

How Patient are Institutional Investors from Emerging Economies?

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Introduction

Patient capital is synonymous with investment strategies by investors who focus on long-term income growth and/or capital appreciation both in their initial evaluation and continued interaction with their investments. Investing with the expectation of holding an asset for an indefinite period of time, patient investors are less concerned about interim changes in asset prices. Long-term strategies may involve a variety of asset classes. While some asset classes are strictly reserved for patient investors thanks to their high degree of illiquidity (e.g. infrastructure investments and private equity), other asset classes may also be appropriate for investors with shorter investment horizons (e.g. public equity).

The provision of patient capital brings about important benefits for investors, companies and the macro economy. From an investor's standpoint, long-term strategies open up the potential to generate better returns by accessing risk premia and avoiding the costs sometimes associated with short-term strategies. From a company's perspective, patient capital permits management to pursue more easily strategic initiatives with long-term potential. And from a macro perspective long-term



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investing is thought to help stabilise financial markets and provide funding for long-term projects, especially in infrastructure.

In the past, the bulk of patient capital has been provided by pension funds and insurance companies in advanced countries. Managing huge

**Could patient capital
become scarcer in the
post-financial crisis era?**

pools of capital, these institutions are predestined as long-term investors thanks to the profile of their liabilities. However, a recent study by the World Economic Forum (WEF 2011) warns that patient capital invested by pension funds and insurance companies in developed markets could become scarcer in the post-financial crisis era. One important reason lies in new regulatory and accounting rules, encouraging investors to de-risk their portfolios. Another is that although the crisis did not generally undermine investors' belief in the benefits of long-term investing, 'it has led many long-term investors to reassess the impact of their liability profile, risk appetite and decision-making process on their ability to invest long-term' (WEF 2011, p. 10). Some investors have restructured their portfolios using risk budgeting techniques instead of traditional models that seek to exploit potential diversification benefits between differentiated asset classes. These changes are reinforced by a secular shift from defined benefit (DB) pension schemes to defined contribution (DC) plans, which favour investments in asset classes with a relatively higher degree of liquidity.

Although the supply of patient capital from other long-term investors in advanced economies – family offices, foundations and university endowments – is anticipated to grow, this might not be enough to offset the expected decline in long-term investing by pension funds and insurance firms. At the same time, the demand for patient capital looks set to continue to increase significantly. For example, global investment needs in infrastructure, energy, clean technology and water by far exceed what national budgets can finance. Thus, unless new long-term investors emerge to meet these increased requirements, the resulting shortage of capital could increasingly restrain global economic growth (McKinsey 2011a, 2011b; Spence 2011).

Who could be these new investors? Sovereign wealth funds (SWFs) already play an important role thanks to their substantial assets under management (AUM) and a liability structure that is conducive to long-term investment strategies. By contrast, pension funds and insurance

companies in emerging markets have attracted relatively little attention as potential suppliers of patient capital. As we argue in this paper, however, this looks set to change. Although their AUM are still small compared with the pools of capital managed by pension funds and life insurers in advanced economies as well as SWFs, in many countries this investor class shows substantial growth rates. As wealth is accumulated progressively and social security reforms are further broadened and deepened in response to a rapid demographic transition, AUM growth could gain even more momentum. To the extent that remaining investment restrictions are further liberalised, the risk of global capital shortages due to the expected reduced supply from traditional investors in advanced economies could be significantly mitigated.

The current investor base of long-term capital

Long-term investing requires a particular liability structure that limits the providers of patient capital to pension funds, life insurers, family offices, endowments, foundations and SWFs. At the end of 2009, these investors are estimated to have controlled roughly US\$27 trillion (WEF 2011), with investors from advanced economies accounting for about 85% of this amount. Table 1 presents the global universe of private equity investors, which may be considered as representative of the universe of long-term investors more generally. Worldwide, around 3,700 limited partners

Table 1: Number of limited partners in private equity funds, end 2011

	United States	Advanced Europe	Other advanced economies	Emerging economies	Total
Public pension funds	262	155	29	26	471
Private pension funds	196	202	32	58	488
Insurance companies	56	103	24	47	230
Banks	27	101	20	89	237
SWFs	3	2	3	28	36
Family offices	80	77	8	18	183
Endowments/foundations	784	101	20	7	912
Others	378	371	153	245	1,148
Total	1,786	1,112	289	518	3,705

Source: Preqin

in private equity funds are identified, of which nearly 3,200 are from advanced economies.

Private equity is a typical asset class for long-term investments. The most common form are commitments to private equity funds, which are typically organised as limited partnerships. In such partnerships, the general partner (GP) manages the fund and the limited partners (LP) provide most of the capital. Generally, private equity partnerships are closed-end funds with a lifespan of ten years, with a possible extension of up to two years. During this period, capital commitments are drawn down by the GP to pay for investments in companies. These companies may be at a different stage of their life cycle, for which different funds, such as venture capital funds or buyout funds, are raised. Companies acquired by a private equity fund are usually held for five to six years before the capital is returned to the investors in the fund. Investors cannot withdraw their funds before the fund liquidates itself, and failing to meet the GP's capital calls essentially means that the LP is in default. Although a secondary market has emerged in recent years, private equity investments are therefore highly illiquid, strictly limiting the universe of potential investors.

Nearly 25% of identified investors in private equity funds are endowments and foundations, the overwhelming majority of which are based in the United States. This investor group is particularly well positioned to invest in private equity and other long-term assets, as they face relatively few investment constraints. Unlike many other investor types, endowments and foundations are generally not affected by regulatory policies, and although they usually face significant yearly payout requirements for beneficiaries, these are proportional to the assets. One of the best-known long-term investors is the Yale University Investments office, which, under David Swensen's leadership, raised its allocation to private equity to 21.3% in 2010 from just a bit more than 2% in 1999 (Lerner & Leamon 2011). Real assets accounted for another 15.6% in 2010, implying that more than one-third of Yale's capital was allocated to illiquid assets.

Yale's substantial exposure to long-term assets and absolute return strategies has been copied by many other endowments as the 'Yale approach to investing'. While not all of them have such a significant allocation to non-traditional instruments as Yale does, endowments are generally more willing to accept the short-term volatility of asset prices than most other investors.

Family offices are even less constrained in their asset allocation. On the liability side, they face minimal yearly payouts, allowing them to focus on wealth preservation and to accept short-term mark-to-market losses. There is little consistent information on their exposure to long-term assets in general and especially to

There is little consistent information on the exposure of family offices to long-term assets.

private equity, but Preqin reports some individual cases where family offices have allocated a third and even more to private equity funds.

Unlike endowments, foundations and family offices, defined benefit pension funds face fixed payments with an average duration of 12–15 years, with regulatory and accounting constraints limiting the share of illiquid assets in their portfolios. On an (AUM-) unweighted basis, US public pension funds currently target an exposure to private equity of about 7.5%, US corporate pension plans somewhat less. In Europe, public pension funds and private pension funds are reported to have a target allocation of 4.5% and 4%, respectively. However, these averages mask a substantial degree of variation, with some large North American pension investors, such as CalPERS, CalSTRS, Ontario Teachers' Pension Plan, and Washington State Investment Board, having built up double-digit exposures to private equity. Pension funds' total exposure to long-term assets is estimated to average 9% (WEF 2011, p. 17), but depending on the pension funds' individual risk appetite, their return expectations and their internal decision-making structures, their long-term investments may represent as much as a quarter of their AUM.

Life insurance companies, which are confronted with similar liability structures, typically have a somewhat lower exposure to private equity than pension funds. Their investment decisions are largely constrained by accounting pressures, combined with regulatory requirements they have to comply with.

While endowments are the most important private equity investors in terms of the number of institutions and probably also in terms of the average percentage of their AUM they allocate to private equity, they are dwarfed by pension funds and insurance companies with respect to their absolute commitments to private equity funds. Although pension funds generally allocate a significantly smaller share to private equity – as well as other long-term assets – their pool of capital is much larger. Yale University

Investments Office, the second largest university endowment, currently manages a portfolio of around US\$20 billion, not even a tenth of the assets managed by CalPERS. There is no consistent information on the amount of capital committed to private equity funds by investor class on a global basis. Data collected by the European Venture Capital and Private Equity Association (EVCA) for the European fundraising market suggests that (European as well as foreign) pension funds have accounted for almost 25% of the capital raised by European private equity funds between 2005 and 2010. Insurance firms added another 8%. However, this is probably a significant underestimation as these investor types have also committed substantial resources to private equity funds of funds, which accounted for another 14% of the total capital raised during this period.

In emerging economies, pension and insurance companies still play a very limited role as providers of patient capital. At the end of 2011, Preqin identified only 84 emerging market pension funds, or less than 9% of all pension funds investing in private equity worldwide. Around two-thirds were from Latin America, where pension reform had started much earlier than elsewhere in emerging regions. By contrast, the number of pension funds from Asia, central and eastern Europe and Africa were largely negligible. Fund-specific data suggest that pension funds in emerging economies account for even less on a capital-weighted basis. The amount of assets they manage is still significantly smaller than the assets managed by public and private pension funds in advanced countries, and their allocation to alternative asset classes is generally significantly lower. For instance, Latin American pension funds, for which Preqin reports exposure data, have on average allocated around 3.5% to private equity, only about half the share of private equity in US pension fund portfolios.

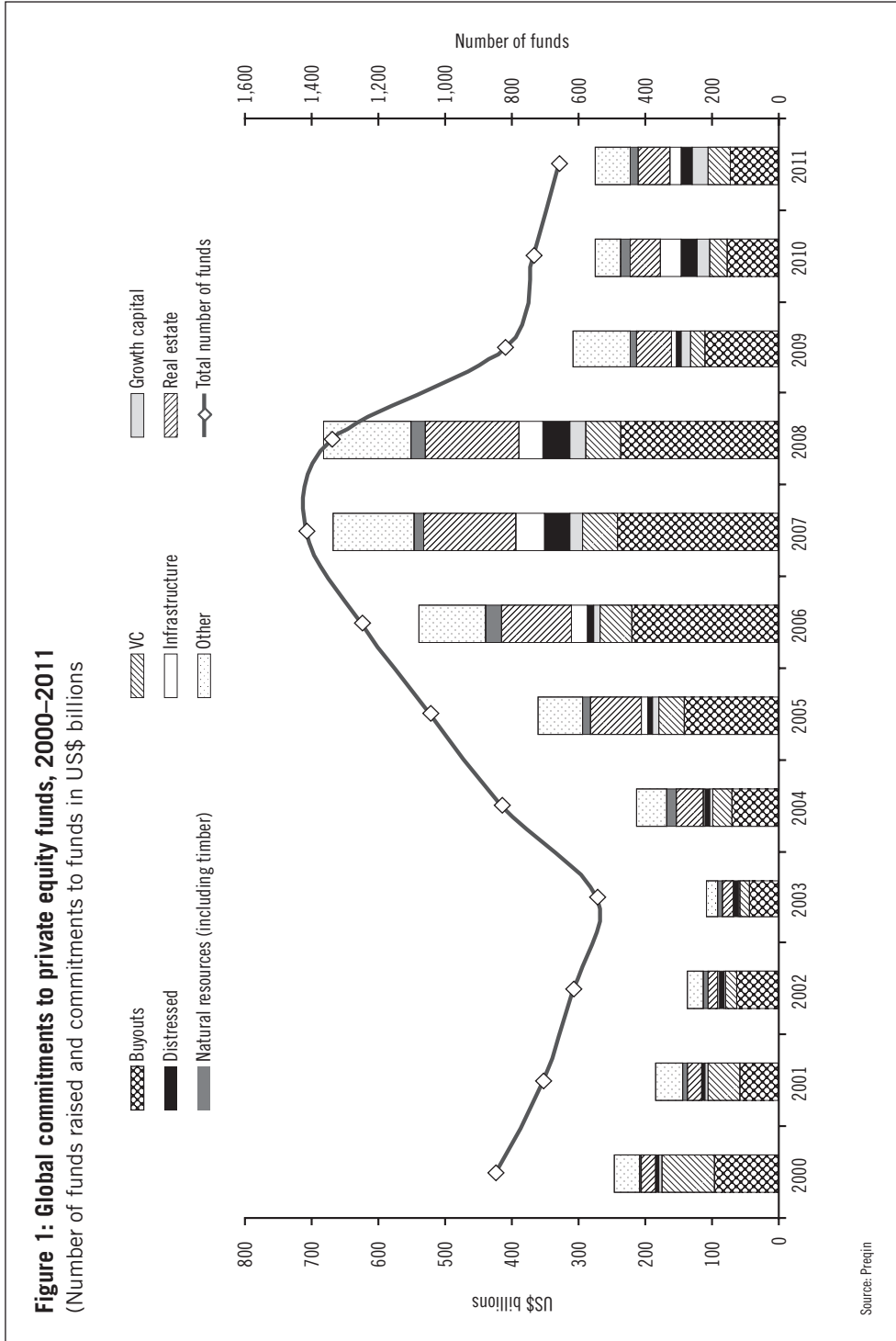
To the extent that private equity funds receive capital from investors in emerging economies, such assets mainly come from sovereign wealth funds (SWFs). Some of them, such as the Abu Dhabi Investment Authority (ADIA 2011), the China Investment Corporation (CIC) or the Kuwait Investment Authority (KIA), manage huge portfolios, helping recycle their countries' foreign exchange reserves by investing in asset classes whose liquidity characteristics put them outside the investment universe of central banks. SWFs face minimal yearly payments and they are much less constrained by accounting and regulatory pressures than pension funds and insurance companies.

Little is known about the structure of their investment portfolios, but recent research by Bernstein *et al.* (2009) suggests that many SWFs have been involved in a significant number of direct venture capital and buyout transactions. These deals are typically made from their allocation to illiquid investments, which on average are estimated to account for around 10% of their portfolios. However, in individual cases, allocations may be significantly higher. ADIA, for example, the world's largest SWF, publishes on its website a target exposure to private equity of 2–8% alone. This includes not only direct private equity investments but also commitments to private equity funds. In addition, ADIA may invest up to 5 and 10% to infrastructure and real estate, respectively. Furthermore, investments are made to 'alternatives', which may also comprise illiquid assets, such as timber. Overall, illiquid investments made by ADIA may total around one-quarter of their portfolio. Given their AUM of US\$627 billion (SWF Institute, end-2011), an estimated amount of US\$100–150 billion might be invested in illiquid assets. Other SWFs are smaller and may be less exposed to private equity and similar classes. As an investor class, however, they have become a serious force in the market in recent years.

Whither long-term investing in advanced economies?

While long-term investing has important virtues for asset allocators and the broader macro economy, there is considerable uncertainty as to how much capital pension funds and insurance companies in advanced economies will allocate to long-term strategies in the future. In fact, private equity fundraising has remained subdued since the Great Recession (Figure 1), which is symptomatic for the cautious approach that long-term investors have taken more generally. The slow pace of new commitments has not yet had a material impact on the investment capacity of private equity funds thanks to the considerable dry powder that they accumulated at the peak of the last fundraising cycle. As this dry powder gets increasingly depleted, however, the question arises whether traditional long-term investors will maintain their allocations to private equity and similar asset classes.

A recent study by the WEF (2011) cautions that long-term investing could attract less capital in the future for at least three reasons. First, the study notes that many investors are re-assessing their portfolio models



in light of their experience with traditional approaches during the global financial crisis. These approaches, such as the Capital Asset Pricing Model, often turned out to be inappropriate as they ignored that an important part of portfolio risk is not stationary. As Spence (2009) explains, this risk is systemic, and when risk in the system as a whole rises, ‘normal’ correlations of returns among asset classes shift rapidly upwards. If this happens, diversification and hedging models and risk mitigation strategies are bound to malfunction. At the same time, dynamic risk caused havoc with investors’ cash flow models, and when the parameters of these models suddenly shifted due to reduced distributions, the suspension of redemptions, increased margin calls from hedge funds and collateral, some investors were faced with an acute lack of liquidity. Given this experience, a growing number of investors factor in a dynamic risk component and add a complementary part of liquid investments to their illiquid allocations. In optimising their asset-liability management, some investors have adopted risk budget strategies, an approach that allows them to better understand the total portfolio risk borne by decomposing it into various risk exposures.

Second, stricter capital requirements and accounting rules are feared to further dampen allocations to private equity and other riskier asset classes.

In Europe, for example, insurance firms will become subject to stricter regulations under Solvency II, a framework that foresees a private equity charge of 49% with respect to the solvency capital requirement under the standard

In Europe stricter capital requirements and accounting rules could dampen allocations to riskier asset classes.

approach. These substantially higher charges could discourage equity investments in favour of high-quality fixed-income securities, reducing returns and the flow of funds into longer-term investments. Thus, pushing insurance companies towards higher-quality fixed income strategies and away from less liquid assets would make them in the view of the IMF (2011, p. 26) more like other short-term investors, potentially reinforced by mark-to-market accounting rules.

For prudential reasons, and to maintain a level playing field, it has been proposed that the new capital charges be also applied to Institutions for Occupational Retirement Provision (IORP) (EU Commission 2012). Meanwhile, banks also face significantly more stringent regulation under the Dodd-Frank Act and Basel III. Although banks are not typical

long-term investors, they have played an important role as private equity investors, cross-selling their services, such as M&A advisory and leveraged lending. More recently, however, several banks have become active sellers in the secondary private equity market.

Finally, it is widely expected that traditional DB pension plans will continue to lose importance. Shifting investment and longevity risk from the corporate sector to households, in some countries DC plans already account for the majority of invested assets in private occupational pension plans. As DB plans are closed and ageing populations with established pension systems result in increased payouts, the sector's AUM is set to decline, with decreased sponsor appetite for pension volatility and maturing liabilities expected to adversely affect allocations to long-term strategies. While DC plans reduce accrual risk and hence foster labour mobility, the transferability of pension claims from one employer to another generally pose higher liquidity requirements and may hence undermine allocations to long-term strategies.

In contrast to pension funds and insurance companies, assets managed by family offices, endowments and foundations are expected to continue to grow, with allocations to long-term assets increasing more or less proportionally. However, their collective AUM are substantially smaller than those held by DB funds and insurance firms. In fact, of the US\$27 trillion that are believed to be managed by long-term investors, less than 10% is held by family offices, endowments and foundations. On a net basis, therefore, long-term investors in advanced economies are expected to reduce their supply of patient capital in the future.

Demography and pension reform in emerging economies

To what extent might institutional investors from emerging markets help offset the expected decline in long-term investing by asset allocators from advanced economies? In the broader context of a rapid macroeconomic catch-up process, this essentially depends on two factors: (i) the rate at which assets managed by investors with potentially suitable liability profiles will grow, and (ii) the share of capital they will allocate to long-term asset classes, subject to possible investment restrictions.

Table 2 depicts estimates of AUM growth by regions and investor type (McKinsey Global Institute 2011b). Ignoring central banks whose

Table 2: Increase in financial assets, 2000–2010
 (Compound annual growth rate in percent)

	United States	Western Europe	Japan	China	Other developed	Other Asia	Latin America	MENA	RoW	Total
Households	3.9	2.9	0.6	16.2	6.6	10.0	15.6	22.8	16.2	4.4
Institutional investors										
Pensions	4.1	5.2	6.8	27.3	5.6	19.4	24.0	14.0	24.3	5.1
Insurance	5.1	4.4	2.6	30.0	2.3	18.9	21.7	15.5	18.0	4.4
Endowments and foundations	4.9	7.3	6.8	–	13.2	–	16.6	–	–	5.5
Corporations										
Banks	5.0	7.4	7.1	21.2	20.0	14.3	13.7	20.7	32.8	8.5
Non-financial corporations	9.2	3.4	2.9	17.7	10.4	15.5	18.2	18.7	16.1	9.6
Governments										
Central banks	37.0	18.7	11.6	33.0	6.5	15.0	12.6	22.6	21.9	18.6
Sovereign wealth funds	0.0	9.0	–	7.7	3.6	8.1	20.4	12.0	1.0	7.7
Other government	–	–	–	14.7	–	9.2	11.2	10.2	13.4	12.5
Total	4.8	4.4	3.3	19.2	7.6	15.7	16.1	21.0	19.7	6.3

Source: McKinsey Global Institute (2011b)

financial assets have surged due to aggressive asset purchase programmes in the context of the global financial crisis, assets held by economic agents in emerging economies have grown significantly faster than in advanced countries. This applies especially to assets managed by pension funds and to a somewhat lesser degree to insurance companies. At the end of the last decade, pension assets in emerging markets already totalled around US\$2.3 trillion. This excludes assets held by pension reserve funds, such as Chile's Pension Reserve and Social and Economic Stabilization Fund, China's National Social Security Fund, or Russia's National Wealth Fund, which are pools of capital to contribute to financing pay-as-you-go pension plans. While there is considerable variation across individual regions, it is estimated that pension assets in all parts of the emerging world have increased at double-digit rates. In China, where assets have increased particularly rapidly, the amount of capital managed by pension plans increased almost eleven-fold during the last decade. Although the growth in pension assets in the rest of emerging Asia was somewhat less dynamic, it was still around three times faster than in Japan. In Latin America, meanwhile, pension assets rose more than eight-fold between 2000 and 2010.

The rapid rise in pension assets mirrors the introduction of pension reforms in a growing number of emerging economies, with Latin America representing the most advanced region in this respect. Chile's pension reform dates back to 1980, when it was decided to replace the publicly managed, pay-as-you-go, DB pension system by a system based on DC individual accounts managed by private sector administrators (AFPs, for details see EMPEA 2011). According to information provided by the International Federation of Pension Funds Administrators, the AFPs managed around US\$153 billion as of June 2011, equivalent to 63% of GDP. As far as their asset allocation is concerned, each AFP is required to offer five different funds with incremental risk appetite. Depending on the risk appetite of the individual funds, investments may include long-term strategies, such as commitments to private equity partnerships.

Chile has become the model for many of its Latin American neighbours, whose pension assets have also grown strongly in recent years.

Chile has become the model for many of its neighbours, whose pension assets have also grown strongly in recent years. In Brazil, there are now more than 350 pension funds with roughly US\$300 billion of AUM. Nearly two-thirds of this amount is managed by the country's ten largest pension funds, with the biggest one alone, PREVI, managing nearly US\$100 billion. In Mexico, meanwhile, assets managed by pension funds have increased to more than US\$130 billion by mid-2011 from just US\$12 billion at the turn of the century. These assets are controlled by 15 private pension fund managers.

In Asia, pension reforms generally started later and are comparatively less advanced. The design of national pension systems varies greatly across countries, some of which are described in greater detail in OECD (2012). However, most countries follow some basic principles, which also guide pension reforms in other regions, including in advanced economies: (i) a shift from public to private pension; (ii) an increase in the level of prefunding; and (iii) a shift from DB plans to DC plans (Nomura 2011).

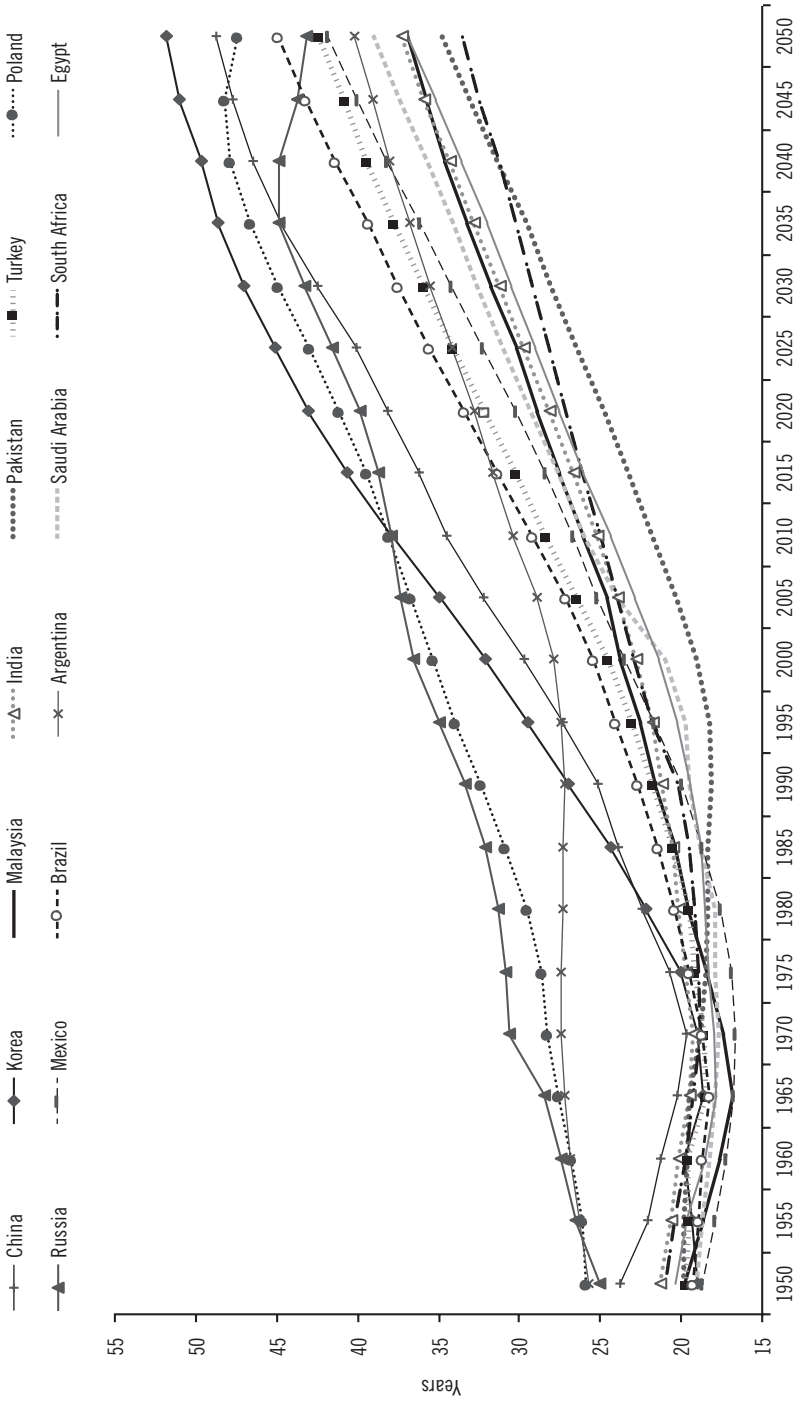
China, for example, introduced its pension system in 1998, replacing a system where the social safety net was provided by state-owned enterprises. Following important reforms in 2006, China's current pension system consists of a basic pension and a mandatory employee contribution to a second-tier plan (for details, see OECD 2012). The first tier is a common

pool, with employers contributing a premium set at 20% of total wages, employees' mandatory contributions to their individual accounts are currently set at 8% of their average wages. While the mix of PAYGO with a funded, DC pension is also used by other countries, including Sweden, participants in China's basic endowment insurance cannot decide how to invest the funds in their individual accounts. In 2000, China established the National Social Security Fund to support the future financing of basic endowment insurance. According to estimates by the Sovereign Wealth Fund Institute, this pension reserve fund managed US\$135 billion as of February 2012. Finally, in 2004, China introduced a corporate pension system, which is offered only as a DC plan. It is up to the companies, however, whether or not they offer a corporate pension. If they do, both the company and the employee make contributions.

While pension reforms differ greatly in individual countries, they are all motivated by one common factor – the rapid ageing of their societies. In fact, emerging economies' societies are ageing significantly faster than those in today's advanced economies. According to the latest United Nations Population Division projections, the share of over-65s in emerging economies will double in just over 20 years, less than half the amount of time it took this proportion of the population in industrialised countries to double to the current ratio of 15%. Most emerging economies have not yet reached the point at which demographic change threatens development and economic prospects, as their populations will continue to grow in the next few decades, with some notable exceptions, especially Russia and other central and eastern European countries, whose population size is already declining. However, as Figure 2 shows for a selected number of countries, demographic change is well under way and for the same reasons as in Europe, Japan and other industrialised economies (Magnus 2009, p. 157).

Societies are ageing for two reasons: falling natality and increasing longevity. Declining fertility and increased life expectancy have a profound impact on the dependency ratio in individual countries, defined as the ratio of those who are younger than 15 and older than 65 to the working-age population. In most emerging economies, the dependency ratio is projected to continue to fall, because the share of the working-age population is still rising quickly enough. As long as this is the case, they enjoy a demographic dividend in the form of higher economic growth rates,

Figure 2: Median age in selected emerging economies (years)



Source: United Nations Population Division

income and savings (Magnus 2009, p. 158). However, many countries are rapidly approaching a turning point, beyond which their dependency ratios start to increase.

Notwithstanding important reforms in the past, the majority of emerging economies are still ill prepared for the rapid population ageing that will occur over the next few decades. A recent OECD (2012) study finds, for example, that in many Asian countries, including in China, current pension systems are unlikely to be sustainable and are bound to fail to deliver a secure income in old age as coverage of formal pensions is still low and early withdrawals are common. Thus, additional bold reforms are needed, which, if implemented, should fuel a further substantial increase in financial assets managed by pension plans. To be sure, the potential for playing catch-up remains huge: in China, for instance, pension assets (excluding assets managed by the national reserve fund) totalled just 7% of GDP, compared to 100% in the US.

Finally, life insurance companies in emerging markets have also seen their AUM increase rapidly over the past decade as the rising wealth has induced a growing middle class to adopt life insurance. According to McKinsey Global Institute (2011b), insurers in emerging markets overall controlled around US\$2.3 trillion at the end of 2010, up from around US\$500 billion at the turn of the century. As economic prosperity and household wealth continues to rise rapidly, insurance companies in emerging markets look set to manage increasingly large pools of capital.

Investment restrictions and long-term allocations

As the capital controlled by pension funds and insurance companies continues to grow, the management of the assets becomes more and more crucial. In many emerging economies, however, pension fund managers are still restricted in their asset allocation. Such restrictions may apply to particular asset classes, such as private equity and other alternatives, or foreign investments, or both. Take Brazil, for example. While Brazil's pension funds are permitted to invest in both local and international private equity funds, they are prohibited from investing in foreign currency denominated partnerships – effectively restricting their private equity investments to the domestic market (EMPEA 2011). Similarly, Chinese insurance firms were permitted in 2010 to invest in private equity – joining the National

Social Security Fund – but only to the extent that their investments are made in purely domestic renminbi (RMB) funds, joint venture RMB funds, and direct private equity portfolio investments.

Quantitative investment restrictions may be motivated by prudential considerations as well as national objectives. As regards the latter, pension investments often serve to help develop domestic debt markets and are sometimes used as a source of funding for social investments, including housing loans and the construction of hospitals, schools and other infrastructure (Borensztein *et al.* 2006). Investment restrictions come at a cost, however, as they limit potential diversification benefits and tend to lower risk-adjusted investment returns. In emerging economies, the costs of sub-optimal diversification are particularly significant as the growth of pension assets outpaces the growth of domestic securities markets (Chan-Lau 2004). While asset managers have to deal with portfolio risk concentrated in a few government securities and corporate names, the low volumes of corporate bond and equity issuance in many emerging economies pension funds heighten the risk of asset price bubbles, as increased AUM chase a limited number of securities. Apart from limiting potential diversification gains, quantitative investment restrictions affect asset managers' ability to match their assets with the liabilities of their institutions. This is particularly critical for pension funds. The OECD Guidelines on Pension Fund Asset Management (2006) therefore recommend: 'Portfolio limits that inhibit adequate diversification or impede the use of asset-liability matching or other widely-accepted risk management techniques and methodologies should be avoided. The matching of the characteristics of assets and liabilities (like maturity, duration, currencies, etc) is highly beneficial and should not be impeded.'

A still small, but rising, number of governments in emerging economies have begun to follow the OECD's recommendations and started to liberalise quantitative restrictions on foreign investments and/or riskier asset classes. This process has generally started with a focus on asset classes as opposed to foreign investments. Investors in some countries may now invest – at least domestically – in long-term asset classes that hitherto were outside their permissible universe. In other cases, ceilings on particular asset classes have been increased, allowing more meaningful strategies (e.g. South Africa's revision of Regulation 28 of the Pension Funds Act that became effective on 1 January 2012). Within the (more generous)

limits, investment decisions are guided by the principle of a ‘prudent person standard’. According to the OECD guidelines, this standard requires the governing body of the pension plan or fund to undertake investments with care, the skill of an expert, prudence and due diligence. As long as fund managers fulfil their fiduciary duties and operate under appropriate internal controls and procedures to effectively implement and monitor the investment management process, they may now be able to access risk premia and exploit diversification benefits by investing patient capital.

To be sure, lifting investment restrictions is a necessary, but not a sufficient condition for pursuing long-term strategies. If the US were the appropriate benchmark, one would expect a significant increase in long-term investing – within the limits set by the regulatory bodies. In fact, as soon as the US Department of Labor clarified the ‘prudent man’ rule in 1979 and explicitly allowed pension fund managers to invest in high-risk assets, including in buyout and venture capital funds, pension funds re-allocated a growing share of their AUM to illiquid asset classes. This set the stage for the rapid development of the US and global private equity industry whose assets under management ballooned from a few billions in 1980 to an estimated US\$1.3 trillion in 2010 (Cornelius 2011).

A counterexample is Brazil, where pension funds may now generally invest up to 20% of their assets in domestic private equity funds and up to 10% in foreign private equity funds. Internal restrictions may impose additional ceilings. However, current actual allocations are generally much lower than legal and internal investment restrictions. Take PREVI, Brazil’s largest pension fund that manages more than US\$90 billion for Banco do Brazil. As of 31 March 2011, PREVI’s exposure to private equity totalled only US\$555 million, or 0.7% of AUM, all of which was committed to domestic private equity funds.

A potentially important factor in this regard could be the dominance of DC plans in many emerging markets, which generally favour more liquid investments. However, the Chilean example shows that the challenges that arise from the specific characteristics of DC plans are not insurmountable. Specifically, foreign private equity funds may raise capital from the six privately managed public pension funds (‘AFPs’) by registering a local feeder fund, which is a publicly traded listed vehicle, allowing the AFPs to meet their monthly liquidity requirements. In order to prevent an excessive exposure to a particular vehicle, the AFPs, which control nearly

US\$150 billion, may not allocate more than 0.5% of their AUM to the shares of a single feeder fund and are not permitted to hold more than 35% of the shares in a given feeder fund.

Savings, investment and the future role of SWFs: the case of China

An additional channel through which demographic changes and pension reform may affect the potential supply of patient capital is a country's savings–investment balance and its current account. In 2003–2011, the group of emerging economies – defined by the IMF's World Economic Outlook Database – have run significant current account surpluses as their gross national savings have exceeded investment by a considerable margin (Table 3). Given private and official capital flows, emerging economies

Table 3: Savings, investment and reserve accumulation in emerging economies, 2003–2011

	2003	2004	2005	2006	2007	2008	2009	2010	2011
Emerging economies									
Savings (% GDP)	27.8	29.6	30.7	32.8	33.0	33.6	31.9	33.0	34.0
Investment (% GDP)	25.9	27.2	26.9	27.9	29.1	30.1	30.4	31.1	31.7
Current account (% GDP)	1.9	2.4	3.8	5.0	4.0	3.6	1.6	2.0	2.4
Current account (US\$bn)	145.1	214.5	407.9	639.3	628.1	679.8	287.8	422.3	592.3
Private financial flows net (US\$bn)	167.9	241.4	323.5	302.5	715.1	245.6	267.4	482.3	574.7
Official financial flows, net (US\$bn)	–14.1	–43.0	–66.0	–87.8	–159.1	–88.3	–94.8	134.1	96.4
Change in reserves (US\$bn)*	–321.6	–410.7	–586.9	–747.8	–1219.8	–734.9	–508.2	–892.2	–1130.6
China									
Savings (% GDP)	44.0	46.8	48.0	51.6	51.9	53.2	53.5	53.4	53.8
Investment (% GDP)	41.2	43.3	42.1	43.0	41.7	44.0	48.2	48.2	48.7
Current account (% GDP)	2.8	3.6	5.9	8.6	10.1	9.1	5.2	5.2	5.2
Current account (US\$bn)	45.9	68.7	134.1	232.8	353.9	412.4	261.0	305.3	360.5
Change in reserves (US\$bn)	–117.2	–206.3	–207.0	–47.0	–461.8	–419.0	–467.6	471.7	–589.9

* A minus sign indicates an increase in reserves
Source: International Monetary Fund WEO Database

accumulated more than US\$6.5 trillion in foreign reserves during this period. Thus, the IMF estimates that emerging economies' reserves totalled more than US\$7.6 trillion at the end of 2011. Nearly half of these reserves are held by China. Running current account surpluses of more than 6% of GDP per annum in 2003–2011, China's reserves skyrocketed to nearly US\$3.5 trillion, a more than eightfold increase during this period. Importantly, China's investment rate was substantially higher than the average investment rate in other emerging economies and exceeded that in advanced economies by an even greater margin. However, hovering around 50% of GDP, China's savings rate was even higher than its investment rate.

Demographics are found to be a major determinant of long-term current account trends (Bryant 2004; Goldman Sachs 2010). Generally, lower birth rates tend to reduce investment, as less capital is required to equip a shrinking labour force, and to build schools and infrastructure. At the same time, a country's savings rate is affected as people's savings behaviour is generally different at different points in their life. As the population grows older and the size of the working age population shrinks, national savings should decline, other things being equal. As we have discussed above, many emerging economies are expected to reach that point soon.

Demographics are found to be a major determinant of long-term current account trends.

There are other demographic factors that affect a country's savings-investment balance and hence its current account. As Cooper (2008) argues, emerging economies are in different circumstances from today's more advanced countries with ageing populations. On the investment side, he notes that China's capital needs will remain large due to the continued rural–urban migration that brings about increased demand for housing, schools and productive capital stock. China's housing boom is further fuelled by rapidly rising incomes that allow people to upgrade the amount and quality of their living space. These developments explain why China's national investment rate has remained not only high, but actually rose to nearly 50% of GDP in 2011 from 38% of GDP in 1995–2000. During the same period, India's investment-to-GDP ratio went up by more than 10 percentage points to 36%. Although investment rates in other emerging

economies generally increased more moderately, or even declined slightly, they remained much higher than in advanced economies.

On the savings side, it has been argued that what matters is the portion of a population of 'prime saving age' (those who are 35–69 years old) rather than the size of the working age population (those who are between 15 and 65) (Goldman Sachs 2010). While the working population is expected to shrink soon in many countries relative to those who are dependent, this is not the case with prime savers. Their share is projected to rise for at least two decades, including in China.

Furthermore, increasing average life expectancy tends to increase household savings. Households will increase their savings for retirement, if they expect to live longer without a corresponding increase in the retirement age (Cooper 2008). This is particularly the case in emerging economies whose pension systems have remained embryonic. Against this background, Goldman Sachs (2010) has concluded that large current account imbalances are likely to persist, with the recycling of such surpluses helping keep global real interest rates low. Given that the investment universe of national central banks is generally strictly limited to highly liquid instruments, especially high-quality (low-yielding) sovereign bonds, SWFs may be expected to play an even greater role in allocating emerging economies' rising reserves and hence providing patient capital on a global scale.

Pension reforms will also have an important effect on people's savings behaviour. An important reason why household savings rates in China and other countries have remained high lies in the underdevelopment of the social security system. This was not always the case. In China, household savings were actually very low before 1978, in part because the income level was too low to set aside a meaningful portion for savings and in part because the government and state-owned enterprises (SOE) provided substantial welfare for free or at a very low cost. However, as economic prosperity has lifted a huge number of Chinese out of poverty and the SOE-based welfare system was abandoned, household savings rose significantly. The desire to accumulate savings for precautionary purposes has been further amplified by the fact that lives are not only longer but considerable uncertainty exists over how much longer (Cooper 2008).

However, to the extent that pension and other social security reforms (especially in healthcare) in emerging markets get increased traction,

household savings rates could decline significantly. Combined with an expected lower corporate savings rate due to improved profit-sharing mechanisms, Goldman Sachs (2009) projects that China's national savings rate could fall by as much as 12 percentage points in 2015–2025. Should investment rates remain high as workers continue to migrate from the countryside to urban areas, China's current account surplus could narrow significantly in the medium to long term. Not surprisingly, urging China to speed up its social security reforms has been at the top of the global agenda for some time. If this were to happen, pension funds and insurance funds in China and other emerging economies could become a major source of growth for patient capital, potentially even surpassing SWFs.

Conclusions

The global economy faces huge investment needs in areas such as transportation, energy, clean technology, water, etc. Public finances will be inadequate to meet such needs. In fact, in many advanced countries the public debt level has become unsustainable, requiring deep fiscal adjustment measures. Against this background, the question arises whether the private sector will be able to provide enough patient capital. As far as institutional investors in advanced economies are concerned, who in the past have supplied the bulk of patient capital, the answer a recent study by the WEF (2011) gives is not particularly encouraging. Different approaches to managing risk, and new regulations, are expected to dampen the future allocation of pension funds and insurance companies to long-term investment strategies. The WEF estimates that other long-term investors, such as endowments, foundations and family offices will be unable to offset this effect, given the size of their AUM.

However, as this paper has discussed, institutional investors in emerging economies may increasingly assume the role of long-term investors. Assets managed by pension funds and insurance firms have increased at rapid rates, and although the total amount of their AUM is still small compared with advanced countries, continued pension reforms and wealth accumulation look set to further increase the momentum of asset growth they control. How much of these assets will be available for long-term investing is not least a question of how rapidly remaining investment restrictions will be dismantled. While most countries have taken a cautious approach,

investment restrictions become increasingly costly as AUM continue to grow strongly. Some countries have therefore begun liberalising quantitative ceilings on particular asset classes, foreign investments, or both. This paper concludes that, depending on the speed of the reform process, pension funds and insurance companies in emerging economies, together with the SWFs, could play an increasingly important part in helping fill the capital gap that is feared to emerge due to a more constrained supply from traditional investors in advanced countries.

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