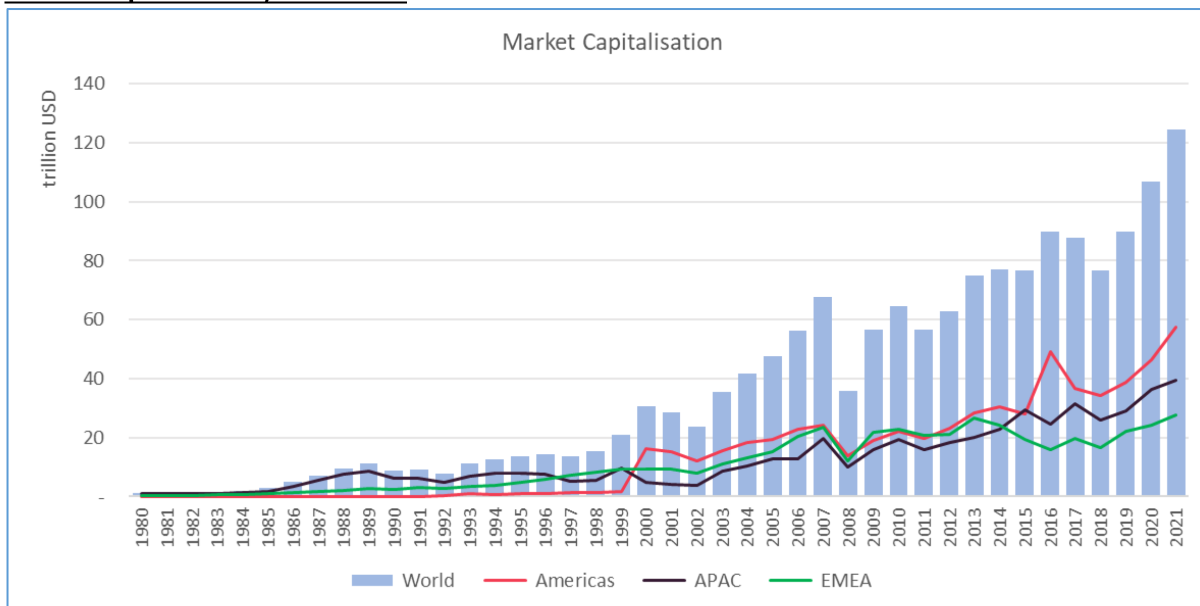
[1] See BIS.org/statx for banking claims as of end-2021; and https://www.world-exchanges.org/about. Property (real estate) is estimated at over $300 trillion, according to the company Savills.

[2] https://www.world-exchanges.org/

and regulatory regimes. And we will look at the crucial differences in terms of risk, especially to the financial system.

It is well documented that shares represent a powerful (if not the most powerful) way of investing for the longer term in the face of inflation, whether for security in retirement or other objectives. (*See chart below*.) The combination of capital gains and dividends is a powerful one and this has been true, even when interest rates are not stuck at or below zero.[3] Alongside bonds, derivatives and other financial products, they are the jewel in the crown for investors.

Market capitalisation, 1980-2021



Source: WFE. NB numbers for 1980 and 2020 are not directly comparable, because of increases in the reporting population.

The strength of shares is the potential to provide a longer-term return. It is no secret that in the short run shares can be relatively volatile, especially individual shares. But only in the most challenging years does volatility even approach 100%, let alone exceed it. Mostly it is much lower than that (*see Annex 1*). Intriguingly, challenging years for equities (for example, 2008) coincide with years when the banking system is also facing challenges, with some evidence that credit market conditions can temporarily affect share values.

Dynamic markets

It would be strange if share prices were not highly dynamic, since they represent the ever-changing potential of companies and an ever-evolving balance of opinion as to the scope of such potential. Investors have multiple means of mitigating risk. Either via simply portfolio diversification, which is even within the

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[3] For instance, the market capitalisation of shares on 50-odd exchanges increased by 190% between 2004 and 2021, from around $40tr to ~$120tr. Looking at the longer period between 1986 and 2020, the MSCI global index went up by over 800%, with individual national indices increasing by anything from 340% (UK FTSE) to 9,000% in the case of one Indian index. See Annex for a chart reflecting this phenomenon.

reach of the retail investor through collective investment schemes and exchange traded funds, and via derivatives which enable them to modify risk-reward profiles quickly and easily.

In any case, the more profound point is that, without that responsiveness to earnings and to prevailing investor views, shares would not be able to do their job, delivering the long-term growth that makes them so effective.

And the fact remains that equity investments often do well at recovering after a downturn, in the same way that economic growth returns. Hence those long-run return figures. This ability to bounce back has historically been true even of larger falls in asset prices and is notably absent only in instances where the credit system remains weak. As an instance of bouncing back, shares recovered within two years of October 1987 – the date of the significant market fall known as Black Monday.

When it comes to funding, capital markets also accommodate 'new-economy' companies, which may not have much in the way of physical assets to post as collateral against loans. Such companies are clearly important to the process of digitalisation in the economy.[4]

Investors who are focused on other areas where finance can play a transformational role are clear about the role that public capital markets must play. For the purposes of this paper, Laurits Bach Sørensen, Partner and Co-Founder of northern European growth fund Nordic Alpha Partners, has commented: "It will cost €28 trillion for Europe to reach NetZero by 2050. Roughly half needs to be driven by market financing. Hence, if we don't get public market financing in place to substantially support across EU, the EU will struggle to reach and lead the green transition in a cost-effective and competitive way."[5]

None of this is meant to suggest that bank lending does not have a vital role to play in the economy, especially for SMEs that may not be ready to go down the route of listing. But capital market financing is also a powerful tool to grow the economy and finance innovation, especially over the long term, and is arguably under-used in some parts of the world.

In contrast to loans, bonds occupy an honourable middle ground between credit and equity markets: they are credit instruments but tradable ones, requiring a certain amount of disclosure, via the prospectus at launch, and at least some degree of transactional transparency.

Bonds also clearly play an important role in finance and in investment portfolios. In particular, someone approaching retirement may want more of their financial assets in fixed income as compared with someone just beginning their career.

Care is also needed in relation to credit. Because all debt needs to be repaid or rolled over, as well as serviced through interest payments, borrowers need to be sure that they have or can quickly raise cash. This differentiates the two types of product, as equity investors, even though they will naturally demand growth from a company, may differ from creditors in being prepared to forgo short-term income

[4] The role of lit (transparent) markets in publicly tradable financial instruments is indispensable in all this. For more on the role of exchanges (and CCPs), please see Annex 2.

[5] https://napartners.dk

(dividends) if the long-term company prospects are good. Equity investment has more capacity to be patient – related to its potential for greater growth. So, incentivising SMEs to list is good government policy (and letting investment funds take on less liquid positions should, within reason, be accommodated).

One thing that debt finance currently does well is allowing issuers and investors who buy their securities to target green projects, or indeed any initiatives within ESG. The money raised via bond issue 'x' can be allocated to a specified use, and that allocation of the proceeds can be audited. Extending this logic, it is generally accepted that not just bonds but *all* finance should and will become more green, etc, and equity can and will play an important role in moving the sustainability agenda forward and deeper, along with social and governance objectives.[6]

It is also true that some forms of debt are inherently more risky for the system than others. Where bonds constitute repackaged bank risk, particular caution may be required. A lesson from the 2008 crisis is that securitisation, including the synthetic variety achieved using derivatives, can only be as good as the underlying lending decisions, including everything from due diligence to the macro-environment for credit.

Interactions: equity markets and credit channels

The two different channels we touch on in this paper – credit and equity markets – have distinct dynamics and consequences, particularly when the going gets tough. This means that it is even more interesting to look not just at the contrast between them but the inter-relationship, especially when it comes to risk.

When a market-wide drop in share prices does happen, it appears that it is likely to accompany – and may even be triggered by – an end to easy credit in the financial system as a whole, on a global scale. The latter was true of the events of 2008, when the Dow Jones Industrial Average fell some 7% intraday on 29th September, on news related to the availability of credit bailouts in the US. The elevated stock market volatility around that time came when a multi-year bubble in mortgage finance burst, and triggered a worldwide shock.[7] Similarly, in his seminal work on the October 1987 crash, which was a global event, Robert Shiller notes many investors in the US citing general over-indebtedness as a factor.[8] Even when solvency is not in question, illiquidity can affect credit markets and then spread more widely, notably affecting broker dealers, as happened in 2008 with the collapse of Lehman Brothers.

In this context, it is hard to escape a conclusion about lending markets. Even after 30 years of Basel Accords, it is genuinely hard to prevent bubbles and their consequences. Global – contractions also followed periods of easy money in 1997 and 1998, related to high levels of debt in certain parts of the world.

Continuing this theme, there were signs during the Covid 19 period (ie, from early 2020) of concern for how the credit system would hold up. Even as equity markets continued to price shares and provide a platform for IPOs, there was some debate about whether some financial institutions should be required to

[6] See WFE Green equity principles

[7] See thebalance.com/stock-market-crash-of-2008.

[8] https://www.nber.org/system/files/working_papers/w2446/w2446.pdf

retain funds rather than make dividend payments.[9] Central banks started supporting corporate debt, to help the wider credit system.[10]

As the European Supervisory Authorities (ESMA, EBA and EIOPA) noted in September 2021, "Vulnerabilities in the financial sector are increasing, not least because of side effects of the crisis measures, such as increasing debt levels."[11]

Just to underline all this, central banks also had to tread very carefully when fighting an outbreak in inflation in 2022. Raising rates was not straightforward, because so much debt was previously trading at negative yields, making it susceptible to a sell-off like the infamous 2013 'taper tantrum', with the risk of triggering a credit crunch.

Whatever the immediate cause, the general pattern in the financial system is that credit becomes tighter more or less suddenly, possibly triggered by a rise in interest rates. This affects the economy. And it affects the capital-market asset prices that follow the economy.

A Structural Issue

From a policy perspective, it is important not to approach market-based finance in the same way as banking because the inherent nature of banking is distinct from that of market-based finance. In the case of the former, it is genuinely hard – maybe even impossible – to rule out runs, given the importance to the credit system of fractional reserve banking.[12] This can give rise to well-known, self-reinforcing dynamics, whereby even the perception that others will withdraw their deposits creates an incentive for all depositors to do so, simply because it does not make commercial sense for banks to keep all deposits available for withdrawal at once.

In the capital markets, by contrast, someone selling their investment in a company does not create the same incentive for others to do so. A sale may have an impact on the share price but price moves happen all day, every day, without triggering a downward spiral. So, while it is undeniably true that an investment in a single company's shares can lead to loss if the company fails, the investment mechanism itself does not need to be policed in the same way, because the dynamics are different. Moreover, in equity investors can diversify away company specific risk, by means of collective investment vehicles, and may also be able to use derivatives to hedge.

Banking regulation rightly attempts to address run risk, through measures including capital requirements and recovery/resolution but, as events in early 2023 demonstrate, it is hard to eradicate, even when a bank is well capitalised.

What is misguided and therefore damaging is to assume that exactly the same type of risk is present in equity capital markets, requiring the same type of rules. The main risk in capital markets is price risk that can be managed in the short term through derivatives or simply allowed to play out as part of a longer-

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[9] https://www.ft.com/content/ed87b5d6-6a8e-11ea-a6ac-9122541af204?shareType=nongift

[10] For example, the ECB https://www.ecb.europa.eu/mopo/implement/pepp/html/index.en.html and the Federal Reserve https://www.nytimes.com/2021/06/02/business/fed-sells-corporate-bond-holdings.html

[11] https://www.esma.europa.eu/press-news/esma-news/esas-highlight-risks-in-phasing-out-crisis-measures-and-call-financial

[12] Ben Bernanke www.nobelprize.org/prizes/economic-sciences/2022

term, diversified investment plan. Moreover, counterparty risk can be and is managed through central clearing, which is why this technique has become a core part of policy expectations wherever it is feasible (which it is in cash equity markets, among others).

It is worth noting that even when some capital markets investors do choose to sell shares as promptly as possible, to maximise the cash they can raise, any money raised from cashing in shares will flow, at least initially, back into the banking system – releasing liquidity.

The key thing is that capital-markets investors can decide to ride out a downturn – as many clearly do. Hence, stock indices are not known for going to zero. So, while it may be rational to cash in securities, it is not necessarily pressing to do so. If, by contrast, the credit system does seize up, the process can proceed quickly and cause nervousness about many banks at once, while the eventual effect on the economy can be widespread.[13]

A temporary decline in transactional liquidity in traded markets, in short, can be viewed and treated differently from a decline in liquidity in credit markets. This is why we should be extremely wary of policy proposals that attempt to treat traded markets and (including the investment funds that operate in them), as though they presented the same liquidity problem. Leaving aside edge cases such as money market funds, the weighing down of collective investment schemes with unnecessary costs will only compound liquidity issues – not alleviate them.

Yet the dynamics of the capital markets clearly bother some people, who complain that there is a lack of the 'price equilibrium' and blame this on investor irrationality. In truth, there is nothing irrational about some people reducing their exposure to an asset that is falling in price and the inevitable variations in market liquidity that follow. So, it is strange and somewhat worrying to hear statements about price movement, such as "the lie that markets always clear".[14] In reality that is all they do, all day every day, as a variety of views are expressed.[15]

It helps to consider the counterfactual. The truly odd – and perhaps unhealthy – situation would be if there was *not* a constant dialogue about price. To frame the question another way, why would one expect stock-market investors to all simultaneously be gifted with perfect wisdom about the fundamental value of companies when such a standard does not apply in other human activity? Like democracy in Winston Churchill's famous characterisation, markets can and should be considered the 'worst possible system, until you consider the alternatives'.[16]

So, we are left with the inescapable conclusion that markets do work and stock markets in particular work effectively for the public good. They ensure that capital can be deployed in a way that contributes to

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[13] In 2009, after such a shock, the whole US economy declined by 2.8%.[13]

[14] https://www.bankofengland.co.uk/-/media/boe/files/speech/2019/remarks-by-mark-carney-at-the-ecb-farewell-board-dinner-for-benoit-coeure.pdf?la=en&hash=BDBC6615D58090E002EAE209D5DE619CD6F2D71D

[15] A perfectly credible and intuitive model for price movement lies in the varying distribution of the rational beliefs of agents. (*See Brock, 2014 – Fama Shiller Nobel Prize*: https://www.sedinc.com/fileadmin/user_upload/reports/March_2014/March_2014_SED_PROFILE.pdf)

[16] "[I]t has been said that democracy is the worst form of Government except for all those other forms that have been tried…" https://winstonchurchill.org/resources/quotes/the-worst-form-of-government/

prosperity, by financing not just the future of investors but the growth of companies, together with the employment and the tax revenue that goes with it.

Contrast this with credit channels.

All debt appeals to issuers. Part of the attraction to issuers is the fact that inflation erodes the debtor's burden – the mirror image of shares, which hold their own for *investors* in the face of inflation. Tax breaks may play a role too, for corporate entities.

But, while such phenomena may be good for issuers of debt, credit channels do always come with the risk that there will be competition for market share, which can be create challenges for the wider system. (That was the phenomenon that led to the creation of the Basel Accord.)

So, what to do in policy terms?

The way forward

A good start would be to stop chasing systemic-risk shadows in markets finance and recognise that short-term equity volatility is a very different type of issue from the structural issues inherent in the credit world. To put it another way, the fact that equity markets go down at the start of an economic downturn does not mean that they cause the downturn. The drying up of liquidity in fact seems more likely to appear first elsewhere.

We need a careful framing of perspectives on market-based finance. It has grown since the 1980s and the reason for that appears to be the obvious one: that, with its open-to-all channels, it brings capacity and efficiency. And, via central clearing, market-based finance brings safety, partly because that is distinct from the function played by banks or insurers.[17]

In a similar vein, it is important not to gum up market-making or asset-management activities with unnecessary capital charges, because of a false equivalence with banking or other forms of financial activity. Market intermediaries and proprietary traders help buyers and sellers interact, thereby promoting market capacity, but they are not a credit business, credit being an expectation of future liquidity[18].

On the collective fund side, only a very limited range are susceptible to anything like runs – namely money-market funds. From that perspective, hitting other types of fund is misguided.

More broadly, just as national regimes in many parts of the world rightly encourage individuals' investment in residential property, the same could work well in relation to investments, especially in lit, public equity.

On the issuer side, due consideration always needs to be given to minimising the costs and bureaucracy associated with listing, especially for smaller companies and to ensure a level playing field with private

[17] By using clear and transparent rule books, CCPs hold market participants to account for *their* credit exposures. Treating CCPs as credit portfolios managers is bad and even dangerous policy.

[18] Con Keating, 'Completely liquid', *Futures & OTC World (print edition)*, August 1999; "Credit is [the] expectation of adequate liquidity and credit risk its variability."

markets when ESG disclosures are increasing, often only on public issuers. Prospectus requirements need to be proportionate and so do regular disclosures, in terms of frequency and content.

Another issue lies in accounting, particularly the effects of 'fair value'. Despite the role equity plays in financing real people's long-term future, rules and regulations around financial markets somehow miss the bigger picture. In some parts of the world, equity finance suffers from a bias in accounting and pension schemes in particular are pushed towards bond investments. This supposedly means they 'match' their liabilities, even though those liabilities may not crystallise until well into the future, making capital growth and dividends the more appropriate hedge.

In this situation, long-term investors are if anything dissuaded from doing the right thing, by being treated as though their immediate, instantaneous solvency is more important than the principle of investing for the long term. This is a complex area and no one wants to see pension schemes truly underfunded. But to say that a pension scheme needs to have the money at hand now to pay beneficiaries twenty or thirty years in the future is a bit like forcing a parent to have their new-born child's university fees banked right now. And to suggest that pension schemes should, in effect, be forced to hold debt because it is less volatile is arguably perverse, because it ignores the real risk, namely the risk of poor returns for those who are going to retire. Debt may not even be less volatile, as the experience of UK asset owners in late 2022 shows, when their 'liability-driven investment strategies' proved highly problematic.[19]

On a related note, there may be scope for imaginative thinking around fund liquidity. If they have not done so already, jurisdictions should consider what scope there is for authorising and incentivising collective investment vehicles that do not offer daily liquidity.

The focus in supporting equity markets should not be only on long-term investors, however. Public, lit equity markets work partly because they offer the highest possible capacity to trade out of an investment when facts or views change. When one is an investment manager with fiduciary duties, that option can be crucial.

Private equity does not achieve the same objectives. So, while it may have a role to play, not least in creating a pipeline of companies that may proceed to listing, it should not be unduly favoured, compared with public markets (on which private holdings may in practice rely, for proxy valuations).

What underpins the liquidity in public, lit equity markets is transparency:

1) as to the prospects of an issuer of securities, by means of the regular disclosures required as a condition of being listed; and
2) as to the price of shares in companies, on which updates are available for all to see.

These markets are democratic in nature. They compete for customer business and provide valuable information to market participants. In a profound sense, they are the future. Public policy should reflect and support that.

Conclusion

[19] See Keating and Clacher Professional Pensions LDI narrative hides tragedy, October 2022. Also Terry Smith.

Equity capital markets bring a valuable channel for financing economic activity, in large part because they bring their own positive characteristics. While similar in size to banking, equity capital markets offer a very different experience, both for companies and for investors, in terms of long-term growth and the nature of the related risks. In particular, participating in collective investment in shares is not the same as being one of a number of bank depositors, partly because of the opportunity to diversify away risk but also because the dynamics around the liquidation of holdings are very different.

Securities (shares and bonds) play complementary roles in capital markets, supported by derivatives. In aggregate, capital markets support emerging enterprises and are more likely to offer breathing space to emerging enterprises than credit, even though the latter will always have an important part to play in the journey.

Market downturns are usually a response to – rather than the cause of credit squeezes – and may simply be the correction of a bubble. Volatility and risk are present in the whole financial system but, even if they can spread from the credit channel to equity markets, cannot be viewed as uniform, either in how they play out or in their consequences. The freedom to adjust (buy/sell) investment positions is fundamental to the operation of the market. Volatility, in short, is not the same as credit constraints.

Various policy measures can be and are used to incentivise investment, though policy makers should ensure they are not the only driver of investment decisions nor artificially favour or distort investment flows. Capital markets, which are a democratic and effective form of financing business and in providing for people's future, deserve their own support that recognises their role and their advantages. By contrast, impeding access to capital markets risks limiting growth (for both enterprises and investors) and limiting the ability of investors to make best long-term use of their assets.

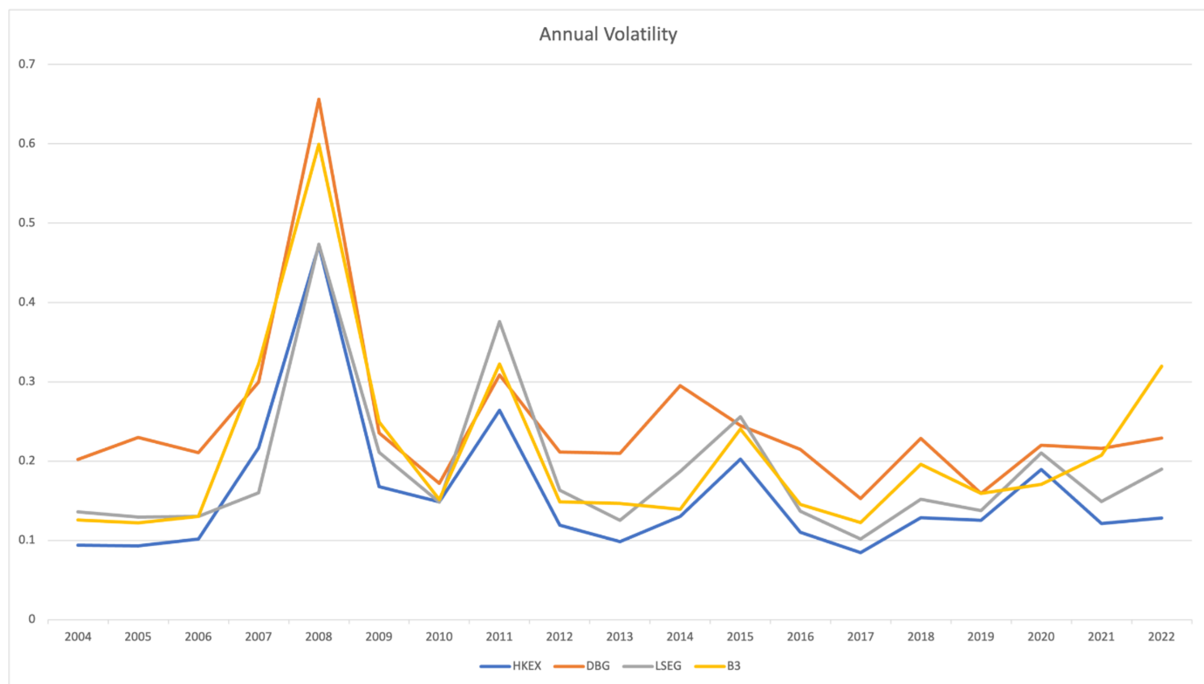
Annex 1 – Returns and risks

Market capitalisation, 2004-2021

	2004	2021	change 2004-21 (%)
Market Capitalisation ($m)	40,865,614	118,511,737	190%

Source: World Federation of Exchanges

Annualised volatility (selected exchanges 2004-2022 – percentage expressed as decimal)



Source: WFE

Annex 2 – The role of market infrastructure operators

Exchanges and CCPs operate efficient, rules-based market infrastructure: a full and coherent system of standards, which allows investors, issuers and intermediaries to have confidence in all traded-market activities, from listing to trading, to clearing, to settlement. They make market-based finance a meaningful and relatively safe way to finance the future, while avoiding over-reliance on banking.

Market Infrastructures (MIs) are crucial to the ability of the financial world to function, partly by maintaining a balance between the interests of all types of participant. And, in creating transparent markets that are accessible to all, exchanges serve the broader economy and society, supporting investment and risk management. This underpins economic growth and individuals' long-term financial security. CCPs support the reduction of related credit exposures, via mechanisms designed to hold market participants to account. MIs embrace efficiency through automation and digitisation.

Regulated MIs are essential to fair and orderly markets and to investor protection. In many cases, regulated exchanges also take on front-line supervisory duties, supporting the activities and objectives of securities and derivatives regulators.

The fact that standards exist around regulated MI reduces the assessment burden on all individual participants (who are themselves predominantly regulated wholesale entities), eliminating the uncertainty that can exist in relation to other forms of trading platform or in relation to OTC activity.

Regulators grant exchanges authority to operate their markets based on transparency and integrity.
- Transparency includes information provided to investors on the products traded, together with initial and on-going disclosure obligations in the case of issuers.
- Integrity entails a reliable and predictable process that leads to a trade and to an official price. This is of fundamental importance, supporting equal opportunity to trade and an undisputable traded price, which in turn embeds value in the market data that exchanges create.

The headline aspects of the rules-based environment at regulated exchanges consists of:

1. **Legal organisation, governance**
2. **Regulatory framework**
3. **Equal treatment for market access**
4. **Listing & admission to trading**
5. **Trading**
6. **Technical infrastructure, including security and cyber resilience**
7. **Supervision, surveillance & enforcement**
8. **Dispute resolution & complaint handling**

A similar framework applies in the case CCPs but, instead of listing and trading, the focus is on counterparty risk. CCPs focus on the resources that market participants are required to post, in order to maintain open positions with each other, despite that counterparty risk.

WORLD FEDERATION OF EXCHANGES

As alluded to above, while each item in the list above is important in its own right — requiring significant, continuous attention — what is even more important is the combined effect.[20] For more details, please see the following, July 2019 WFE paper: world-exchanges....update-july-2019

[20] These standards are among the criteria that exchanges or CCPs must satisfy to qualify for WFE membership. In other words, they constitute a consistent, global threshold of efficiency and integrity.