

Globalisation and Financialisation of the Economy Impact Investing at Scale as a Promising Response

Marzena Rogalska

EU Fellow

Weatherhead Center for International Affairs

Harvard University

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Introduction

The current macroeconomic debate on how much state involvement there should be in investment markets is dominated by polarised discussions that center around fears of being in a "new normal" for advanced economies of low growth, negative real interest rates, deflationary pressures, and growing inequality¹. When the supply side political economy took over in the US in the 1980s and continued until the eve of the global financial crisis, there was a deep conviction that the less state in investment markets the better. The state interventions that were needed to stabilize the situation in the financial crisis put this popular conviction in question.

There is no single solution silver bullet to this question rather there are several different ways of addressing this issue all that come with some considerations. Impact investing, as defined later in this paper, is therefore only one of the valid propositions to explore. This paper argues that regardless of the narrative, the state is playing an increasingly larger role in investment markets that needs to be acknowledged in order to embark on the debate of how to make the most efficient use of this kind of engagement. In this context, impact investment² is analysed as a new way of investment since the current investment system is not fit for purpose. Summers makes the argument that *"we need to recognize the reality that the defining challenge is going to be absorbing all the savings in a satisfactory way in the global economy for the next decade. The first priority for policy should not be financial engineering in either the private or the public sector, but a concerted effort to identify and find the means of financing the most productive investment opportunities globally"*³. Parker⁴ goes even further when he argues that inequality is a defining issue at stake and satisfactory absorption of savings is just one of the instruments to address the issues associated with inequality. In order to achieve impact investing at scale,

¹ Interesting insights on the ongoing debate on the future macroeconomic policy post global financial crises can be found in "Progress and Confusion: The State of Macroeconomic Policy edited by Oliver Blanchard, Raghuram Rajan, Kenneth Rogoff and Lawrence H. Summers, MIT Press, April 2016

² It should be noted that in this nascent field there is no consensus yet as to the overarching meaning of impact investment as a term encompassing all forms of socially and environmentally engaged forms of investment such as Responsible Investment or ESG Investment. This will be discussed more in detail in chapter 3 but for the purposes of this paper overarching meaning of impact investment term is assumed.

³ Summers, Lawrence H. *Rethinking Secular Stagnation after Seventeen Months, Progress and Confusion: The State of Macroeconomic Policy*, MIT Press, 2016

⁴ Parker, Richard 2016 Interview for growthpolicy.org <http://growthpolicy.org/featured/richard-parker-on-growth-inequality-and-preventing-the-next-financial-crisis> as well as his earlier work: Parker, Richard. *The Myth of the Middle Class*, Liveright, New York, 1972.

new ways of investment with state involvement need to strengthen the partnership role in order to bring back more real economy.

Three major trends are rapidly changing the world of state involvement in investment markets: globalization, demographic change, and technological acceleration. As the world gets more interconnected and economic competition expands, how companies and individuals work, learn and innovate will change. The impact of these changes will be felt increasingly faster and faster. Demographic change is represented by growing urbanization, aging population, rising inequalities and the ethnic composition of societies. Shifts in family and social norms and the emergence of the “millennials” generation will alter what we expect and can achieve in education, labour markets, social policy, and also in economic development.

Technological acceleration comes about when big data and progressing digitalization of economies and societies offer the potential to find solutions to global societal and environmental challenges. These solutions always carry risks.

Competitiveness in the future will be increasingly dependent on capabilities of individuals, firms and countries to innovate and their capacity to access financing. Achieving an effective transition towards a knowledge based economy with a sustainable use of resources in a global economy will require substantial investment into knowledge and infrastructure. When these investments include elements of public goods, the public role in their financing will need to continue.

In order to maintain the capacity of governments to invest, states need sustainable budgets. Addressing the levels of mounting debts, the related expenditure to service the debt, and the cost of accessing the new debt is compounded by rising budgetary pressures. These pressures stem from an aging population combined with the need for maintaining a solid tax base; a tax base that is challenged by decreasing employment levels and tax avoidance by multinationals and wealthy individuals. Each of these areas represents a key challenge that will be detrimental for levels of public engagement when placing investments into knowledge and infrastructure. Increasingly, governments will need to spend and invest their money in a smart way to attract private sector investment into public goods when the investment needed surpasses the possibility of scarce public resources to do it alone.

Monetary and fiscal policy is no longer limited primarily to the domain of macroeconomic competitiveness factors. Instead, policies include microeconomic performance factors that are subject to interconnectedness effects. Therefore, when we talk about the competitiveness of firms and countries, we need to start thinking in terms of the access to capital by the consumers, firms, and governments. Competitiveness in advanced economies constitutes the backbone of the market economy and focuses on the allocation of resources, innovation, and

pricing. Without denying its centrality for a market economy, progressive '*financialisation*' of the economy has a bigger and bigger impact on economic performance and development of both firms and countries. Financialisation⁵ of an economy is understood as the transition towards the omnipresence of the financial sector. This is when the financial sector grows out of being just one of the sectors of economy and becomes the main artery of the economic system. As capital flows increase, their volatility increases and threats of systemic risk and contagion grow as well. Access to capital is becoming a competitiveness factor in itself. This is especially apparent in the context of internationalisation of finance characterised by the increased complexity and hybridisation of existing and new innovative financial products. This is further compounded by the increased role of *fintech* also known as innovations in payment and transfer systems including alternative currencies such as bitcoin.

When volumes and volatility of international capital flows increase rapidly, the result is an increased risk for a financial crisis in banking, debt, and currency. This leads to a higher risk of contagion as economies become more interconnected. Economic development in a country or a company can be set back by many years in just a few days. The global financial crisis of 2007-2008 that started in advanced economies and spread to emerging markets economies had unprecedented scale and left most of the affected countries with significant levels of government debt. Even if most countries managed to return to pre-crisis growth paths, the levels of employment are far lower than at the outbreak of the crises. Achieving more sustainable and resilient financial markets requires the use of better macro-prudential regulation and public oversight. These steps lead to a more significant reorientation of investment into the real economy. This creates a number of challenges for governments that must decide how to strike the right balance between sustainable finance and increased investment in knowledge including innovation and education. Combined with investments in infrastructure, these investments are constrained in times of tight budgets and are badly needed in order to spur job creation in the economic recovery.

This research study will explore if investment with the intent to create measurable social or environmental benefit in addition to financial return usually with long term perspective, commonly referred to as impact investing, can be considered as a valid proposition when facing challenges stemming from globalisation and financialisation of the economy. This is especially situated in the context of where traditional responses given by economists in the last decades

⁵ Mazzucato talks about "increased financialisation of the business sectors, with many companies spending more on share buybacks – to boost their stock process, stock options, and executive pay – than on areas like human capital and R&D". (Mazzucato, Mariana. *The Entrepreneurial State: Debunking Public vs. Private Sector Myths*. 2013.) Lazonick shows that "in the last decade, nearly \$4 trillion has been spent on share buybacks by Fortune 500 companies. <https://hbr.org/2014/09/profits-without-prosperity>

did not sufficiently work and were met with much distrust by societies. At present, impact investing is still too small in scale to make a difference. Governments can play a role to bring the principles behind impact investing into the mainstream investment community in order to redirect more capital into the real economy and long-term investment. If those principles were adopted by mainstream investment, this could contribute to more sustainable financial systems where return and risk are complemented by impact considerations with longer term focus leading to a meaningful contribution to inclusive sustainable economic growth.

This research paper is laid out in three Chapters beginning with analysing the current megatrends of globalisation, democratic change and technological acceleration in the first chapter. Chapter two discusses the concept of financialisation of economies combined with an increasing dependence of competitiveness in sustainable financial markets requiring increased cooperation among public authorities to their effective regulation and supervision. Then, Chapter 3 will examine how to improve the regulatory environment in order to facilitate bigger investment into knowledge and infrastructure allowing for more equitable access to opportunities offered by those megatrends. To this end, the principles of impact investing will be explored to attract higher levels of private investment into public goods while analyzing how a conducive regulatory environment and active role of government can make public goods an even more attractive investment target reinforcing the uptake of impact investing principles throughout entire economies.

Chapter 1 – Megatrends shaping our economy

Globalization

In order to understand the forces that are shaping investment markets, a combination of megatrends are at work beginning with the profound shift towards a more globalized world and substantial momentum behind continuing this trend well into the future. The global GDP for 2016 is estimated at 77 trillion USD. See figure 1 for the breakdown across regions in terms of forecasted increase from 2015.

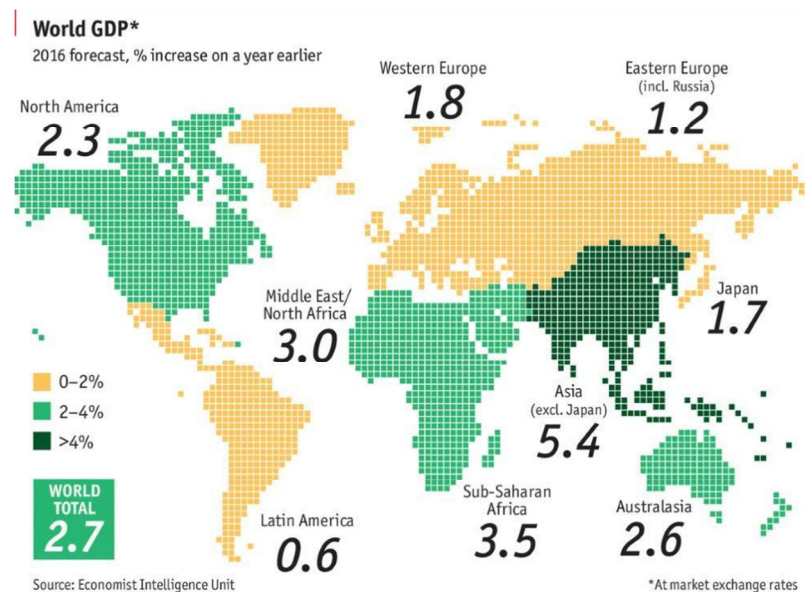


Figure 1 –Forecasted rate of growth of GDP by Region 2016

According to the World Bank, the world trade increased from 24% of the global GDP in 1965 to a peak of 61% in 2011. After that, world trade settled at 59.61% in 2013 though it is also important to note that growth in trade volumes has been shrinking at the same time⁶.

Two examples, Apple and Boeing, show how as these economic interactions become increasingly global, supply chains become dispersed across the globe (e.g. Apple's iPhone – see figure 2) and stronger integration within value chain takes place due to international specialization within multinational firms (e.g. Boeing – see figure 3).

⁶ Dispute over whether or not 2011 was a 'peak' and if yes, whether or not we should be worried about it. Source: <http://www.economist.com/news/finance-and-economics/21636089-fears-are-growing-trades-share-worlds-gdp-has-peaked-far>



Figure 2 - Apple supply chain

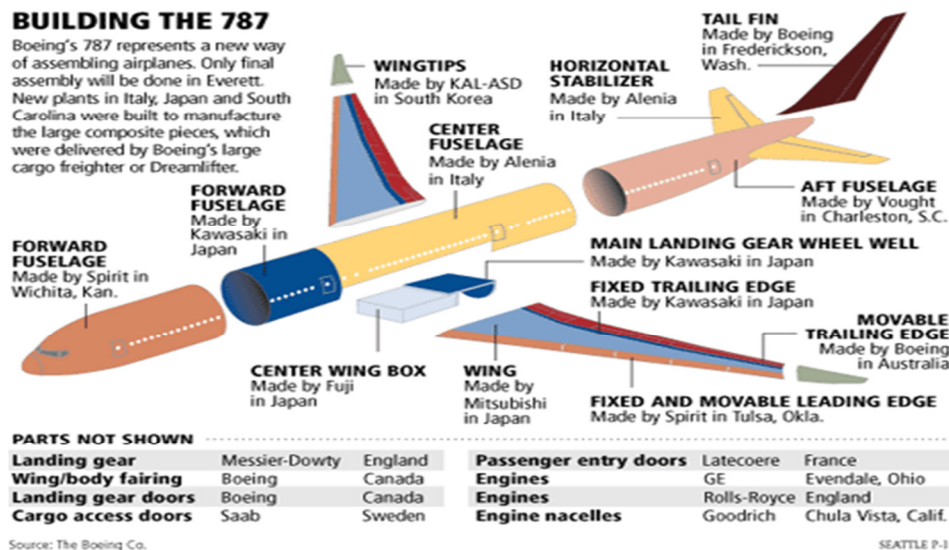


Figure 3 - Boeing: Stronger integration within value chain due to international specialization within multinationals

Both Boeing and Apple source from a broad geographic base and bring those benefits into an integrated product.

The forces of globalisation show that there is a clear economic shift in power back to Asia. According to The Economist, by 2030 China is forecast to become the world's largest economy overtaking the US (see figure 4)⁷.

⁷ China is expected to overtake the US in 2026 in nominal GDP in US dollar terms and maintain its position as the largest economy by 2050. India is expected to move up the rankings to third place. Asian economies recorded increase of their share of global GDP from 26% to 32% between 2000 and 2014. Extended long-term forecasts suggest that Asia's rise will continue up to

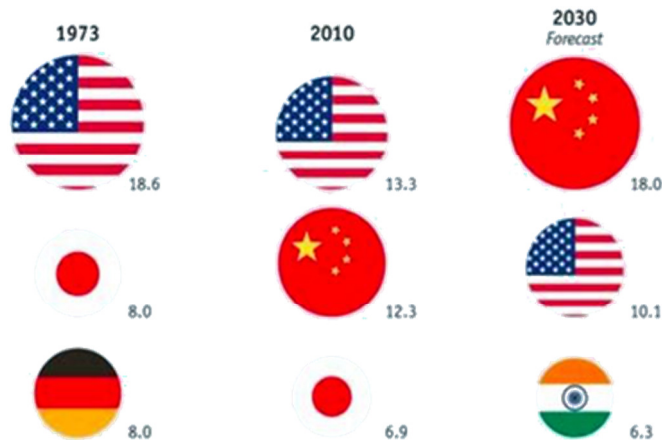


Figure 4 - % Share of global economic power (weighted average of world GDP, trade, and capital exports) – weight shifting to Asia

In advanced economies, a dramatic shift from manufacturing to services can be observed as economies become more sophisticated with each stage of advance, which produces new opportunities for the provision of services⁸. The shift to services is further accelerated by information technology which is revolutionizing products thanks to vast improvements in processing power and device miniaturization and by the network benefits of ubiquitous wireless connectivity⁹. These shifts in technology allow for the customization of product performance previously not considered cost effective or even possible. A new generation of smart connected products is transforming competition by disrupting traditional value chains and forcing companies to rethink and retool how they do things internally. They raise a new set of strategic choices related to how value is created and captured. More specifically, how the volume of new and sensitive data is utilized and managed. This requires substantial investment and a range of new skills such as software development, system engineering, data analytics and online security expertise that are rarely found in manufacturing companies. According to Porter, *"another leap in productivity in the economy will be unleashed by these new and better products. This third wave of IT-driven transformation thus has the potential to be the biggest"*

2050 - not quite at the same pace, but by 2050 it will account for 53% of global GDP. Source: The Economist Intelligence Unit, *Long-term macroeconomic forecasts: Key trends to 2050*, 2015 www.eiu.com

⁸ Increasingly distinction between goods and services is becoming fuzzy as companies are turning towards 'one stop shopping' (product embedded in the service) or change their business model e.g. Royce-Rolls selling hours of engine's operations instead of engine itself.

⁹ Connectivity serves a dual purpose: (i) it allows information to be exchanged between the product and its operating environment such as its user, maker or other products; (ii) it enables some functions of the product to exist outside the physical device – so called "product cloud".

yet¹⁰.” The service sector as broadly conceived therefore will continue to be the long term growth prospect for capitalist economies once fundamental material needs are met.

Due to growing urbanisation with half of the population already living in urban areas, cities and city oriented services will dominate the economies. As higher and higher productivity gains are achieved, employment tends to be produced in areas related to personal discretionary income expenditure or knowledge based transition. This trend can be illustrated by the change in the composition of the largest employers in the US: from predominantly goods producing firms in 1960 to mostly service-providing companies in 2010 (see figure 5)¹¹. Moreover, due to decreasing IT, connectivity, and transportation costs, many more investments in the world are now tradable in both goods and services¹².

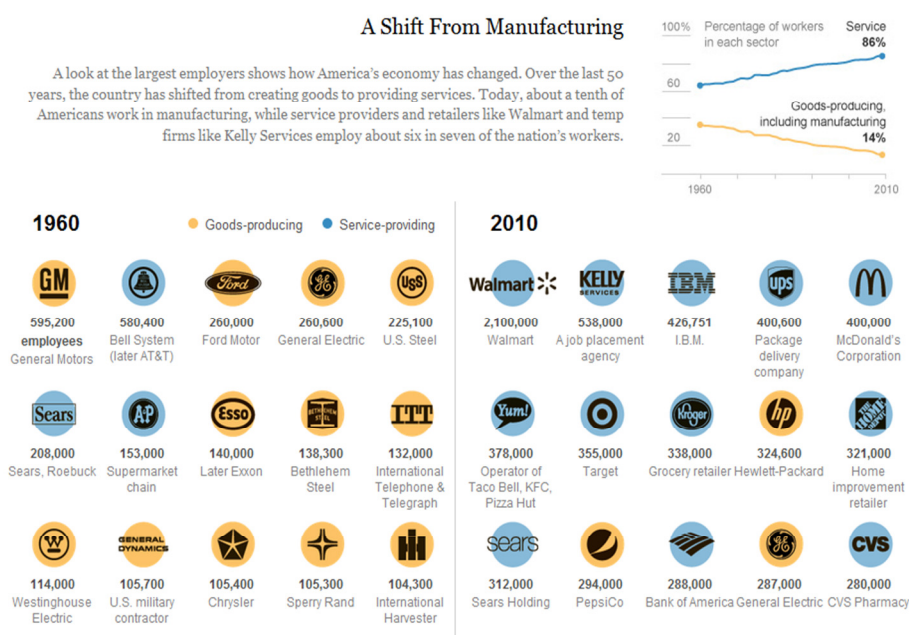


Figure 5 - Shift from manufacturing to services

¹⁰ The first wave of IT, during the 1960s and 1970s, automated individual activities in the value chain such as order processing or computer-aided design leading to standardization of processes across companies. The second wave in the 1980s and 1990s saw the rise of the internet, with its inexpensive and ubiquitous connectivity, and enabled coordination and integration across individual activities and across geography allowing firms to integrate globally distributed supply chains.

¹¹ It is to be noted that after the period of intensive outsourcing of manufacturing of goods primarily to China due to significantly lower labour costs, in the aftermath of the economic crisis redistributive effects of such outsourcing started to be more pronounced. Further compounded by the realization that manufacturing base closely co-exists in the ecosystem of related innovation and business services (with simultaneous increase of labour costs and innovation capacity in China), both the US and EU have undertaken efforts to stop deindustrialization known in the US and the UK as reshoring and reindustrialisation in other advanced economies.

¹² E.g. medical X-ray results from the US can be now read by doctors in India or voice recordings transcribed in Bangladesh.

The new balance in economic power is already being reflected and will continue to adjust in global governance. China, India, Brazil and others are taking a greater role in international finance, trade, development, and climate change negotiations marking systematic shift to a multipolar system. Recent decision at the IMF to add Chinese Renminbi¹³ to the world reserves basket is a good illustration of such an adjustment. Moreover, new actors emerge in the global scene, including regions and regional alliances, large cities, multinationals and NGOs.

The emergence of large multinational corporations as seen in the US where two thirds of industrial sectors became more concentrated between 1997 and 2012 and the weighted average share of the top four firms in each sector rose from 26% to 32% (see figure 6) introduces a new layer to global competitiveness. This consolidation results in persistent high

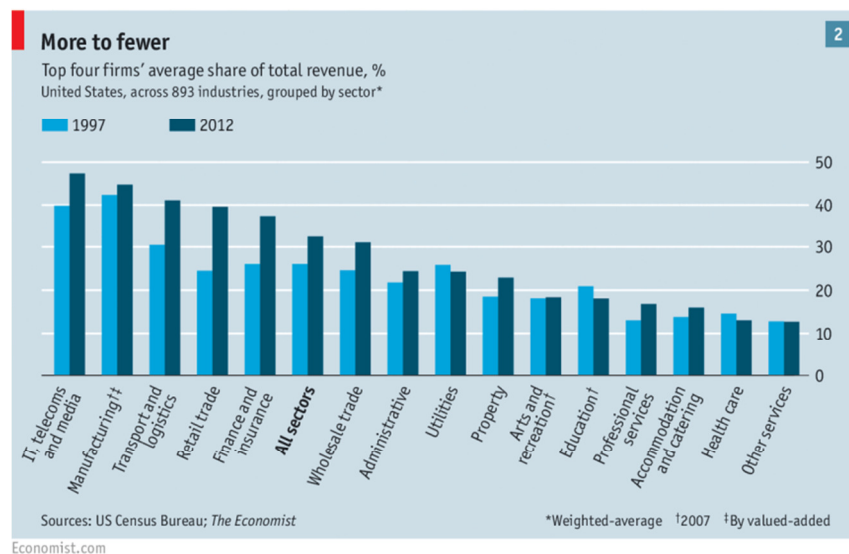


Figure 6 - The % increase since 2007 of the share of top four firms in total revenue by sector, US

profits¹⁴ due to higher returns on capital, concentration¹⁵ and rising prices. Multinationals compete against states due to their ever growing bargaining power similar to countries

¹³ IMF November 2015 decision to include Chinese currency in the IMF currency basket paves the way for broader use of the renminbi in trade and finance. The new weight of each currency in IMF basket is: dollar (42%), euro (31%), renminbi (11%), yen (8%), and pound (8%). Though China is forced to give up some of its tight control over the currency, certain questions on financial regulations and lack of legal protections in China remain.
Source: <http://www.nytimes.com/2015/12/01/business/international/china-renminbi-reserve-currency.html>

¹⁴ In 2014 the top 500 listed firms made about 45% of the global profits of all American firms. Source: <http://www.economist.com/news/briefing/21695385-profits-are-too-high-america-needs-giant-dose-competition-too-much-good-thing>

¹⁵ What was working for traditional firms, higher profitability either by market dominance or in activity containing a barrier that offers stability and pricing power, holds also true for the 'sharing economy', where some start-ups are extremely high rated by

competing against countries, or companies against each other. Further compounded by the strong trend of competition to attract investment into a given location within and among states by offering tax breaks and incentives, the power of multinationals is on the increase to exploit different regulatory regimes and regulatory gaps at different levels to manipulate the effective tax contribution (see figure 7). This leads to eroding tax base for governments and further aggravates the public debt problem.

Unlevel playing field
Corporate tax rates, 2015

Official rates, %	
United States	39
Europe*	25
Ireland	12.5

Effective tax rates (cash paid), %	
All American firms [†]	33
Top 50 US firms	24
Top 50 European firms	35
Top 20 pharmaceutical firms	27
Pfizer	27

Sources: BEA; Bloomberg; KPMG; *The Economist*

* Average of eight countries
[†] US tax paid as % of domestic profits

Economist.com

Figure 7 - Nominal and effective tax rates on biggest corporations

The changing nature of relationship between the state and multinational will require new approaches to taxation and to anti-trust laws. Transfer pricing and aggressive tax planning by multinationals is becoming increasingly a point of particular interest of the European Commission and its competition authority. More prominent collaboration among competition authorities worldwide is needed to ensure level playing field. Zucman¹⁶ is skeptical about the efficiency of even more stringent transfer pricing regulations. He believes multinationals will always be one step ahead and advocates a radical reform of corporate taxation to introduce a tax on global profits. These taxes would then be attributed to the different states using a formula that is difficult to manipulate and each state chooses their own rate it wishes to tax.

The need for modernization of international tax rules and broad agreement for enhanced tax transparency standards have been recognized at the G-20 and OECD level to address tax

some investors as they are assessed to be able to dominate their markets and eventually to mature to enjoy very high market shares and margins – recent example of Uber valuation.

¹⁶ Zucman is of the opinion that the tax on global profits is not utopian. This is how the state corporate taxes work in the US, and the European Commission has proposed a similar solution so called Common Consolidated Corporate Tax Base, which has however been only optional in its initial proposal of 2011. If it were binding and both systems were merged, there is much chance major economies would follow. Source: Zucman, Gabriel. *The Hidden Wealth of Nations*, The University of Chicago Press, 2015

avoidance¹⁷ as well as tax evasion. The goal is to ensure that profits are taxed where economic activities are performed, the profits are generated, and where the value is created. The OECD has started work on the so called 'Base Erosion and Profit Shifting (BEPS) initiative, and there is agreement that a new framework would allow all interested countries and jurisdictions to work jointly for the implementation for a package of measures against BEPS¹⁸. However, at this stage, it is only a voluntary initiative. Full implementation of the internationally agreed tax transparency standards, including the Common Reporting Standard on Automatic Exchange of Information adopted by the G-20 in 2014 (with 98 jurisdictions committed so far), is set to come into full effect over the 2017-2018 periods¹⁹. Further digitalization of the economy and fluid movement of capital will require modernization of the domestic tax codes to reflect the changing nature of labour contractual relationships and blurring boundaries between goods and services.

Global capital flows are on the increase with simultaneous increase of their volatility resulting in larger scale cycle of credit booms and their demise (see figures 8 and 9). The financial crisis that originated in the US in 2007 quickly spilled over into Europe and then on to emerging markets. The stock exchange crisis in China in August 2015 led to global shocks. Systemic risk has become the buzzword of the financial markets of the 21st century.

¹⁷ Tax avoidance is an activity within legal bounds exploiting difference in different tax regimes to pay as little taxes as possible as opposed to tax evasion where the aim is not to pay taxes at all often linked to illicit funds. The offshore companies or bank accounts are used to evade taxes, in minority cases only used for legitimate reasons such as incorporating cross-border joint venture on a neutral ground or placing savings by private individuals from unstable countries in safe place. There are two issues debated to counteract tax evasion: creation of open central register of beneficial ownership (Britain and a few smaller countries have done it) and making it a criminal offence to enable tax evasion by others such as law firm and other intermediaries in offshore companies and trusts.

¹⁸ BEPS refers to tax planning strategies of corporates, and multinational enterprises in particular that exploit gaps and mismatches in tax rules to artificially shift profits to low or no-tax locations where there is little or no economic activity, resulting in little or no overall corporate tax being paid. For more illustration of the US companies tax avoidance see Gabriel Zucman "Taxing across Borders: Tracking Personal Wealth and Corporate Profits", Journal of Economic Perspectives – Volume 28, November 4 – Fall 2014 – Pages 121-148

¹⁹ Bringing US to the level of CRS requires congressional approval and there is no sign of rush. Moreover, the Foreign Account Tax Compliance Act (FATCA), passed by the US in 2010, requires financial institutions abroad to report details of their American clients' accounts or face punishing withholding taxes on American-sourced payments. Given the role of the US in the global finance, most comply.

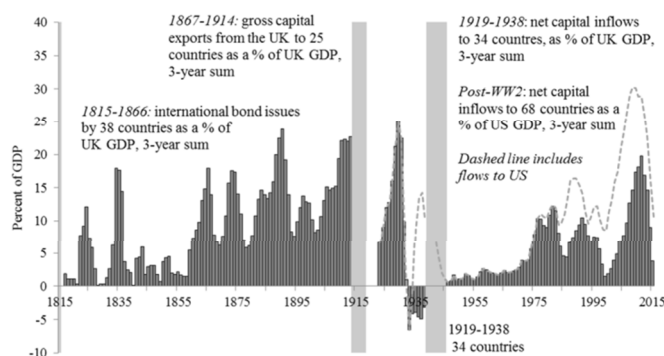


Figure 8 – Capital flow cycles²⁰

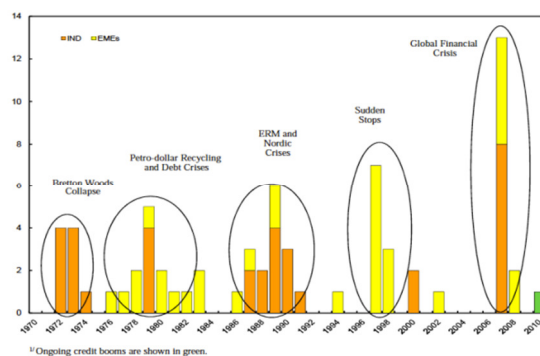


Figure 9 - Frequency of credit booms²¹

At the same time, inequality is rising globally inside and among most countries²². Rising top incomes and falling employment drive this trend. According to the World Top Incomes database (BLS), since 1990s, the US male employment rate for age bracket 25-54 years old dropped from nearly 90% to 84%. The income share of the top 1% rose from nearly 11% to 18%. In the EU during the period 2008-2012, however income inequality remained the same on average and even declined in some cases as the financial crisis hit the upper tier of the socioeconomic spectrum hardest²³.

The macroeconomic effects of globalization and its scale can be seen in daily lives and jobs. Individuals are much more interconnected across borders. According to Quartz, GSMA, in October 2014 the number of active mobile phones became greater than the number of people in the world²⁴. Global brands²⁵ and products such as Apple, Google, Microsoft, BMW, Ikea, or

²⁰ Reinhart, Reinhart, and Trebesch, 2016. "Capital flow and commodity cycles have long been connected with economic crises [...] many emerging markets are facing a double bust in capital inflows and commodity prices, making them vulnerable to crises"

²¹ Mendoza and Terrones, 2012 "Banking crises, currency crises or sudden stops often follow credit booms, and credit booms in turn often follow surges in capital inflows, TFP gains, and financial reforms".

²² Branco Milanovic's work is very interesting in this context – starting from *Worlds Apart. Measuring International and Global Inequality* (2005); *The Haves and the Have-Nots: A Brief and Idiosyncratic History of Global Inequality* (2010) and *Global inequality: A New Approach for the Age of Globalization* (2016)

²³ For more details: http://ec.europa.eu/eurostat/statistics-explained/index.php/Income_inequality_statistics

²⁴ BI Intelligence estimates that in 2016 India will have 204 million smartphone users or 4 million less than the US – BI Intelligence report "25 Big Tech Predictions for 2016", Source: <http://www.businessinsider.com/25-big-tech-predictions-for-2016-2016-1>

²⁵ For detailed ranking see: Forbes -the most powerful brands survey. Source: <http://www.forbes.com/powerful-brands/list>

Coca-Cola are in our homes and in our hands. Erasing borders adds value by lowering costs, accelerating development, and stimulating new ideas. These forces also results in employment redistribution. On the other hand, the trend in customization of products stemming from a new generation of smart and connected products with increased local cultural preferences can be observed. These products can especially be found in the food and entertainment sectors. There is also a growing number "buy local" campaigns and domestic content requirements in legislation.

Globalization therefore has brought great benefits and opportunities along with also great risks and challenges. It has made collaboration and engagement increasingly necessary for national governments. The future will depend on choices made both by the governments, firms, NGOs, and citizens. Governments will need to find solutions to the inherent tensions between national sovereignty and national public interests.

Demography and population change

According to UN forecasts²⁶, the world population is likely to reach 9.7 billion people by 2050 despite the slowing of the growth rate. This is a substantial increase from the 7.3 billion in 2016²⁷. A lion's share of this increase will occur in the developing countries and in their cities in particular confirming strong urbanization tendencies²⁸. The emergence of more megacities combined with the simultaneous growth of informal settlements will also put more pressure for more efficient and sustainable use, re-use, and mixed use of urban space. 'Green' will need to converge with 'smart' to provide for transformative critical infrastructures. This will have profound political implications as cities will become more powerful inside and outside their countries.

Age structures are also changing with the world's median age expected to increase from 28 in 2010 to 36 in 2050. The proportion of those over 65 is expected to grow from 8% to 16% of the global population and these shifts in demography will be mostly happening in cities, where

²⁶ Source: <http://www.un.org/en/development/desa/news/population/2015-report.html>
<http://www.un.org/en/development/desa/news/population/2015-report.html>

²⁷ Source: <http://www.census.gov/popclock/>

²⁸ It is estimated that urban areas will account for 67% of total population by 2050.

more than half of world's population already dwells. For developed countries²⁹, changes in age distributions means challenges for labour market productivity, financing of health and social security, and taxation. The sustainability of public finance is challenged at the same time as education systems already represent a significant challenge in providing capacity and opportunities for employment for their rising young populations especially in developing countries. The challenges of changing age structures will be further compounded by gender dynamics and changing lifestyles especially of younger generations. In developed countries, household size is shrinking³⁰ and DINKS (Double Income No Kids) are common. The Millennial generation, those individuals born between 1981 and 1996, appear to care more about having a good job than getting married or owning a house³¹.

At the same time that age structures are changing, the global economy is subject to three related long term trends in the labour markets, especially in advanced economies: (i) first, geography is becoming less critical to transshipment and the manufacture of value-added products meaning that city location is less of a factor for business' location decisions; (ii) second, disintermediation meaning the cutting out of the middleman in such industries as broadcast, print media, music distributors, main-street retailers, and also brick-and-mortar banks; (iii) third, related to previous two long term trends, there is an explosion in the use of information technology meaning that in labour markets there are more journeymen with no assurances of life employment and a continual evolution of skills to make a living.

Beyond the mere availability of work, the nature of work itself is changing in the direction of temporary, contingent, or episodic employment dominating the working years of more and more people³². Jobs in some industries are more complex and demanding. By itself, a high school diploma that was once one of key goals of social policy for last fifty years is now more a

²⁹ UN forecasts that by 2050 in Europe the share of the working age population (between 15 and 64) would decrease from 67.2% to 56.7% i.e. a fall of 52 million working age inhabitants. For the US, similar share is projected to decrease from 66.3% to 60.3% by the UN. Source: UN Population Division, World Population Prospects 2015 <http://esa.un.org/unpd/wpp/DataQuery/>

³⁰ The most common household type in the EU-27 in 2011 was the single person living alone, at 31.4% of the population. Source: "The Knowledge Future: Intelligent policy choices for Europe 2050," Foresight, 2015. In the US, the most common household type in 2012 was the married couple without children, at 29.1% of the population. However, the single person living alone followed closely at 27.5% and has been growing steadily. Source: "America's Families and Living Arrangements: 2012," US Census Bureau, 2013.

³¹ Millennials say making the world a better place is a priority (64%), prefer self-employment (72%), a collaborative work-culture rather than a competitive one (88%), flexible work schedules (74%), and "work life integration." Source: "The Knowledge Future: Intelligent policy choices for Europe 2050," Foresight, 2015.

³² For more details on volatility of income see the US Financial Diaries Source: <http://usfinancialdiaries.org> or Stanford Social Innovation Review

guarantor of severely limited opportunity than of possible advancement. The extra-national job flight is now driven primarily by lower labour costs abroad. This trend will likely be further accelerated and accentuated by advanced economies workers' lagging skills, skills mismatch, and education levels.

In most advanced economies, population, social and economic mobility has been stagnant for decades. Industrial and technological advances now lead as often to reductions in employment as to increases in employment. Loyalty, diligence, and a history of regular promotions no longer inoculate most workers from the risk of sudden and enduring unemployment. The more common pattern will be that individuals will work for a succession of firms in different industries and different occupations. People will have to manage themselves as if they were a business by acquiring and then reselling their skills. Migration patterns are also changing. The recent wave of migration in Europe introduces further complexity and urgency to already challenging issues with growth and jobs. A similar situation is exhibited in the fourth wave of migration and race related growing inequalities in the US.

The debate on growing inequalities within nations³³ is gaining more and more political traction. This is evident in Pope Francis's encyclical "Laudato Si", Thomas Piketty's best seller³⁴, and US President Obama's State of the Union³⁵ address. The debate plays a central role in the current presidential race and some argue that it has also played a role in the "Brexit" vote. Piketty argues that area of concern is overall wealth and not income alone as capital grows faster than the economy. Those who hold capital in the form of assets like money, stocks, real estate will see their wealth grow faster than those managing on wages alone. Over time, wealth is concentrated into fewer hands³⁶. The Nobel Prize Winner Angus Deaton argues that inequality can be both good and bad and that we should not look only at average progress in reducing inequality. Not being able to meet "*social standards of decency is an absolute deprivation but*

³³ One measure of inequality is the percentage of the nation's overall wealth owned by different parts of the population. For example, recent graphic by Harvard Gazette ("*The costs of inequality: When a fair shake isn't*" by Alvin Powell, *Harvard Gazette*, February 1, 2016) shows that the richest 20 percent of the US population owns 88.9% of the nation's wealth, while the bottom 40 percent owes more than it owns. This trend is on the rise. Similar correlations can be observed when using other criteria such as income, housing quality, rate of imprisonment or level of political influence. For example, according to Census Bureau statistics, the poorest 20% of Americans received 3.6% of the national income in 2014 (down from 5.7% in 1974), whereas the upper 20% received nearly half (up from about 40% in 1974)

Source: <http://news.harvard.edu/gazette/story/2016/02/the-costs-of-inequality-when-a-fair-shake-isnt/>

³⁴ Piketty, Thomas. *Capital in the Twenty-First Century*. Cambridge: Harvard UP, 2014.

³⁵ Source: <http://money.cnn.com/2016/01/12/news/economy/obama-state-of-the-union/>

³⁶ US census figures show that the median net worth of some 60% of Americans fell between 2000 and 2011, while that of the upper 40% increased. <http://www.census.gov/people/wealth/files/Wealth%20distribution%202000%20to%202011.pdf>

avoiding this absolute deprivation requires an amount of money that is relative in the sense that it must adjust to local standards."³⁷

The debate on economic progress and how it is to be measured on the country level needs reassessment because traditional measures based on GDP growth have major deficiencies in this respect. The Economist³⁸ proposes three changes to measure prosperity better: (i) improvement of GDP data collection and presentation relying on wider data input such as tax records or credit card transactions; (ii) introduction of a GDP plus concept for services dominating richer countries such as including unpaid work in caring for relatives at home or measuring changes in quality of services; (iii) taking stock each decade of the wealth of countries including government assets such as roads and parks as well as private wealth. Intangible capital such as skills, corporate brands, design, online networks, could be valued. Decrease in capital would consist of areas such as the deterioration of roads and public spaces and damages to the environment.

Rifkin³⁹ points to a more general and crucial change that begins to unfold: *"the slow demise of capitalist system and the rise of a Collaborative Commons in which economic welfare is measured less by the accumulation of market capital and more by the aggregation of social capital. (...) The GDP metric will likely decline in significance as an indicator of economic performance along with the diminution of the market exchange economy in the coming decades. By midcentury, quality of life indices on the Collaborative Commons are likely to be the litmus test for measuring the economic wellbeing of every nation"*.

Taking the extent of economic inequality, Parker advocates a simpler solution that consists of a combination of GDP and some kind of Gini⁴⁰ co-efficient as a start⁴¹. In this context, examples

³⁷ Deaton, Angus. "Material Wellbeing in the United States." *The Great Escape: Health, Wealth, and the Origins of Inequality*. Princeton: Princeton UP, 2015. 167-218. Print.

³⁸ "How to measure prosperity" and "The Trouble with GDP", *The Economist*, April 30th, 2016

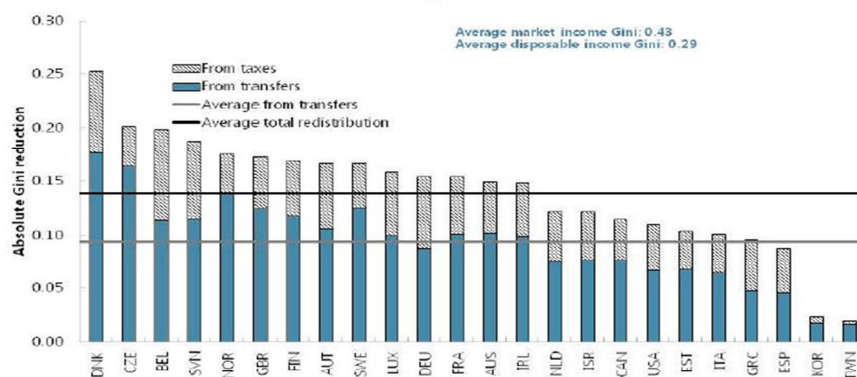
³⁹ Rifkin, Jeremy. *The Zero Marginal Cost Society: The Internet of Things, The Collaborative Commons, and The Eclipse of Capitalism*. Palgrave MacMillan, 2014 Print p. 20

⁴⁰ The Gini coefficient measures the extent to which the distribution of income (or consumption expenditure in some cases) among individuals or households within an economy deviates from a perfectly equal distribution. A Lorenz curve plots the cumulative percentages of total income against the cumulative number of recipients, and the Gini measures the area between the Lorenz curve and a hypothetical line of absolute equality. Thus, a lower Gini index is closer to perfect equality, whereas a higher Gini score is more unequal. Source: <http://data.worldbank.org/indicator/SI.POV.GINI>

⁴¹ In his interview for growth.org, Parker says: *"...the question then becomes, "What levels of inequality are you comfortable with? How do you structure that inequality? Why is that particular level of inequality valuable to the society as a whole? (...) Does it promote a measurable greater efficiency?" That is it not difficult to conceptualize economies in which you would have greater inequality but lower growth as a consequence of the inequality because concentration of income is so great that the*

from some of the EU member states where a social market economy approach has resulted in a minimum wage to counteract underemployment and/or structured dialogue with social partners (including trade unions) has allowed for maintaining more equitable societies and this can be seen in figure 10⁴².

Redistributive Impact of Fiscal Policy in Advanced Economies, mid-2000s



Sources: Paulus and others (2009), except for Australia, Canada, Czech Republic, Korea, Norway, Israel, Taiwan Province of China, and the United States where data are from Caminada and others (2012).

Figure 10 – EU achieves a greater reduction in the Gini (move towards equality) as compared to the US

Accelerating Technological Change, Digitalisation and Big Data

Emergence of truly disruptive technologies will dramatically change the world we live in. Already social media have brought not only the empowerment of individuals to create new digital products, but also created new social processes on a large scale including the emergence of the “digital crowd”. Acceleration in technological change is powered to a large extent by technologies themselves. Certain technologies such as data-sharing, open science and

level of consumption is lowered by the concentration of savings that accompany the concentration of income. So you have right from neoclassical model standards a question whether or not you have tipped over into some world of excess concentration which creates a suboptimal growth rate. (...) Source: <http://growthpolicy.org/featured/richard-parker-on-growth-inequality-and-preventing-the-next-financial-crisis>

⁴² However, note the recent study conducted by Grabka showing that in the period from 1971 to 2015, a nine-percentage-point drop was seen in the population share of the middle-income group in the US. For Germany, in the period beginning 1991, i.e., following reunification the share of the middle-income group was found to decrease by six percentage points from 1991 to 2013. Interestingly, the US figures for the same time period likewise displayed a six-percentage-point decrease. Source: http://diw.de/documents/publikationen/73/diw_01.c.533127.de/diw_econ_bull_2016-18-2.pdf

international collaboration make rapid change possible and more effective. The devices deployed in and around us allow for connecting better to both digital and physical worlds through new sensors and communications. With these devices also comes automation to deal with "big data" and real-time analysis. The rise of machine-to-machine communication has led to an increasing capability to influence physical from the digital.

Each innovation arriving faster and faster changes our society and economy, and more importantly our expectations and the way we work in education, science and business. The nature of research is changing where individual institutions are challenged by growing competition and new technologies. Research excellence increasingly requires extensive equipment and generates important income streams. Digital technologies are changing what it means to publish results or protect ideas. Sharing data and infrastructure is becoming even more common including an ever higher mobility of researchers as can be seen in figure 11.

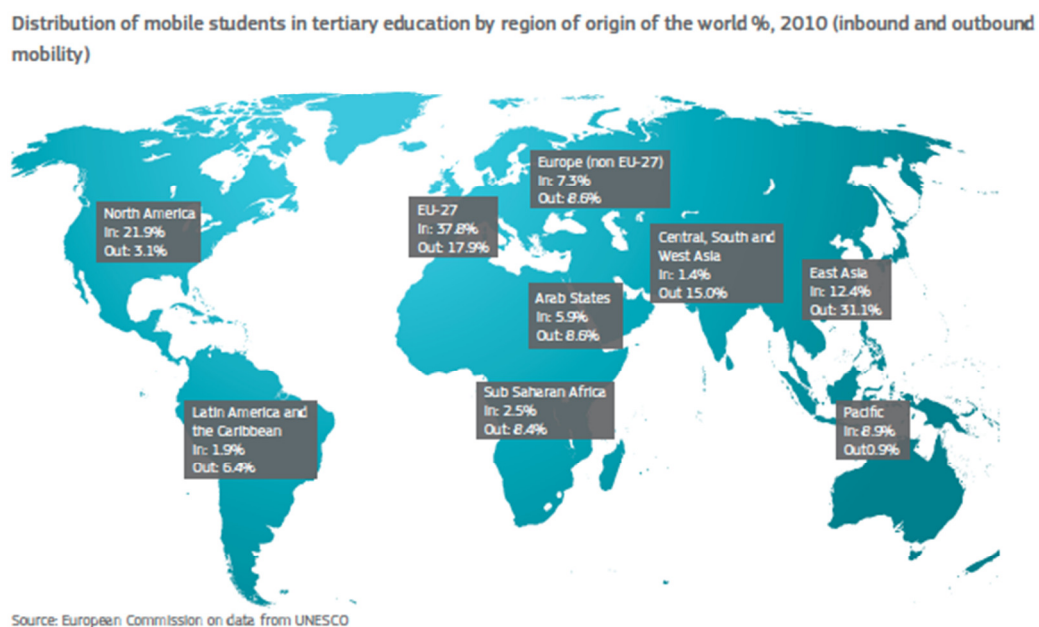


Figure 11 – Higher global mobility of human capital

The 'Open science' movement is developing as a data intensive and network connected approach to making and testing hypotheses extends across borders and disciplines. Today, about a fifth of all scientific articles are co-authored internationally as can be seen in figure 12 for a detailed breakdown. The discovery of human genome⁴³ is a good example of this process.

⁴³ Human genome was discovered by computers science researchers at MIT, and it has not been a result of incremental progress in medical research. MIT has signed collaboration agreement with Singaporean government, who created a new life sciences cluster around this discovery in Singapore to extend the pool of further research.

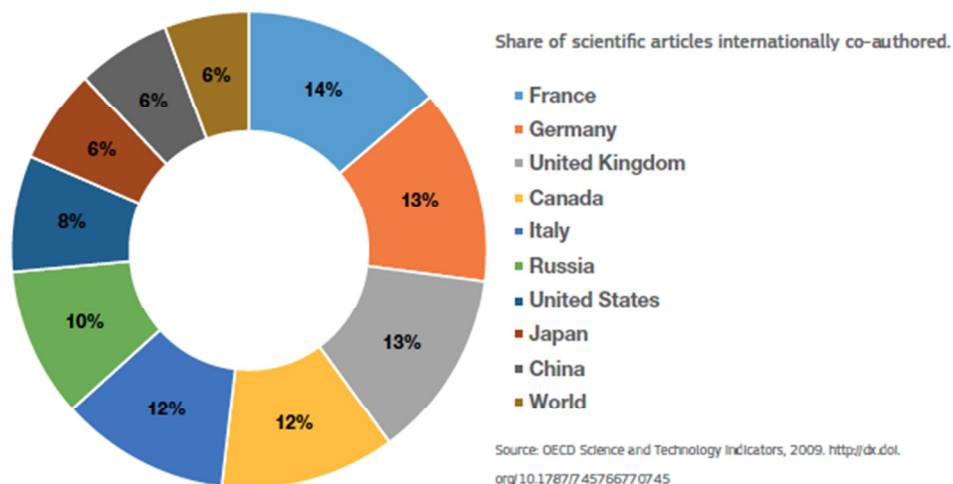


Figure 12 – Both the US and EU nations are heavily involved in the international co-authorship of scientific articles

As innovation is moving beyond locality, behind any significant product or service there is a global chain of contributors from researchers, engineers, manufactures, financiers and sales people. Multinational networks of suppliers and assembly lines today make our cars, medicines and smartphones. This multitude of players provides opportunities for greater collaboration as well as for fiercer rivalry. Centralized corporate labs are giving way to networked integrators of ideas from non-traditional sources.

The system of education is increasingly viewed as a global marketplace with higher education becoming ever-more geographically diverse as international tuition payments help to balance the budget. International alliances, satellite campuses, and online provision shape the reach and competitiveness of individual universities and courses. A major trend can be observed for universities by diversifying into innovation, managing intellectual property, spinning out companies, and consulting to industry. Becoming centers of the knowledge systems, strategies for attracting business investment and engaging in open innovation have become important parts of the identity of competitive universities. Today, educational institutions certify skills to assist employers in corporate recruitment and train multinational managers. The secondary effect of such globalization of education, however, is the fact that it creates a categorical near-consensus on key matters. Rodrik⁴⁴ argues that despite the fact that economists are fully aware that certain models and some evidence points in the opposite direction, their existence does not seem to stand in the way of the near consensus outlook of educational institutions and he references Mankiw⁴⁵ who has researched and published the top shared economic beliefs with

⁴⁴ Rodrick, Dani. *Economics Rules: The Rights and Wrongs of the Dismal Science*. 2015.

⁴⁵ Greg Mankiw, "News Flash: Economists Agree," February 14, 2009, *Greg Mankiw's Blog*, <http://gregmankiw.blogspot.com/2009/02/news-flash-economists-agree.html>

the percentage of economists who agree with the proposition in a structured list. This raises a question of established economic ideology and space for development of alternatives in the future.

Knowledge increasingly has the potential to become a catalyst for change by creating many and varied innovation circuits in which people have incentives to connect, learn, and adapt across the conventional boundaries of laboratories, factories and classrooms. Training new employees and employers requires more than campus to make new discoveries and reapplying the old ones. According to the authors of the Foresight Report⁴⁶ for the European Commission, what is needed are (i) strong local companies that can succeed in big markets while avoiding the risk of being captured by multinational corporations (to avoid rentiers phenomenon). Clusters and smart specialization play a huge role here; (ii) investors willing to take risk on local and social entrepreneurship where output in both goods and services is consumed and profit reinvested locally. These plans usually have wider social and environmental impact with an increasing role for micro-companies, foundations and crowd-sourced ventures to invest alongside traditional VC; and (iii) a modern local government that understands the needs of business environment⁴⁷. This is where politicians and population can come together to drive inclusive change. Successful examples of the ecosystems comprising all three elements are the Uppsala region in Sweden, TU in Munich, and the North Carolina cluster in the US to name a few⁴⁸. Technological change and skills adaptation will require heavy investment into infrastructure and knowledge based societies and economies.

Moreover, our ability to collect, analyse, and better understand the mass collection of data has become increasingly easier and cheaper while government leaks have substantially changed the dynamics of the debate on data security and privacy. More decision makers are aware of the inherent trade-offs in addressing those concerns.

Governments at all levels and companies are the two largest sectors collecting data. The private sector collects data about individuals' behaviour and consumption patterns to provide better consumer services. The government is tasked with responsibility of collecting the data that improves the lives of its citizens through the provision of better and more effective services and public goods. Both are tasked with protecting security and privacy. Big data has become a

⁴⁶ Foresight. *The Knowledge Future: Intelligent Policy Choices for Europe 2050*. Rep. Luxembourg: European Union, 2015.

⁴⁷ The latest example would be Google choosing Kentucky for its first Google Fibre project specifically for the reasons of excellent cooperation with local authorities – see EIU Film prepared for Davos 2016

⁴⁸ It is not to say that the biggest clusters around Silicon Valley, Boston area or Oxford and Cambridge do not count – quite to the contrary.

buzzword and there is a widespread belief it is a new panacea to solving the biggest social challenges facing society such as healthcare, education, and international development. Governments and civil society need to develop sound principles for releasing data in more usable formats in order to ensure that useful data is being collected. This requires investments in technology, systems and people to collect, analyse and use data to provide better services to citizens while addressing the more difficult questions related to the privacy and ethics of the data being used.

Among private sector, several technology giants collect considerably more data than others, namely Google, Facebook, Microsoft, and Apple. Close behind are companies like Uber and Airbnb just to name the few. Their disruptive models actively challenge current regulatory regimes as well as having a huge concentration of data. Their control over this data gives the government the additional responsibility to think about uses in the medium to long term. In order to avoid overconcentration of data in the hands of a few and allowing for better competition, mandatory data sharing with delayed rule of some years and a degree of aggregation merits some consideration. How to design policy and regulations to avoid or diminish the situations where big data becomes proprietary knowledge of one company⁴⁹?

Last, but not least, the issue of cybersecurity and cyberterrorism represents a growing concern. As hacking has evolved from pranks and simple "piracy" to "professional activity"⁵⁰, governments and businesses alike around the world are becoming increasingly alarmed over the escalation of cyberattacks and cyberterror attacks⁵¹ aimed at the digital infrastructure. In the case of cyberterror, both virtual and physical space experience attacks conducted by states and private actors though often for different purposes.

⁴⁹ For example, the municipality of San Paulo has embraced the 'Uber' challenge by allowing their operations but at the same time instituting the obligation for all taxi like services to install a data chip so that data collected from Uber and others is available to public authorities to improve their analytics for the municipality.

⁵⁰ At the occasion of cyberattack on I.R.S. in the US detected in May 2015 (on-going from mid-February) in the US when stolen data to gain access to past tax returns of more than 100,000 people lead to nearly 50 million USD in fraudulent refunds before the scheme was detected, John Koskinen, the I.R.S. commissioner said: "*We're confident that these are not amateurs. These actually are organized crime syndicates that not only we but everybody in the financial industry are dealing with.*" http://www.nytimes.com/2015/05/27/business/breach-exposes-irs-tax-returns.html?_r=0

⁵¹ The Center for Strategic and International Studies defines cyber terror as "*the use of computer network and tools to shut down critical national infrastructures (such as energy, transportation, government operations) or to coerce or intimidate a government or civilian population*) Source: Lewis, James A. "Assessing the Risks of Cyber Terrorism, Cyber War, and Other Cyber Threats" http://csis.org/files/media/csis/pubs/021101_risks_of_cyberterror.pdf, June 15, 2013.

Chapter 2 - Financialisation of the economy and the need for sustainable financial markets – role of the public oversight

In the 1950s, the process of the deconstruction of traditional firms started. Production firms focused on industrial production like steel producer Carnegie or Thyssen Krupp, and were managed by the founder/owner who was focused on rising productivity. The competition for production inputs and the pricing of outputs evolved in the 1960s to fully rely on the ROI model by the 1970s. Asset analysis led to decomposing and recomposing of firms. Their parts were separated into asset baskets. This process became a dominant model where firms acquired and shed production lines based on the general perception that the parts are worth more than the whole.

The second major change affecting firms in that period was the change in management of companies from one generation to another. The founders/owners started to withdraw from their businesses and were being replaced by 'professional managers'. Business schools began to produce the first MBAs and soon after there was an exposition of professional managers. In order to align the interest of the hired CEOs with the profitability of firms, part of their remuneration package was dependent on the performance of the company shares they received (compensation tied to stock performance). The value of the company stock was estimated on the basis of quarterly reporting that encouraged the purchase and sales of shares to fulfil quarterly bottom-line expectations. This led to a strong reorientation in company development and growth strategies away from long-term investment and into short-term results oriented business decisions. Subsequently, those professional managers were partly compensated by the stock option programs of companies. Even though the ownership in stocks increased, the short-term focus remained.

This was accompanied by the third major change in the US, instead of firms being responsible for managing the pension and social security contributions of their employees, individuals became responsible for managing their pension savings. This led to an explosion of new financial firms and money market funds as individuals struggled with the question what to do with all those savings. These newly established financial companies looked where best to invest the entrusted savings. Pension related savings started the process of crossing over from strongly regulated financial markets under the Steagall Glass Act banking sector into the riskier investment activities of Wall Street.

This structural change in social security and individual pension savings was compounded by huge capital inflows from oil producing countries following the oil shocks of 1970s and 1980s.

The cartelisation of commodities driving financial cycles (which took root with OPEC), acceleration in the rapid development of shadow banking⁵² and consequently the hybridisation of new financial products against slowly processing deregulation of the sector represented a new landscape. Due to the hegemonic role of the United States on the world scene, the changes impacting the US financial markets set the tone for other financial markets. With the election of Ronald Reagan to the White House, the departure from a well-regulated financial sector fully began: changes unraveled the clauses set forth in the New Deal and progressive liberalisation of financial markets took place with relaxing regulation over financial markets⁵³ and allowing for self-regulation and consolidation of the sector. These policies resulted in ending the era of forced separation of commercial and investment banking activities. Guided by a strong conviction that sophisticated markets players of the financial sector knew best how to safeguard their interest and that private financial institutions not insured by the government could be largely trusted, firms were allowed to manage their own risk and to regulate themselves⁵⁴.

Few examples of the government moving away from financial markets were as clear as the address by Alan Greenspan who was at that time the US Federal Reserve Chairman in his address to the Society of Business Economics in London in September of 2002. His lecture focused on the role of regulation and disclosure in the over-the-counter derivatives market: "*By design, this market, presumed to involve dealings among sophisticated professionals, has been largely exempt from government regulation. In part, this exemption reflects the view that professionals do not require the investor protections commonly afforded to markets in which retail investors participate. But regulation is not only unnecessary in these markets, it is potentially damaging, because regulation presupposes disclosure and forced disclosure of proprietary information can undercut innovations in financial markets just as it would in real estate markets*"⁵⁵. Clearly Alan Greenspan was talking about the government taking an even

⁵² Shadow banks are financial intermediaries that conduct maturity, credit, and liquidity transformation without explicit access to central bank liquidity or public sector credit guarantees. Source: https://www.newyorkfed.org/medialibrary/media/research/staff_reports/sr458.pdf

⁵³ The US Federal Government ensured its active role in managing financial risk primarily via adoption of Glass-Steagall Act which introduced federal deposit insurance, expanded federal bank supervision and mandated the separation of commercial from investment banking. This New Deal approach to financial regulation stated to be dismantled by adoption of the Depository Institutions Deregulation and Monetary Control Act in 1980, the Depository Institutions Act in 1982 reaching its height in 1999 by adoption of Gramm-Leach-Bliley under Clinton. It repealed the relevant part of Glass-Steagall Act to allow consolidation of banks, securities firms, and insurance companies.

⁵⁴ The failure to regulate the sprawling market for credit default swaps (CDS) in the late 90s and Security and Exchange Commission's decision to allow voluntary regulation on the part of major investment firms in 2004 are perhaps most striking examples.

⁵⁵ Source: <http://www.federalreserve.gov/BoardDocs/Speeches/2002/200209252/default.htm>

more limited role in a market where the total global outstanding value of derivatives contracts at present is estimated at 553 trillion USD.⁵⁶

The shift toward investment by institutions can be seen by comparing the 1950s where over 90% of US equities were held by individual investors (households) with the data from 2015 where this value .37.1%. Individual investors were progressively replaced by institutional investors as pension contributions were increasingly channeled to professional entities and company employee pension schemes phased out as can be seen in the detailed breakdown in figure 13. As the market developed and a higher number of intermediaries became established, capital market become open beyond the wealthy few as was the case back in the 1950s.

Percentage Ownership of U.S. Equities [Total = \$34.1T]
1950 – 2015, in %

	1950	1960	1970	1980	1990	2002	2015 (Q3)
Households	91.6	87.7	80.4	60.9	48.6	38.8	37.1
Open-End Mutual Funds	2.0	3.3	4.4	2.8	6.6	18.4	20.8
All Foreign Holders	2.0	2.1	3.0	4.2	6.3	10.3	16.0
Private Pension Funds	0.8	3.7	7.4	14.6	18.6	13.3	6.6
State-Local Government Retirement Funds	0.0	0.1	1.1	2.9	8.4	8.9	7.2
Insurance Companies	3.2	2.8	3.2	5.1	5.0	7.2	6.8
Exchange-Traded Funds						0.8	4.8
Bank Managed Personal Trusts				7.4	5.4		
All Other Holders	0.5	0.4	0.5	2.2	1.1	2.2	0.7
Total	100	100	100	100	100	100	100

Notes: Values shown are year-end or quarterly dollar holdings, at market prices, as percentages of corresponding total year-end or quarterly shares outstanding. Detail may not add to totals because of rounding.

Source: B. Friedman, "Economic Implications of Changing Share Ownership," *Journal of Portfolio Management* 22 (Spring 1996); Board of Governors of the Federal Reserve System, *Flow-of-Funds Accounts (2015)*[L-223]

Figure 13 – Ownership of US equities over time

The shift to individual pension saving meant supplying large amounts of capital into higher risk products as further financial innovation and new complex financial products⁵⁷ began to emerge.

⁵⁶ Source: <http://www.ft.com/fastft/2015/11/05/global-derivatives-market-contracts/>

⁵⁷ The International Organization of Securities Commissions (IOSCO) in its report of January 21, 2013 on Suitability Requirements With Respect to the Distribution of Complex Financial Products, defines "'Complex financial products' as those referring to financial products, whose terms, features and risks are not reasonably likely to be understood by a retail customer (as that term is defined in individual jurisdictions) because of their complex structure (as opposed to more traditional or plain vanilla investment instruments), and which are also difficult to value (i.e., their valuations require specific skills and/or systems, particularly when there is a very limited or no secondary market). The term generally includes, but is not necessarily limited to, structured instruments, credit linked notes, hybrid instruments, equity-linked instruments and instruments whose potential pay-off is linked to market parameters, asset-backed securities ..., mortgage-backed securities ..., collateralized debt securities

Specifically in the US market, the emergence of new processes for the securitisation of mortgage loans, which started as a relatively safe practice of US Government Sponsored Enterprises such as Fannie Mae and Freddy Mac led to less quality in securitised mortgages when wide uptake by other financial actors followed. The asymmetry of information, deregulation and emerging systemic risk of big and interconnected financial actors as a result of ongoing consolidation in the financial sector led to an "explosion" of financial crisis in 2007 reaching its peak in 2008⁵⁸. Several of the least regulated parts of the financial system including non-bank mortgage originators and the major broker-dealer Bear Stearns are among the first institutions to run into trouble at that time.

The global financial crisis of 2007 and 2008⁵⁹ left governments with unprecedented levels of debt⁶⁰ resulting in full blown economic crises for many economies. Compared to earlier crisis situations, countries are taking longer to recover from⁶¹ the magnitude of this impact as can be seen in figures 14 and 15. Reinhart argues that the number of years to recover to the pre-crisis peak in per capita GDP in 100 of the worst financial crises since 1840s is about 8 years. The median is around 6.5 years. The number of years to recover is closer to 10 years for the 2007 and 2008 crisis. A study by McKinsey Global Institute⁶² argues that we have experienced a

and collateralized debt obligations, and other financial derivative instruments (including credit default swaps and covered warrants)...." <https://www.iosco.org/library/pubdocs/pdf/IOSCOPD400.pdf>.

⁵⁸ CDS and CDO products played a major role in the financial crisis of 2008. During these troubled times, CDO ratings reflected incorrect information on the credit worth of borrowers, concealing the underlying risk in mortgage investments. Meanwhile, the size of the CDS market far exceeded that of the mortgage market in mid-2007. Thus, when the defaults began to unfold during the financial crisis, banks were not in a position to bear the losses. CDS (credit default swaps) are highly leveraged contracts that are privately negotiated between two parties. These swaps insure against losses on securities in case of a default. Since the government does not regulate CDS related activities, there is no specific central reporting mechanism that determines the value of these contracts. CDO (collateralized debt obligations) are securities that are created by collateralizing various similar debt obligations such as bonds and loans. CDOs can be bought and sold. The buyer gains the right to a part of the debt pool's principal and interest income)

⁵⁹ Though the height of the crisis in 2008 primarily affected advanced economies, it created elevated vulnerabilities for emerging markets and higher market liquidity risks as many emerging market economies relied on rapid credit creation to sidestep the worst impacts of the global crisis. The increased borrowing has resulted in sharply higher leverage of the private sector in many economies, accompanied by rising foreign currency exposures increasingly driven by global factors. For more details see "Global Financial Stability Report", IMF, 2015

⁶⁰ Source: Prof. Reinhart, Lecture on Financial Crisis, Harvard Kennedy School

⁶¹ Prof. Reinhart argues that though it is premature to construct a definitive measure of the severity of this crisis, of the twelve countries experiencing systemic crisis in 2007-2008 (France, Germany, Greece, Iceland, Ireland, Italy, the Netherlands, Portugal, Spain, Ukraine, the UK, and the US), only Germany and the US reached their pre-crisis peak in per capita GDP by 2014, followed by the UK, Iceland and Ireland in 2015. Source: Prof. Reinhart lecture 1

⁶² McKinsey Global Institute study "An Economy that Works: Job Creation and America's Future", June 2011

lengthening of jobless recoveries' from recessions in the past two decades coupled with a mismatch of predicted opportunities with available skills and education levels.

Systemic banking crises, 2007-2008

Year	Country	% change		Number of years		Severity index	Breakeven year
		Peak to trough	Peak to trough	Peak to recovery	Peak to recovery		
1	2008 France	-3.8		2	9	12.8	2016
2	2008 Germany	-5.3		1	3	8.3	2011
3	2008 Greece	-26.6		9	14	40.6	??
4	2007 Iceland	-9.7		3	8	17.7	2015
5	2007 Ireland	-11.0		3	8	19.0	2015
6	2008 Italy	-10.8		7	14	24.8	??
7	2008 Netherlands	-4.4		5	9	13.4	2018
8	2008 Portugal	-7.4		6	12	19.4	2019
9	2008 Spain	-9.0		6	10	19.0	2017
10	2007 United Kingdom	-5.9		5	8	13.9	2015
11	2007 United States	-4.8		2	7	11.8	2014
Summary: Mean		-9.0		4.5	9.3	18.2	
Median		-7.4		5.0	9.0	17.7	
Standard deviation		6.4		2.5	3.2	8.7	

Note: The italics denote any calculations in which IMF estimates for 2015-2020 are used.



Figures 14 & 15 - Gross external debt during banking crises and subsequent recovery

The US increased its national debt from 76% in 2006 to 125% of GDP in 2012⁶³ and the European Union increased from 60% in 2006 to 84% of GDP in 2014 in the EU-28⁶⁴. The total

⁶³ Source: OECD, <https://data.oecd.org/gga/general-government-debt.htm>

cost of the related bailouts is estimated at around \$29 trillion for the US⁶⁵ and \$4 trillion for the EU⁶⁶ respectively. Figure 16⁶⁷ shows the Federal Reserve balance sheet in 2009 and 2015 as an interesting illustration of the change in debt levels.

Fed Balance Sheet: \$1.9 Trillion (February 11, 2009) (\$ millions)			Fed Balance Sheet: \$4,497 Trillion (December 23, 2015) (\$ millions)		
• Treasury securities	474,910	25% (2006: 91% of 852)	• Treasury securities	2,461,566	54% (2006: 91% of 852)
• GSE securities	31,831		• GSE securities	32,944	
• MBS agency securities	7,377		• MBS agency securities	1,757,757	
• Discount Window	207,829		• Maiden Lanes (Bear/AIG)	1,715	
• Primary Dealer credit	25,805		• Central Bank \$ swaps	19,609	
• TAF	412,883				
• CPF	256,153		Total:	4,496,523	
• AMLF	15,111				
• AIG Credit	37,677				
• Maiden Lanes (Bear/AIG)	72,065				
• Central Bank \$ swaps	389,671				
Total:	1,931,312				

Figure 16 - Comparison of Federal Reserve balance sheets from 2009 and 2015

Among the factors contributing to the protracted recovery period is the synchronous nature of the crises; a lack of deleveraging and write-downs (private or public) even after almost a decade has elapsed; and the combination of slow growth and deflation or very low inflation⁶⁸; not contributing to a resolution of the public debt overhang; stalled investment; and still difficult access to financing in the Eurozone. The financial crisis brought to attention underlying structural problems in the competitiveness of many individual advanced economies such as declining productivity growth; declining investment; and growing disparities in the competitive position of Eurozone members. The growth rate for 2015 was at 2.4% for the US⁶⁹ and 0.3% for

⁶⁴ Source: Eurostat, <http://ec.europa.eu/eurostat/tgm/table.do?tab=table&init=1&language=en&pcode=teina225&plugin=1>

⁶⁵ The Federal Reserve (Fed) extended unprecedented support to investment banks, money market funds, and the commercial paper market; it also helped to rescue Bear Stearns, AIG and Citigroup. The Treasury guaranteed all money market funds, injected capital into a broad range of financial institutions under the Troubled Asset Relief Program (TARP), supported the takeover of Government Sponsored Entities (GSEs) Fannie Mae and Freddie Mac as well as supported the operations of the Fed. The Federal Deposit Insurance Corporation increased deposit insurance coverage from \$100,000 to \$250,000 per account, guaranteed all senior unsecured bank debt, and contributed to the rescue of Citigroup. Source (for US bailout estimate): <http://www.cnbc.com/id/45674390>

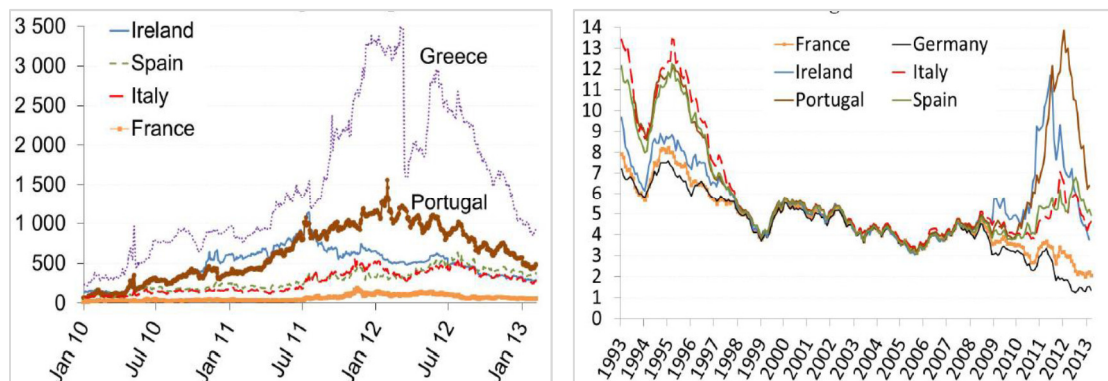
⁶⁶ Source: <http://www.bloomberg.com/news/articles/2012-09-14/tallying-the-full-cost-of-the-financial-crisis>

⁶⁷ Source: Prof. Scott Lecture on International Finance, Harvard Law School

⁶⁸ Quantitative easing in the US (stoooped by now), Japan (both quantitative and qualitative) and the Eurozone (first decision of ECB on QE only at the beginning of 2015, still continued) with the aim to stimulate economy and to return to pre-crisis employment levels. It still brings unsatisfactory results in the EU and Japan.

⁶⁹ Source: US Bureau of Economic Analysis, <http://www.bea.gov/newsreleases/national/gdp/gdphighlights.pdf>

the Eurozone.⁷⁰ Projections for 2016 according to the World Bank stand at 2.8% for the US and 1.8% for the Euro area⁷¹. The financial crisis has also stopped the era of curious ignorance of investors about the actual underlying competitiveness of the economies of individual Eurozone countries and almost equal treatment of their sovereign bonds in the pre-crisis period. At the height of the Greek crisis, the difference in spread on government bonds for Greece and Germany was over 3500 basis points⁷² and still today is at 1005 basis points⁷³; see figures 17 and 18 for a period snapshot.



Figures 17 & 18 - Sovereign Bond Spreads and Long Term Interest Rates for selected Eurozone countries, April 2013⁷⁴

As three quarters of all financing for enterprises in the European Union comes from the banking sector, the global financial crisis and then the new legislation around the banking sector in the EU made access to financing for companies very uneven unlike in the United States, where this ratio is roughly reversed as can be seen in figure 19. Financial market conditions have improved significantly in Europe since the height of the sovereign debt crisis. The European Central Bank interventions have provided a very low cost of funding for all Euro-area banks thus shrinking the gaps between stressed and other EA countries since 2012. However, these measures have not yet translated into a full recovery of lending because of high levels of corporate debt in certain sectors is undermining the demand for credit. Even though Basel III did not change the risk weights for corporate exposures, the introduction of more stringent

⁷⁰ Source: <http://www.theguardian.com/business/live/2015/nov/13/eurozone-gdp-growth-figures-france-germany-greece-live>

⁷¹ Source: <http://www.worldbank.org/en/publication/global-economic-prospects>

⁷² Source: Commissione Nazionale per le Società e la Borsa
http://ec.europa.eu/economy_finance/publications/publication16255_en.pdf

⁷³ Source: Reuters, <http://markets.ft.com/Research/Markets/Government-Bond-Spreads>

⁷⁴ Chart Source: European Commission, "European Financial Stability and Integration: Report 2012," Released April 2013, Chart 1.3.4, p.15 and p.8; Data source: Bloomberg

capital requirements; capital quality regulation; and liquidity ratios increases the funding costs for corporate loans. Attempts are made to create a Capital Markets Union⁷⁵ within the European Union to enhance growth in non-banking financing for enterprises and to further develop the venture capital market. At present, capital markets remain open to large well-rated corporates with many seeing unprecedented access to finance. Some mid-size corporations and a good number of SMEs are unable to meet their funding needs. This is particularly evident in crisis-hit countries and more specialized financing is not always easy to source. Moreover, a trend can be observed where large corporations use their retained earnings in order to provide for buybacks⁷⁶ of their shares.

As international capital flows increase and become more volatile, different states have used different ways to develop the link between the competitiveness of economy and access to financing both for the government debt as well as for enterprises. This is especially true for SMEs. This link takes into account the depth of financial pools; different structures for the financing of companies; and different levels of currency stability.

⁷⁵ EC Green paper enumerates the following reasons for lower capital market development in EU as compared to the US: (i) Underdevelopment and fragmentation: US large corporate pension funds hold double assets of EU pension funds, corporates swamped by governments in debt markets, post-trade services (clearing and settlement) fragmented into different countries ; (ii) Specific Impediments: lack of economies of scale in asset management companies, impaired market data availability, differences in regulation and enforcement among member states, fragmented legal frameworks for financial instruments, inadequately harmonized company law and corporate governance, tax barriers; (iii) Barriers to demand and access to capital markets financing, corporates borrow more from banks, maybe because smaller than US firms ; (iv) Barriers to household investment: individuals hold money in banks rather than invest in markets, lack of trust in financial markets, preference for real estate.

⁷⁶ A buyback allows companies to invest in themselves. A buyback is the repurchase of outstanding shares (repurchase) by a company in order to reduce the number of shares on the market. Companies will buy back shares either to increase the value of shares still available (reducing supply), or to eliminate any threats by shareholders who may be looking for a controlling stake. Ultimately, highly successful companies reach a position where they are generating more cash than they can reasonably reinvest in the business. The financial crisis has caused investors to pressure companies to distribute the accumulated wealth back to shareholders. Instead of traditional dividend payments, buybacks have been viewed as a flexible practice of returning excess cash flow. Buybacks can be seen as an efficient way to put money back into its shareholders pockets, as recently demonstrated by Apple's capital return programs.



Economist.com

Figure 19 - Comparison of the capital Markets in the EU and the US⁷⁷

This ever stronger link can be called a process of *financialisation* of the economy where the financial sector becomes the bloodstream of the economy taking an ever growing impact on the health of countries, firms and consumers. Without investments generating growth and jobs and a stable revenue stream, governments will not be able to reduce their debt levels leading to a freezing of the stream of "free" additional funds for reinvestment⁷⁸. Governments and their regulatory powers should still play a central role while they can in ensuring healthy financial and capital markets in order to maintain an adequately regulated financial system that can facilitate responsible long-term investment that drives broad-based economic growth.

The magnitude of the public intervention needed to preserve stability in the financial system at the outbreak of the financial crisis led to a number of important legislative steps both in the US and the EU to address systemic risk and ensure that a huge public bailout will not happen again. It has put into question the presumption from the financial liberalisation era in the US that was initiated in the Nixon and Carter administrations in the 1970s and fully implemented by the Reagan administration in the early 1980s that financial markets would know best themselves how to manage risk. As Rodrik summarized:⁷⁹ "*economists (and those who listened to them)*

⁷⁷ Source: "Vision and reality: Creating American-style capital markets in Europe will be hard," Economist, Sept. 2015

⁷⁸ High indebtedness of the US is less of an issue as access to financing has never been cheaper as well as the US disposes of the strongest reserves currency - 90% of daily turnover of all currency transactions globally are from and into US dollars.

⁷⁹ Rodrick, Dani. *Economics Rules: The Rights and Wrongs of the Dismal Science*. 2015. Before the global crises Shiller had long argued that asset prices were excessively volatile and had focused on a bubble in housing prices. Source: Shiller, Robert J. *Irrational Exuberance*. Princeton, NJ: Princeton UP, 2000.

become overconfident in their preferred models of the moment: markets are efficient, financial innovation improves the risk-return trade-off, self-regulation works best, and government intervention is ineffective and harmful. They forgot about the other models. There was too much Fama, too little Shiller."

The recent work of Kaminsky and Reinhart⁸⁰ shows that on average within five years from the liberalisation of financial markets in a given country, the country was subject to a financial crisis, currency crisis or both. Currency and financial markets often go hand in hand into crisis as can be seen in figure 20.

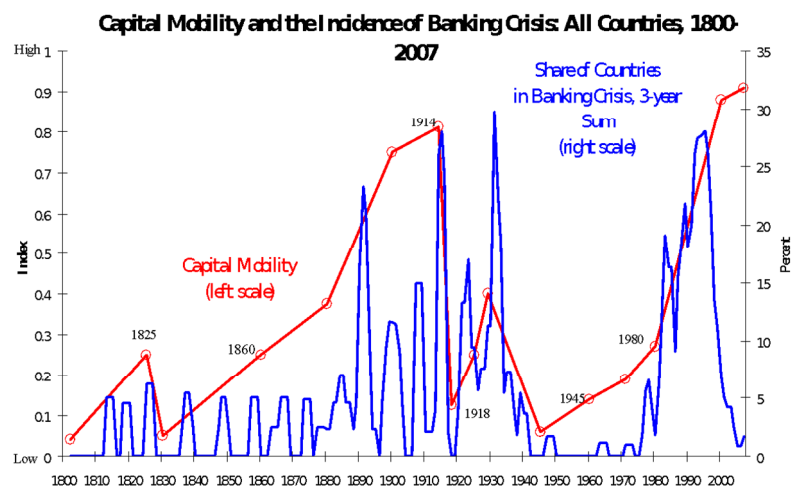


Figure 20 - Capital mobility and banking crises

The moral hazard created by the liberalisation of the financial sector can be characterized as the existence of implicit or explicit government guarantees *with simultaneous deregulation of the financial sector compounded by weak public supervision*. The ramifications of the environment being created need to be properly and comprehensively addressed. A good pre-emptive strategy to avoid systemic risk requires strong supervision of financial actors; an obligation upon financial actors to "*have the skin in the game*"; and diminishing the asymmetry of information for improved transparency. These measures lead overall to better risk monitoring and risk management.

⁸⁰ Kaminsky, G., and Carmen M. Reinhart, (1999) The Twin Crises: The Causes of Banking and Balance-of-Payments Problems, *American Economic Review*, Vol. 89 No. 3, June 1999, 473-500; graph - Prof. Reinhart, Lecture on Financial Crisis, Harvard Kennedy School

At the G-20 meeting in Seoul⁸¹ in 2010, an action plan was agreed upon with respect to the core elements of a new financial regulatory framework including bank capital and liquidity standards as well as measures to better regulate and effectively resolve systemically important financial institutions. This plan was complemented by efforts to provide more effective oversight to enhance stability of global financial markets. Since then, the US and the EU adopted important legislation to address the issue of systemic risk and prudential regulation including addressing the phenomenon of "too big to fail" in terms of size and connectedness. The EU has adopted a set of measures for a fairer and a deeper economic and monetary union including a banking union and a capital markets union. In the US, the Dodd-Frank Act⁸² is the basis of the "Wall Street" reforms. Hillary Clinton goes even further when she says that "*we need to make sure there's accountability on Wall Street so there can be prosperity on Main Street*"⁸³. As the US is home to one of the strongest and most sophisticated financial markets, whatever future steps will be taken will have significant impacts on other regions especially the EU. Changes in the financial regulatory environment in China as well as increased Chinese interest in international development finance⁸⁴ demonstrated by the creation of the Asian Infrastructure Investment Bank should not be underestimated.

Despite a number of post crisis regulations adopted in the EU and in the US, the larger question remains about the risk of regulatory arbitrage between regulated and less regulated parts of the financial system. The so called shadow banking sector versus the traditional banking system and capital markets still has unknown risks. Moreover, cross-border arbitrage among different jurisdictions including compliance costs and restrictions is still an area of concern.

⁸¹ Source: <http://www.g20.org/English/Documents/PastPresidency/201512/P020151225619908599180.pdf>

⁸² The Dodd-Frank Wall Street Reform and Consumer Protection Act" was signed into law on July 21, 2010. It combined the original provisions of (Frank) the Wall Street Reform and Consumer Protection Act of and the Restoring American Financial Stability Act.

⁸³ Her plan includes further reforms and measures (i) to tackle dangerous risks in the financial system by imposing a "risk fee" on the largest financial institutions, by strengthening oversight of the shadow banking system to reduce risk, by imposing a high-frequency trading tax and reform rules governing US stock markets; by strengthening the Volcker Rule and increasing transparency in the banking system and by enhancing international cooperation to curb excessive risk-taking to name a few; (ii) to hold both individuals and corporations accountable when they break the law or put the system at risk; (iii) ensure that the financial sector serves the interest of investors and consumers, not just itself. Republican position is going in the opposite direction questioning the impact of the Dodd-Frank Act on economic growth and competitiveness of the US financial markets.

⁸⁴ The Asian Infrastructure Investment Bank (AIIB) was proposed by China in 2013. It is an international financial institution that aims to support the building of infrastructure in the Asia-Pacific region. The bank has 37 Founding Members (States) and 20 non-regional Prospective Founding Members, all of which have signed the Articles of Agreement that form the legal basis for the bank. The bank started operation after the agreement entered into force on 25 December 2015, after ratifications were received from 10 member states holding a total number of 50% of the initial subscriptions of the Authorized Capital Stock. The capital of the bank is \$100 billion, equivalent to $\frac{2}{3}$ of the capital of the Asian Development Bank and about half that of the World Bank. Major economies that did not become PFM include the G7/G8 members Canada, Japan and the United States.

Increasingly, the issue of tax evasion and tax avoidance in relation to taxes havens, aggressive tax planning of MNCs, and compromised political names as disclosed by Panama papers show these limits. A better framework is needed for the capital formation and growth of new companies at the level of start-ups and venture capital in particular.

More concerted actions of regulators heavily depend on the political "appetite" for more regulation and more international cooperation. Taking into account the shift in the post war period that placed larger amounts of individual capital in the form of pension savings and health insurance in into progressively liberalised global financial markets, global capital flows are difficult to restrict. Individuals do not behave rationally and investors who will want to seek higher returns will accept riskier investment regardless of suitability. Finally, it is essential to reflect on how to separate the real economy from the casino economy of a speculative nature and avoid the syndication of risk between the two. One way is to make "Wall Street" work for "Main Street" is perhaps to revisit in a modern adaptation⁸⁵ of the original Glass Steagall legislation. Investment made by sovereign wealth funds, pension funds and health insurance companies should follow publicly mandated levels of acceptable risk and look for sustainable return in long term in both financial and societal returns.⁸⁶

Regulatory convergence does not necessary mean the harmonisation or mutual recognition in terms of full equivalence in respective legislation. Convergence can take a less ambitious form of agreeing on the mutually shared minimum that should be reflected in respective regulatory regimes. If there is more coordination between the US and the EU in the roll-out of their respective regimes for more resilient to systemic risks financial markets, other key financial centres especially China could subscribe to this minimum and reduce the risk of cross-border regulatory arbitrage. The group of G-20 might ultimately become a more forceful actor in this context.

⁸⁵ Currently bills are pending in Congress that would revise banking law regulation based on principles inspired by the Glass-Steagall Act as legislators unsuccessfully tried to reinstate some Glass-Steagall sections as part of the Dodd-Frank Act. Many commentators, including Joseph Stiglitz have stated that Glass-Steagall repeal was an important cause of the latest global financial crises. Source: http://www.democracynow.org/2015/1/27/nobel_laureate_joseph_stiglitz_on_rewriting

⁸⁶ In this context the future debate on fiduciary duty will be essential and will be discussed in more detail in chapter 5.

Chapter 3 - Long term competitiveness – catalytic role of impact investing

Public purposes can be met by long term investors by extending the mission statement of impact investment to a broader scope especially in the context of sovereign wealth funds and pension funds. Long term competitiveness requires long term investment. Investment in knowledge such as innovation, education, low carbon and resource-efficient transition, and infrastructure to create growth and jobs typically does not lend itself to the omnipresent "shorttermism" in current investment strategies. Recent trends in impact investment and its siblings⁸⁷) might be an inspiration for policy makers to reflect exactly how to extend the mission statement of impact investing across the board to all investment. In particular, large institutional investors with a focus on long-term thinking like sovereign wealth funds and pension funds have the best chances to change the prevailing investment patterns and to attract private sector investments ultimately at a larger scale for public purposes.

The definition of impact investment has been evolving to be more inclusive in practice rather than becoming more restrictive over time in order to combine the traditional profit seeking of financial return with social and economic ends of investors. What is impact investing in general? A profit seeking investment expected to generate not only financial return based on a different rate depending on the type of investor combined with a social and environmental good. It refers to strategies that actively incorporate environmental, social and governance (ESG) factors into investment decision making. The underlying idea is doing something differently as opposed to business as usual and treating private investment as a tool for creating more "good" and explicitly linking the "returns" to an array of stakeholders instead of just the financial return on investment to the investor. There are different types of investors including foundations, family offices, development finance institutions, individual investors but also a slowly growing number of pension funds, sovereign wealth funds that have different motivations including single area (e.g. affordable housing or climate adaptation to multitude of areas) and varied dedication (carve-out versus all-in⁸⁸).

The earliest origins of the field of impact investment includes the work of Mohamad Yunas and his success in delivering microcredit that led to the introduction of mandatory community

⁸⁷ The term "impact investment" will be used in this paper to cover impact investing, social investing, responsible investing (RI), sustainable investing, socially responsible investing (SRI), mission investing, community investing

⁸⁸ Impact investing in its current shape started in the US, when in late 90s foundations started to ask a question to themselves if a private foundation should be more than a private investment company that uses its excess cash flow for charitable purposes and began to exceed regulatory mandated 5% spending for charitable purposes (usually in the form of a grant) by additional investment into products with financial and social returns. At present they are impact investors that (i) either dedicate some part of their assets for impact investment alongside (ii) those that apply impact investment principles for their entire portfolio of assets e.g. Heron Foundation in the US.

investing in the United States. He received the Nobel Prize Award in 2006 for his work at Grameen Bank that began in 1976 with 46 microloans. In 2006, the bank had grown to 7.4 million clients coming from the poorest levels of Bangladeshi society that were primarily women. Microcredit then led to product diversification and the emergence of microfinance and transformation to for-profit model. Though some may argue that the maturation of microfinance resulting from embracing of the for-profit model is no longer performing its initial function of reaching the poorest of the poorest to lift them out of poverty, the general sentiment is that today microfinance still offers poor people access to basic financial services such as loans, savings, money transfer services and micro-insurance that they would otherwise be excluded from⁸⁹.

Building on the success of Mohamad Yunus, the Community Reinvestment Act⁹⁰ was adopted in the US to encourage commercial banks and savings associations to help meet the needs of borrowers in all segments of their communities, including low-income and moderate-income neighbourhoods and was passed in 1977. This act called into greater scrutiny the de facto mandatory investment in underserved areas where banks operate leading to the creation of Community Development Financial Institutions that became the anchor intermediaries for a number of institutional asset owners interested in the ancillary investments they make. They are at the core of increased regional collaborations bringing to one table the different actors that are needed to promote community based projects. Due to the levels of investment needed as well as multiple development goals, these projects are increasingly more complex as illustrated in figure 21.

⁸⁹Source: CGAP, <https://www.cgap.org/sites/default/files/CGAP-Focus-Note-Does-Microcredit-Really-Help-Poor-People-Jan-2010.pdf>

⁹⁰ One should note however that in the wake of the financial crisis of 2007-2008 Republicans strongly attacked this Act assigning the blame for sub-prime back securities problem to this Act. Read more Wallison, Peter J. *Hidden in Plain Sight*, 2015

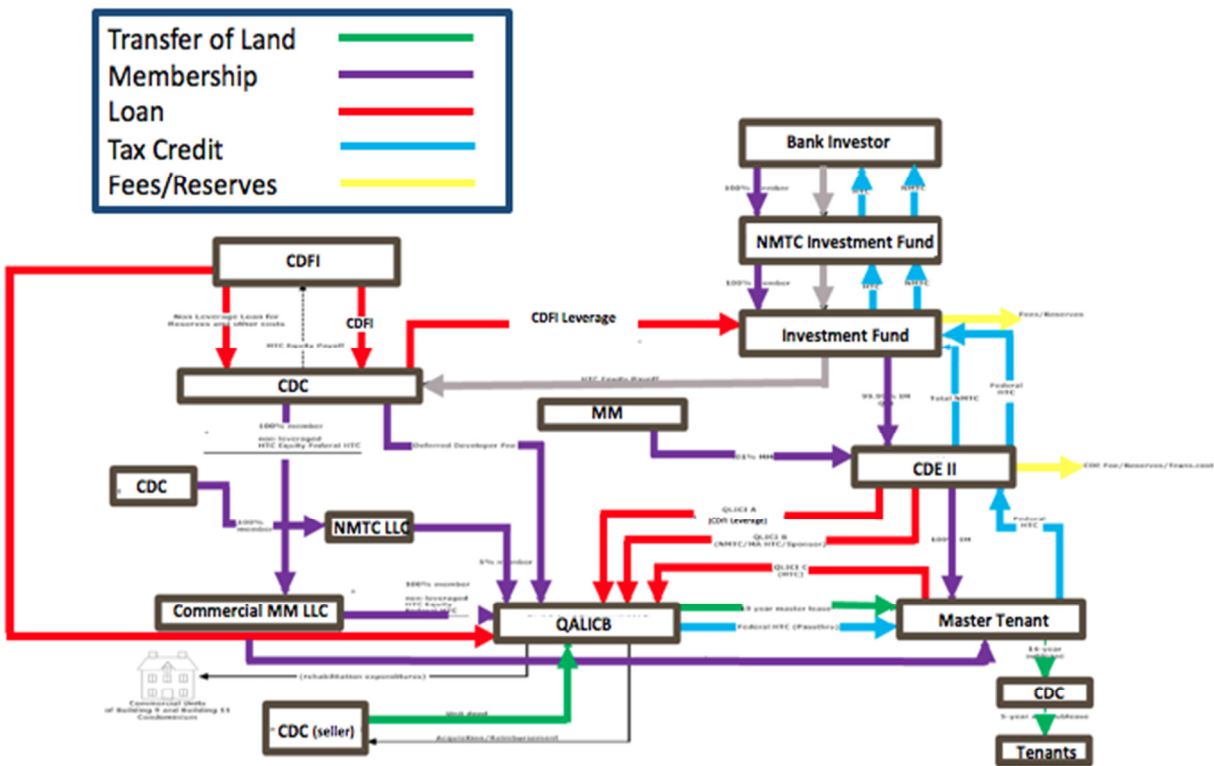


Figure 21 – Delineation of exemplary deal⁹¹

In the 90s the philanthropy world particularly in the US started rethinking the ways and scope of their impact which would lead to more extensive below-market investments⁹² with the risk of financial failure being complemented with the notion of the risk of social failure. Some began to reorient bigger parts or even all their asset portfolio into impact investing. The underlying thinking was that capital investment needs to follow initial grant to make it sustainable beyond the initial grant. They started making investment decisions through "net contributors" lens. However aware of its insufficient scale many of them at present reflect how to become “multipliers” of change.

The OECD and IMF and the World Bank argue that inequality drags economic development down. This sentiment is also shared by Krugman⁹³ who points to recent empirical research suggesting high inequality might hamper economic growth. The current volume of impact

⁹¹ Source: David Wood, Lecture on Impact Investing and its siblings, Harvard Kennedy School

⁹² Below market investment means investment accepting lower rate of return on investment that traditional investment vehicle could be expected to yield in return for non-financial gains such as social or environmental.

⁹³ Paul Krugman, “No Time for Sargent”, *New York Times* Opinion Pages, April 21, 2014, <http://krugman.blogs.nytimes.com/2014/04/21/no-time-for-sargent/>

investment compared to overall market flows is still very small. Even if all philanthropic investors were to do 100% impact investing, they would account for less than 1% of the total global investment. Much higher volume of change is needed to make a difference. Proactive investment strategy requirements that align better financial return on investment with simultaneous social and environmental returns need to become a standard. Large institutional investors need to get engaged in order to increase the value of global assets under management with impact investing principles. Impact investment does not require investors to sacrifice financial return⁹⁴, though some investors such as foundations or non-profit organisations consciously make investments with an intended financial return which is lower than comparable investments in the same asset class, sector, and geography⁹⁵. There is an increasing work on comparisons to asset classes, sectors, and geographies that constitute the expected rate of return on investments when assessing below market tradeoffs for social and environmental concerns.

The influence required to bring about such a change can come from changes in the regulatory environment and shareholders activism. Long term investors could influence global markets and become the standard setters for achieving alignment between financial and wider societal returns in investment decisions. Asset owners should know exactly in what their money is invested. The shareholders and not only their representatives need to take an active interest in their investment. The current pool of impact investors needs impact "amplifiers" to achieve the scale. Having lots of assets and long term obligations towards their beneficiaries, sovereign wealth funds and pension funds combined could "make" the market and become trend and standard setters.

In order to align with the "fundamental challenges of society," Monk⁹⁶ recommends, "*ushering in a new dawn of capitalism demands that the global community of long term asset owners*"⁹⁷ –

⁹⁴ For example Saturna Capital recently launched first global SRI bond fund, in which at least 60 percent of its assets are in international bonds of issuers that demonstrate sustainable characteristics. Newly formed i(x)investments (based in California and co-funded by Trevor Neilson, formerly with the Bill & Melinda Gates Foundation and Howard W. Buffett, grandson of Warren Buffett) are about to announce its first multimillion dollar impact investment in renewable company – the first impact focused investment by a permanently capitalised company. Source:

<http://www.saturna.com/about/news/20150327sustainablefunds.shtml>

<http://www.ix-investments.com/approach>

⁹⁵ They do so because investing for concessionary financial return may enable them to achieve their impact objectives such as helping non-profit organisations scale their impact or developing market places for concepts previously thought to be uninvestable.

⁹⁶ "The New Dawn of Financial Capitalism", Investors by Ashby H.B. Monk, January 29th, 2016

⁹⁷ OECD estimates that these communities oversee roughly 100 trillion USD <http://www.oecd.org/daf/fin/2015-oecd-euromoney-lti-conference-report.pdf>

endowments, family offices, insurance companies, pensions and sovereign funds step up, professionalize and act like educated financial consumers. (...) Today this community, which should be a potent disciplinary force over intermediaries, does not know how to play its part. I accept that this will not be easy, but it has to change if we want to put capitalism on a more sustainable trajectory. And by 'sustainable', I specifically mean a capitalist system that is more attuned to the long term fundamental challenges facing society." Several examples show how the trend of institutions acting like "educated financial consumers."

Ambitious sustainability objectives such as halving the investment portfolio's negative footprint and quadrupling the positive sustainability contribution by 2020 were set forth by the Dutch Pension Fund for the Healthcare and Social Sectors (PFZW)⁹⁸ as part of their 2014-2020 investment policy. This policy stated that investments had to provide for both a good pension and be sustainable, understandable and manageable as well. This provided the impetus for the fund manager PPGM to assess investments in CO2 intensive industries and to look for energy transition opportunities. They also included companies that contribute to solving important social issues such as climate change, water scarcity, health care and food security. PPGM manages the assets of a number of different pension funds too. Similar ambitions include the Norwegian Sovereign Wealth Fund that has recently made an announcement to withdraw from coal related investments in their portfolio⁹⁹. Saudi Arabia's government in turn decided to reorient its oil dominated economy¹⁰⁰. These and other investment policies are examples that reinforce the trend toward orienting financial returns toward larger challenges.

The work of large institutional investors is carried out by financial intermediaries and they are the agents carrying the change. These organizations can be roughly split into two: (i) the non-concessionary intermediaries that would not accept a lower return on investment in exchange for social/environmental returns and (ii) concessionary intermediaries that are willing to accept a submarket rate of return. Non-concessionary intermediaries typically focus on an integrated approach to company assessment that is based on high conviction stock picking, including ESG impacts important for good company's future performance¹⁰¹. Non-concessionary intermediaries also include organizations that would view themselves as

⁹⁸ PFZW – Pensioenfondsen Zorg en Welzijn

⁹⁹ Another example from one of the leading philanthropy investors – Heron Foundation – has announced withdrawing from Apple stock for their social concerns along Apple's value chain. One of the biggest sovereign funds – Norwegian Oil Fund has divested from Walmart because of their concerns about Walmart's supply chain.

¹⁰⁰ <https://www.theguardian.com/business/2016/apr/01/saudi-arabia-plans-to-sell-state-oil-assets-to-create-2tn-wealth-fund>

¹⁰¹ An example could be Generation Investment Management LLP founded by Blood and Gore in 2004. It is dedicated to long term investing, integrated sustainability research and client alignment. Its vision is to embed sustainability into the mainstream capital markets, and their core values reflect their commitment to responsible citizenship. More at www.generationim.com

adhering to the principles of “shareholders advocacy” using the investor's voice by their specific choice of stock in order to raise issue of impact investment to higher level debate¹⁰².

Looking even closer at financial intermediaries, impact investors should also engage with banks and financial institutions on transparency, risk culture and risk management and on the need for client focus. This can be done through the development of new guidelines for acceptable compensation in companies and financial services providers. The ownership of equity raises larger questions about corporate governance and how companies behave especially to what extend their long term visions is held hostage to short term reporting requirements and the quest for short term profitability. Good corporate governance and well-functioning markets are essential to restoring society's trust that was seriously damaged by the financial crisis. In this context, initiatives such as the Enhanced Disclosure Task Force (EDTF) and the Investor's Financial Reporting Programme of the International Accounting Standards Board (IASB) serve as good examples of the dialogue on new market standards for financial reporting. Moreover measuring the impact of investments in solutions on societal issues is increasingly important to spur continuous improvement of the integration of widely understood sustainability initiatives into all investment processes.

Even though these examples show that change can head in the right direction, the magnitude of change in changing investment practices is still marginal. The trend of overinvestment in real estate assets is giving way to investment strategies that diversify holdings into under-invested assets such as innovation, technology, human capital, and infrastructure. All these are good examples of the change going in right direction but it is still marginal. There is a need to rebalance the focus of the financial capital investment on those opportunities that add quality employment to the economy and offer a broader value proposition. There is a diverse universe from proven industries refreshed by new technology in order to place-based commercial 'supply chains' powered by institutions and businesses. Also, there is experimentation with reimagined communities' economies, business types, technologies and forms of employment.

Since the global financial crisis, the political establishment and society in the Netherlands have increasingly called on pension funds to invest more in the Netherlands to increase the availability of long term capital for economic growth and societal challenges such as energy transition, aging society and innovation in the healthcare sector, and the mortgage market. In late 2014, the Netherlands Investment Institution was founded with a large number of institutional investors as its founding fathers. The main task of the organization is to match

¹⁰² e.g. Domini Social Investments: <http://www.domini.com>

supply and demand for long term financing and increase the attractiveness of investing in the Netherlands by consolidating projects. As a key platform that together with the Dutch government provides clear insight into structural issues related to the Dutch economy, this is one of the first such institutions in the world.

The argument that the largest pools of capital, namely institutional asset owners, are often absent from conversations among self-identified “impact investors” is at the heart of the work by Wood, Thornley and Grade¹⁰³. As these asset owners control in the US alone over \$20 trillion USD in assets, this gives them the potential to play an important role in addressing the challenges of our time. Policy and regulation, though not a silver bullet, can play an important role in unlocking more institutional investment capital for greater social and environmental impact. Crafting policy that would clarify government roles ranging from underwriter; co-investor; regulator; procurer of goods and services; and a provider of subsidies and technical assistance would be a good start.

In their initial work on the role of government in shaping impact investing, Wood, Thornley and Grade identified the following intervening points (summarised in figures 22 and 23):

(i) On the supply side, policies that can direct how institutional asset owners can invest capital; actions owners should consider; setting the regulatory framework that governs investment decisions; and policies that may create co-investment opportunities. These actions lend government credibility and security thus de-risking impact investment.

(ii) Directing capital; policies that influence markets primarily through incentives such as tax credits and tax deductions; and subsidies for industries and sectors that meet specific impact goals. This extends to policies that mandate performance floors; transparency and reporting requirement; or that provide a related procurement preference.

(iii) On the demand side, identifying policies that can boost investment opportunities through the development of sound, investable companies, projects, and intermediaries. That is policies that are aimed at helping to grow impact-related industries through technical assistance and pilot projects. These steps are aimed at increasing the financial attractiveness of impact investment through credit guarantees.

¹⁰³ Source: Wood, Thornley, Grade "Impact at Scale: Policy Innovation for Institutional Investment with social and environmental benefit"; February 2012 https://www.rockefellerfoundation.org/app/uploads/Impact-at-Scale_Full-Report.pdf

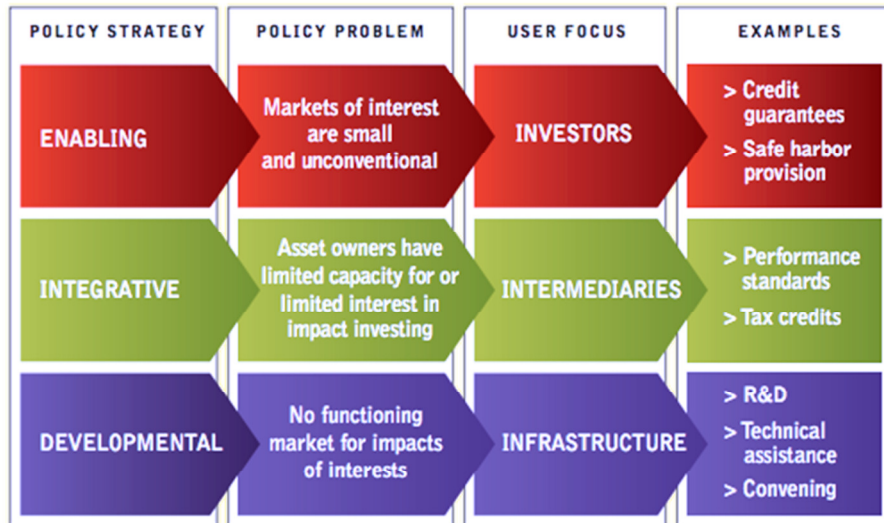


Figure 22 – Model for policy engagement

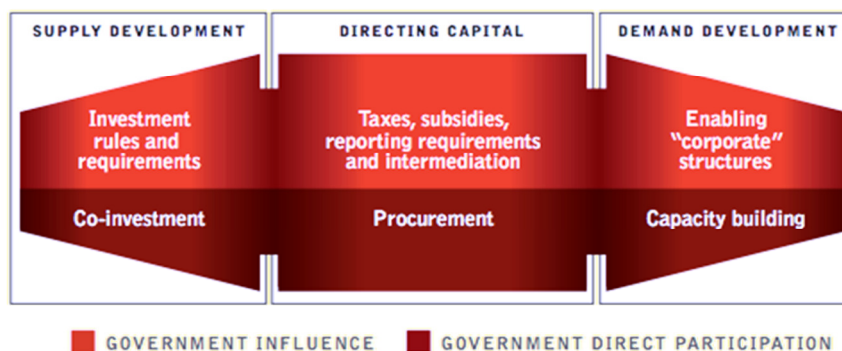


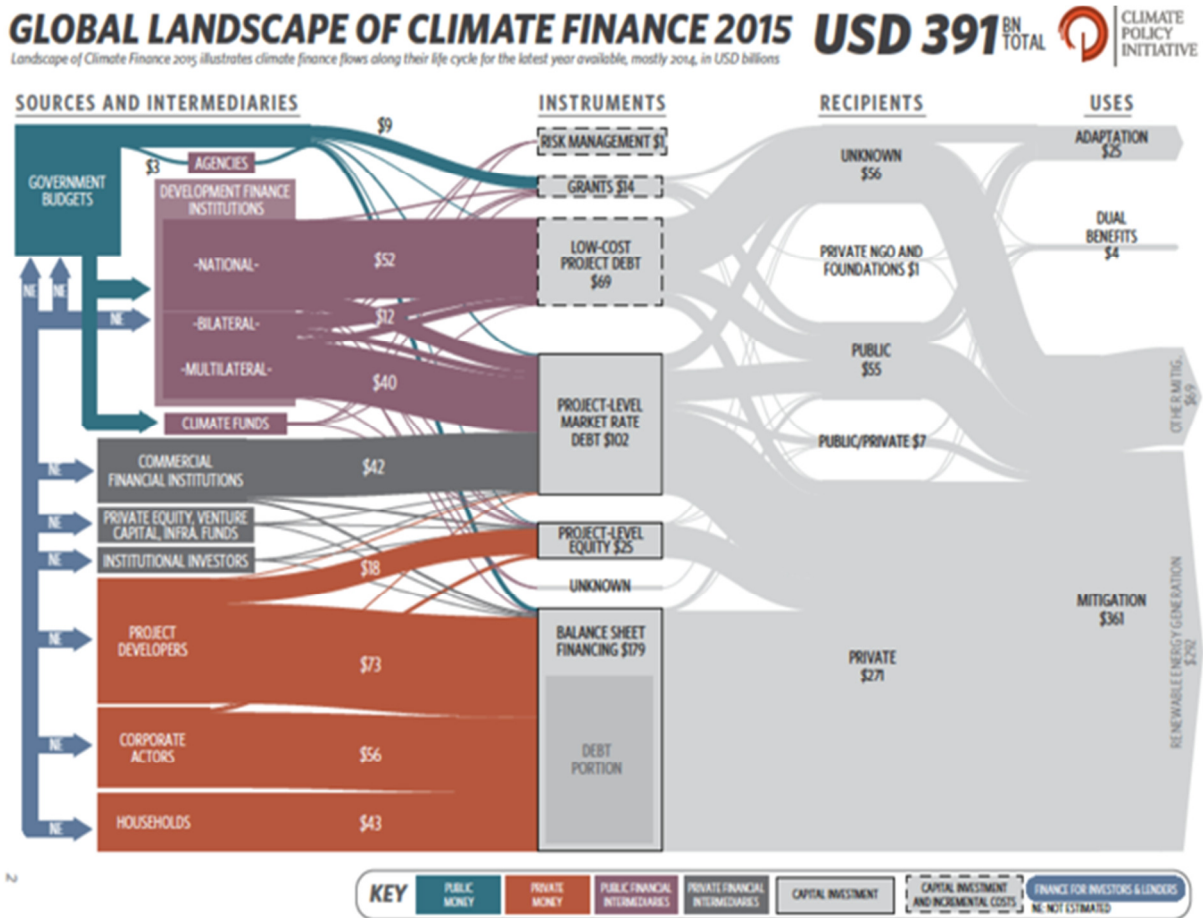
Figure 23 – Policy framework

In order for governments to play their role, they need the important amount of evidence that the impact investment community is producing¹⁰⁴ and at this point in time is still small but systematically growing. Impact investors can be viewed as a pioneering community open to new ways and models of investment. They represent an important research and development field for increased effectiveness of public policy. The sub-market investment shows that public policy can achieve better results than traditional social policy based on redistribution. The evidence they produce provides an exemplary role to show traditional investment funds where they can invest money. Finally, they can be a platform for research and development for

¹⁰⁴ Global Impact Investing Network <https://thegiin.org/assets/documents/pub/2015.04%20Eyes%20on%20the%20Horizon.pdf> 146 members reported \$ 60 billion in invested assets in 2015 and 1 380 Principles for Responsible Investment (<http://www.unpri.org/news/pri-fact-sheet>) signatories reported assets under management of more than \$59 trillion – which implies growing awareness.

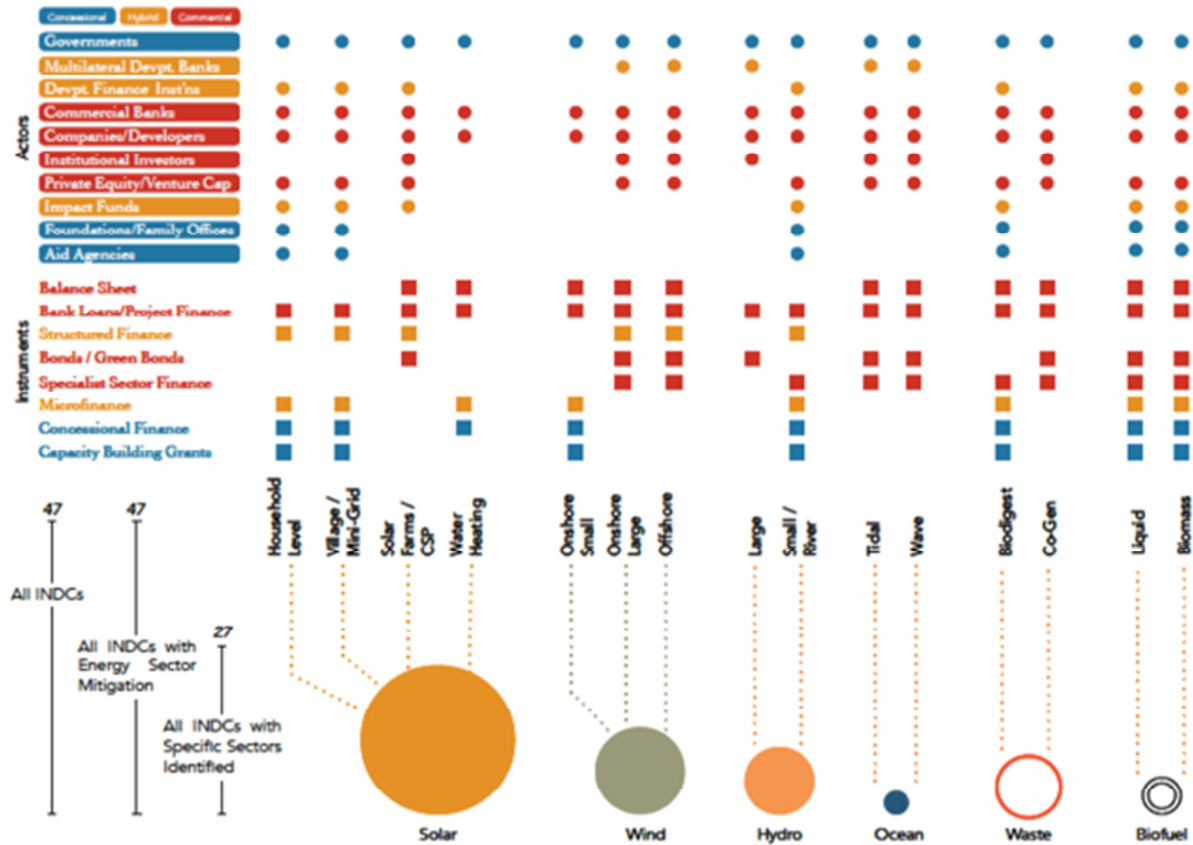
traditional finance in response to new patterns of changing work relationship and increasing income volatility in the low-income and middle-income classes¹⁰⁵.

The most promising driver for impact investing entering mainstream investment can be seen in the current focus on clean energy and climate finance with its culmination at COP 21 in Paris. Impact investing and its scalability raise the question of maturation. Figures 24 and 25 below show the lion share of climate finance goes into the renewables sector and primarily in the advanced economies.



Figures 24 – Breakdown of climate financing by Climate Policy Initiative

¹⁰⁵ Recent research from US Financial Diaries (<http://usfinancialdiaries.org>) suggests that income volatility – weekly, and monthly, as well as annually – is common.



Figures 25 – Financing for Renewable Energy Mitigation: Actors and Instruments by Climate Policy Initiative

The rapid development of the solar and wind energy in particular in this sector was possible thanks to regulatory intervention that started off within the European Union. The Renewables Directive imposed mandatory sharing of renewables in the energy mix of the EU Member states. That provided a priority dispatch and possibility of a feed-in tariff leading to a sufficiently de-risked investment into development of renewable energy at scale¹⁰⁶. However, the energy or transport sector due to its size and infrastructure is by nature “prone” for long term institutional investment achieving maturation at certain stage. The question remains if poverty reduction, sustainable food, or social entrepreneurship can achieve a similar level of maturation to attract institutional investors. Again, there is a room for government intervention¹⁰⁷ and there is a room for its much larger scale of application of impact investing to social challenges.

¹⁰⁶ Not to mention significant investment at R&D level

¹⁰⁷ For example the social impact bond pilot scheme in the US

Identifying the following four opportunities in 2016 to source massive amounts of fresh investments across different asset classes and geographies, Martin¹⁰⁸ points at: (i) the Paris climate accord opens a promising opportunity to step up investments in clean energy in advanced economies as well as in developing countries; (ii) in many developing countries their capital markets are too inefficient¹⁰⁹, tiered capital structures are needed to enlarge the capital pool with multilateral and bilateral donors taking the greatest risk. Impact investors accepting some risk in exchange for high impact investments that attract the much-needed classical private equity and infrastructure investors; (iii) impact investors can help provide the kind of financing needed to sort out the world's long, complex and often unethical supply chains¹¹⁰; (iv) funding digital businesses that build financial inclusion and affordable service provision leads to impact investors getting a foot into the financial services door¹¹¹ building upon the process of democratization of access to capital that started with crowdfunding¹¹². In each of these areas, Martin sees ample opportunities for participation by impact investors.

At the heart of the connection between impact investment and social and environmental ends is the creation of jobs that have the potential to withstand the ongoing pressure from the forces of globalisation that lead to unemployment or/and underemployment¹¹³. Focus should be on increased investment with lasting inclusive impacts; smart policies and smart public spending; and simplification and not deregulation of the regulatory environment. It would

¹⁰⁸ Source: Maximilian Martin, Impact Investing: Four Opportunities for 2016; Stanford Social Innovation Review, Jan. 25, 2016 http://ssir.org/articles/entry/impact_investing_four_opportunities_for_2016

¹⁰⁹ Weak corporate governance, depressed domestic demand, and high political risk create barriers to foreign private investment on a major scale.

¹¹⁰ For example, if the best available technology were deployed, the typical South Asian textile and garment factory could save up to 20% of chemical inputs, 40 % of energy , and 50% of water in their wet-processing operations – improving the environmental footprint without raising unit cost and with some productivity measures also achieving better working conditions. For that to happen innovative financing needs to be rolled out. Source: Impact Economy, http://www.impacteconomy.com/papers/IE_PRIMER_DECEMBER2013_EN.pdf

¹¹¹ For example, Coders Trust (<http://www.coderstrust.com/>), a Danish start-up integrating FinTech, EdTech, and WorkTech helps young people in the developing world upgrade their IT skills via student loans, education, mentoring, and freelance jobs. This enables students to participate in the fast-growing online IT labour market and helps fill the growing online programming gap – while creating \$2-an-hour programming jobs in countries such as Bangladesh, where 40 % of population does not even make \$2 a day.

¹¹² Person to person (p2p) micro transactions are of particular note. Kickstarter has allowed individuals and groups to pursue the development of projects, films and social activities with crowd source funding. Similarly, www.kiva.org allows anyone with some money to make a micro loan. Both indicate expanding possibilities to harness technology to channel interest and funds to make these investments viable.

¹¹³ Avoiding poverty at work

allow for more innovation, entrepreneurship and self-employment leading to consensus within societies on the direction of economic development.

Although widespread regulatory intervention has yet to materialise, there is already much work going on on integrated reporting¹¹⁴ to raise respect of stakeholders and investors for integration of allocation of all forms of capital. These efforts illustrate the need for tracking patterns of global impact investment including rates and composition in order to create benchmarks. In a broader sense, these steps are to avoid the trap of competition on ROI with social bonds and therefore becoming an additional form of traditional investment. The idea to aggregate large amounts of information from magnitude of individualised transactions could be helped by possibilities offered by big data.

The state as an investor needs to go beyond the fashionable term of 'blended finance' in development jargon where the primary focus is placed on the leveraging effect of public 'seed' money at best coupled with technical assistance. Instead, it is time to look at the 'state' as an investor that uses different investment vehicles in order to take an active role in setting up a long term investment agenda. The state needs to become an investment partner who not only brings in financing in a different form, but also actively participates in crafting the definition of the investment proposition. The state as investor in this sense should require delivery of social and environmental returns beyond financial feasibility of the initial investment. There is a need for a 'Real Deal' based on the following elements: (i) the notion of a modern private-public partnership responsive to the changing paradigm towards a sharing economy (ii) a differentiated tax rate on capital profits for impact investment as well as (iii) a regulatory mandate or at least a partial obligation for sovereign funds and pension funds for impact investing. This last point would lead to extending the interpretation of fiduciary duty as a delivery of benefits in an environment where those benefits can be enjoyed.

Certain government functions in implementation of impact investment policies should be considered in terms of service provision that is governed by the same efficiency gains and expectations as in any for-profit entity. A modern private-public partnership (PPP) approach to some extent is already present in the investment plan presented by the President of the European Commission – complementing the creation of a new investment fund with focus on the removal of bottlenecks in the internal market legislation. Such modern private-public partnership should encompass more than just the financing components decreasing risk. They need to also ensure an active public engagement that integrates the planned investment in the overall development strategy of given community. The goal would be to 'achieve multiple goals at one stroke' through smart investment. An investment decision to invest at a specific location

¹¹⁴ For more details see: Eccles, Robert G. and Krzus, Michael P. "*The Integrated Reporting Movement*", Wiley, 2014

is quite often subjected to laws at different level of government. This leads to creating lengthy administrative procedures and wait time. A remedy would be important to provide for a coherent regulatory environment and reasonable delivery time for administrative procedures¹¹⁵.

In the role of the state as investor, Mazzucato indicates that "the state does not 'de-risk' and has no magic wand that makes risk disappear. Instead, the state takes on risks and in the process helps in shaping and creating new markets. The fact that modern economists have developed few terms for this role has limited our understanding of what the state has done in the past with an example being an area like Silicon Valley. This extends into role the state can play in the future like the 'green revolution.' She further argues "*that once we accept the role of the State as lead risk taker- beyond the usual 'market fixing' or 'creating conditions' approach – the question arises as to whether this role is represented in the risk-reward relationship*"¹¹⁶.

In a period of major cutbacks to reduce budget deficits, it is more critical than ever to engage in a discussion as to how the State can ensure that its 'risk taking' earns back a direct return, beyond easily avoided taxation (as in Piketty's (2013) proposal). She notes that precisely because State investments are uncertain, there is a high risk that they will fail. When they are successful, it is naïve and dangerous to allow all the rewards to be privatised. She concludes that "*the State as an active, entrepreneurial, risk-taking agent – is not always a reality, but a possibility too often dismissed. Impact investing could be a way in which we look at State as earning back a direct return – by ensuring that State's return is paid by achieved social and environmental returns in the private investment by firms that benefitted from State's risk taking.*" In this regard, the role of the State as investor shows the appropriate treatment of both risks and return from the investments being made.

¹¹⁵ Creation of RIO – Regeneration Investment Organisation as a key counterpart for large foreign investors intending to invest in the UK could be an example. But apart from their role of a facilitator for such an investor (when they become de facto investor's face vis-à-vis different level of government) such a governmental entity could also go further and negotiate inclusion of impact investing criteria in exchange for its facilitation. This role could be played by other governmental entities as well as sovereign wealth funds. <https://www.gov.uk/government/organisations/regeneration-investment-organisation>

¹¹⁶ Mazzucato adds "*In so many cases, public investments have become business giveaways, making individuals and their companies rich but providing little direct or indirect return to the economy or to the State. This is most evident in the case of pharmaceuticals, where publicly funded drugs end up being too expensive for the taxpayers (who funded them) to purchase. It is also true in the case of IT, where the State's active risk-taking investments have fuelled private profits, which are then sheltered and fail to pay taxes back to the governments that supported them*". Mazzucato, Mariana. *The Entrepreneurial State: Debunking Public vs. Private Sector Myths*. 2013.

Conclusion

Monk says "*Complexity, greed, and short-termism are undermining our financial system, but a re-rooting of finance in the real economy could lead to a more sustainable version of capitalism. It is important that finance and investment be set on a more sustainable path. This path should be rooted in service to key players in the capitalist system – savers and developers – and in a commitment to create value within the real economy.*"

We need a "more sustainable version of capitalism" to create shared value and shared information in the global economy. As knowledge increasingly defines societies, we need to be able to generate, spread, and use knowledge systems to improve our lives, integrate our societies, and improve our environment. We need to overcome the threats of structural unemployment, economic inequity, funding shortfalls, and skills mismatch by turning knowledge into wealth, wellbeing and social progress. Technological and social innovation from information to biotech to enterprise evolution will change the nature of work, community, opportunity, and philanthropy. As the mainstream evolves, investments in models of innovation that share future value with those now excluded or unserved or underserved are at the center of the proposition for reliable work and adequate pay.

Creation of jobs is the key to succeed because an economy capable of offering a job at least to every household as well as a workforce capable of seizing the available opportunities is a fundamental prerequisite to achieve most other societal aspirations. Increased investment with lasting inclusive impacts, smart policies and smart public spending, and simplification (not deregulation) of the regulatory environment will allow for more innovation, entrepreneurship and self-employment. This leads above all to a stable consensus within societies on the direction of economic development. An economic vision for a more universally prosperous society requires economic development strategies that emphasize investment into small and mid-sized companies. This leads to a strengthening of the direct connection between local and regional economies with their global partners. The end result is a focus on the primacy of reliable revenue and a broader value proposition that counteracts the default position favouring investments in fixed assets such as real estate.

Three current megatrends offer an equivalent opportunity and need for large scale investment. It is time for a new "Real Deal" that sets forth a new era of modern public private partnership where investment happens for profit understood wider than just maximum financial return on investment. It needs to be a contract between government and society and investors. Governments at all levels need to evolve into a) investment partners for investors as well as (b) service providers for their citizens and firms. Governments cannot just "administer" policy and need to ensure an efficient supervision of financial systems to protect their constituents from complexity within financial innovation of investments of a speculative nature.

Technology can become an enabler for providing solutions and data driven analytics and presents a challenge in terms of finding a globally agreed standard. Technology and digital networks know no borders creating a need to balance security and data protection with accessibility and user experience needs. Rising demand for the Internet of Things understood as how businesses, consumers and government entities connect their assets and objects to the digital world offer huge opportunities and may lead to overconcentration of data in the hands of few 'too big to fail'. Therefore, in both the financial sector as well as the digital economy, regulatory convergence should become a cornerstone for close US and EU cooperation. This cooperation needs to focus on avoiding regulatory arbitrage, creating level playing field and having a leveraging effect onto other regions of the world especially China.

For many decades, policy makers were making financial policies only understood by other policy makers and international partners gradually leaving behind those who could not follow technocratic, bureaucratic and legalistic jargon. This trend was further compounded by ambiguity resulting from compromises on a political level. Decreasing participation rates in elections, cycles of boom and bust, and economic downturns that particularly impacted the poorest led to the growing appeal of populist parties. Populist leaders present a clear warning card that it is time for a clear change. In order to avoid the radicalisation of this change, there is a need for decisive action.

Piketty indicates that all positive developments during the Golden Age followed from the reversal of inequality due to convergence of economic and demographic growth combined with the paradoxically cataclysmic developments of the two world wars. The New Deal was understood as close regulation with simultaneous significant public spending. The Thatcher-Reagan revolutions in the late 1970s¹¹⁷ turned away from the Golden Age and embarked on liberalisation and deregulation, including changes in policies for taxation of profits to promote capital. Some argue that once China converges to meet the top tier of income levels, the growth will come to a final stop. Marginal growth at the rate of technological progress will not allow for further per capita increases. Thus global stagnation will follow.

This in order to preserve democracy and capitalism, we need to address the worrying trend in recent decades that the rich have gotten dramatically richer, while the poor have gotten poorer with the middle class just hanging on. Deaton says that powerful elites can block economic growth if they are allowed to "*undermine the institutions on which broad-based growth*

¹¹⁷ Milanovic: "*The Thatcher-Reagan revolution was driven, Piketty writes (Chapter 2, p.164), by the factually correct idea that the US (and to a lesser extent UK) pre-eminence was being eroded. But this fact was wrongly interpreted as being due to the bloated welfare state rather than to the general catch-up of the war-ravaged capitalist economies of Europe. In other words, the Thatcher-Reagan revolution changed capitalism but failed to raise the rate of growth which was its ostensible motivation in the first place.*"

*depends.*¹¹⁸ A wide update of modern public-private partnership which includes the incorporation of the principles underlying impact investing into mainstream investments can be part of the solution. This provides a way to respond to the warning of Robert Reich from the 1990s *"If we lose our middle class and become a two-tiered society, we not only risk the nation's future prosperity but also its social coherence and stability.* Thus we need as Lester Thurow wrote *"A huge program for re-educating and retraining...investments in research and high-tech infrastructure and a willingness to run the economy with tight labor markets so that labor shortages push wages upward"* to avoid Spencerian survival-of-the-fittest capitalism¹¹⁹."

Impact investing at scale can provide a win-win solution for sustainable financial systems feeding more into the real economy as well as for sustainable and inclusive growth based on job creation. Governments have an important role to play in order to achieve the necessary scale.

¹¹⁸ Deaton, Angus. "Material Wellbeing in the United States." *The Great Escape: Health, Wealth, and the Origins of Inequality*. Princeton: Princeton UP, 2015. 167-218. Print.

¹¹⁹ Collins, Robert M, "More: The Politics of Economic Growth In Postwar America", *Oxford University Press*, 2000, 228-229; Lester Thurow, "Why Their World Might Crumble: How Much Inequality Can a Democracy Take?", *New York Times Magazine*, 19 November 1995, 78-79; Reich quoted in Keith Bradsher, "Productivity Is All but It Doesn't Pay Well," *New York Times*, 25 June 1995

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