

HIGHLIGHTS

OECD Business and Finance Outlook 2016





“New and better quality investments will be essential components of the inclusive and productive growth needed to address challenges like climate change and rising inequalities.”

Angel Gurría, OECD Secretary-General

IN THE OUTLOOK

The financial markets outlook

**Corporate finance
and productivity**

**Fiscal incentives for R&D and
innovation in a diverse world**

**Changing business models
of stock exchanges and stock
market fragmentation**

**Fragmentation in clean energy
investment and financing**

**Fragmentation of retirement
markets due to differences
in life expectancy**

**Is foreign bribery an attractive
investment in some countries?**

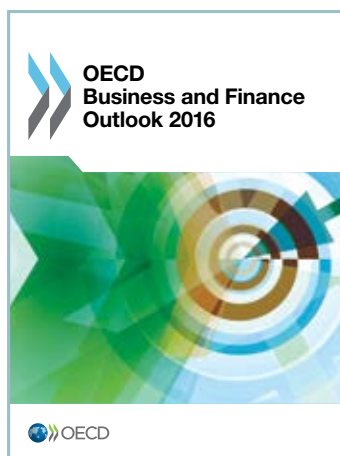
**The impact of investment treaties
on companies, shareholders
and creditors**



**The Outlook is complemented
by a sister publication,
the OECD Business and Finance
Scoreboard 2016.**

The Scoreboard contains indicators and data that support analysis of developments in the financial markets and corporate sector.

What is blocking business investment and productivity growth?



More than seven years after the global financial crisis reached its trough the world economy is still sputtering. Banking systems in advanced economies have been strengthened and recapitalised, regulatory reforms of financial systems are well into their implementation stage and monetary policy remains highly supportive. But the global environment has not been supportive as emerging market economies, notably China, have struggled with the reversal of the commodity “supercycle” that sustained the earlier boom and related excess capacity. One important result has been a failure of the business sector in advanced economies to respond with

new investment and restructuring needed to generate jobs and the productivity growth that can support rising incomes and employment. Jobs and renewed productivity are essential components of the inclusive growth we need to address challenges like climate change and rising wealth inequality.

So what is blocking business investment and productivity growth? There are many contributors which we can summarise here as “fragmentation”: the heterogeneous policies, rules, laws and industry practices that create perverse incentives and block business efficiency and productivity growth. This is the theme of the 2016 *OECD Business and Finance Outlook*.

Doing business in a fragmented world

Fragmentation manifests itself at all levels of the global economy, from the global macro-economy and economic systems to sectoral and micro-economic issues to legal ones. This Outlook surveys a range of cases where fragmentation creates problems and suggests priorities and directions for changes that will encourage inclusive growth.

A world economy beset by two major headwinds

The broadest fragmentation in the world economy concerns two very different approaches to economic organisation that are now butting up against each other: advanced economies run with more open markets; and emerging economies where the role of the state plays a central role. Emerging economies built up savings rapidly and state-owned enterprises have played a key role in driving investment in the supercycle sectors (energy, materials, utilities, capital goods and industrials) that has led to excess capacity and high debt levels. Fragmentation is also reflected in financial reform, which has focused mainly on banks, opening the way for the products of other financial sectors to fill gaps and respond to countries’ attempts to use unconventional policies to help their own regions, sometimes at the expense of others.

Following the financial crisis, the world economy is now beset by two major headwinds:

- the reversal of the commodity supercycle, with investment now falling led by the excess capacity sectors; and
- the L-shaped recovery in the advanced economies resulting from deleveraging as banks continue to struggle with non-performing loans in many parts of the world while new financial regulations are imposed.

Central banks have stepped in to deal with the lack of growth because other policies have not dealt with these structural problems at their source. Quantitative easing and low-interest-rate monetary policy can do little to correct over-investment in global industrial sectors. This has led to innovative responses and new and building forms of liquidity and leverage risks. At this point, such policies may be harming the prospect of a sustainable recovery.

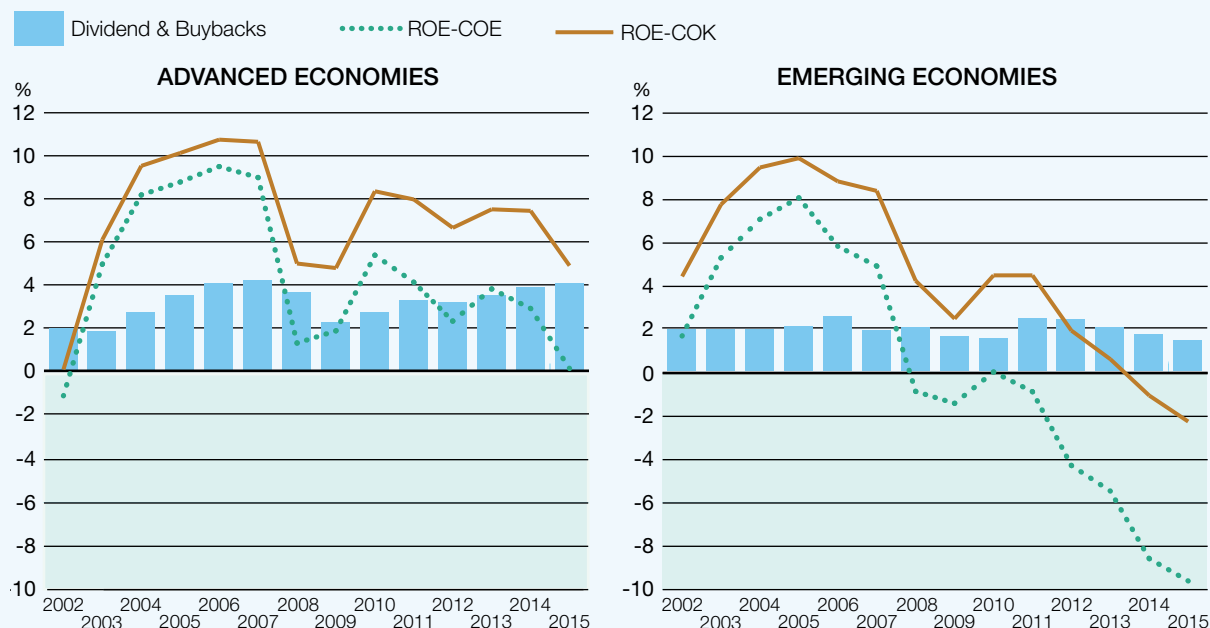
- Regulatory reform has focused on banks that are being forced to hold minimum amounts of high quality liquid assets while raising capital, before non-performing loans on bank balance sheets have been properly dealt with. The combination of low and negative interest rates with rules that force banks to hold the very assets to which they apply hurts bank profitability. Nor do negative interest rates lead to predictable effects on exchange rate transmission mechanisms to help growth and counter deflation. This is because other countries are changing monetary policy too and altering the way they manage their currencies to ensure maximum advantage to their own citizens, contrary to the collective interest.
- Zero (or worse, negative) interest rates imply a zero time value for money and encourage short-termism by investors, whereas innovation and productivity growth requires the financing of long-term risk taking in capital expenditure and its financing. These policies are creating incentives that lead investors in new directions that interact with banking in different ways, and where the solvency and liquidity characteristics of products are untested. Very low rates have created a demand for a kind of portfolio “barbell” in institutional investment: large asset allocations to both i) private equity and low-cost exchange-traded funds (ETF) at one end; and ii) capital market risk assets, based on leverage, that pay higher short-term cash yields (e.g. hedge and absolute return funds, etc.) at the other end. In between is an allocation to equities, cash and bonds within which further herding of investors into concentrated positions is found: into high-yield non-investment grade bonds; and into equities that focus on providing strong dividends and buybacks.

The reversal of the supercycle emanating from emerging economies is arguably an even stronger headwind than the L-shaped recovery in advanced economies. Excess investment is always accompanied with financial consequences where borrowing is a factor, and there is little doubt that non-performing loans are building up in emerging economies and energy sectors more generally. The size of the impact of the supercycle reversal is easy to under-estimate. At its recent peak, some 40% of corporate investment in the global economy was carried out in just two sectors, energy and materials, and its full influence goes well beyond these two driving forces. Investment is now flat in advanced economies and is declining in emerging markets (Figure 1.17 in Chapter 1 of the *Outlook*).

Dividends and buybacks have been rising in advanced economies since the crisis and have reached about 60% of what companies spend on investment. Advanced economy companies could raise this investment very easily without any need for external finance—but they do not do this. Investors resist companies that want to use earnings to invest for the long term, and they demand cash-like returns that are better than those available in actual cash and investment grade bond markets. This works against companies wanting to take on long-run projects needed to promote innovation and productivity—they would be punished by investors for doing so. This is a direct result of attributing a zero time value to money via low interest rates.

The return on equity in emerging markets is far below its cost, a sure reflection of excess capacity (in sectors like steel, energy, resources, cement, glass, chemicals, automobiles and the like). Investment is still running at double the rate in advanced economies (around 10% of net sales). But it is capital-widening investment in the main, using existing technology, often as a part of global value chains. The value added of these companies per employee has also not risen (the company productivity problem which is discussed in detail in Chapter 2 of the *Outlook*).

Figure 1. Excess capacity: ROE-COK and ROE-COE in advanced and emerging economies

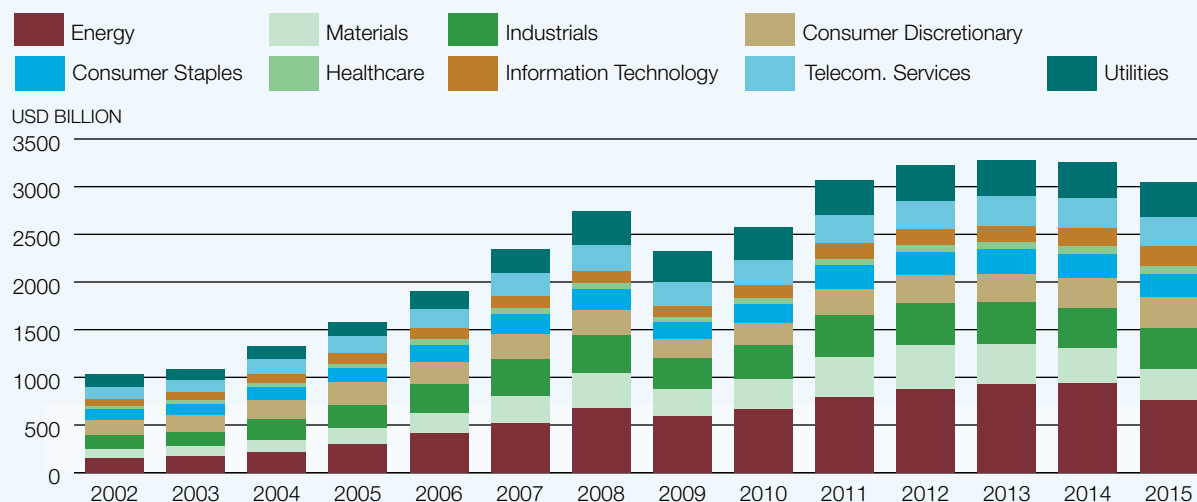


Note: See page 24.

Source: OECD calculations, Bloomberg.

Investment in emerging market economies (EME) has created massive over capacity in the supercycle sectors: steel, aluminium, cement, glass, energy (particularly fossil fuels), transport (especially shipping), utilities and similar. Based on 11 000 non-financial companies, Figure 1 shows company return on equity (ROE) versus their cost of equity (COE) and their cost of capital (COK). The ROE-COK is negative in EME companies, and spectacularly so versus the COE. This means that managers can't add value for shareholders. This is pulling down ROE in advanced countries too.

Figure 2. Global capital expenditure by sector, 2002-2015



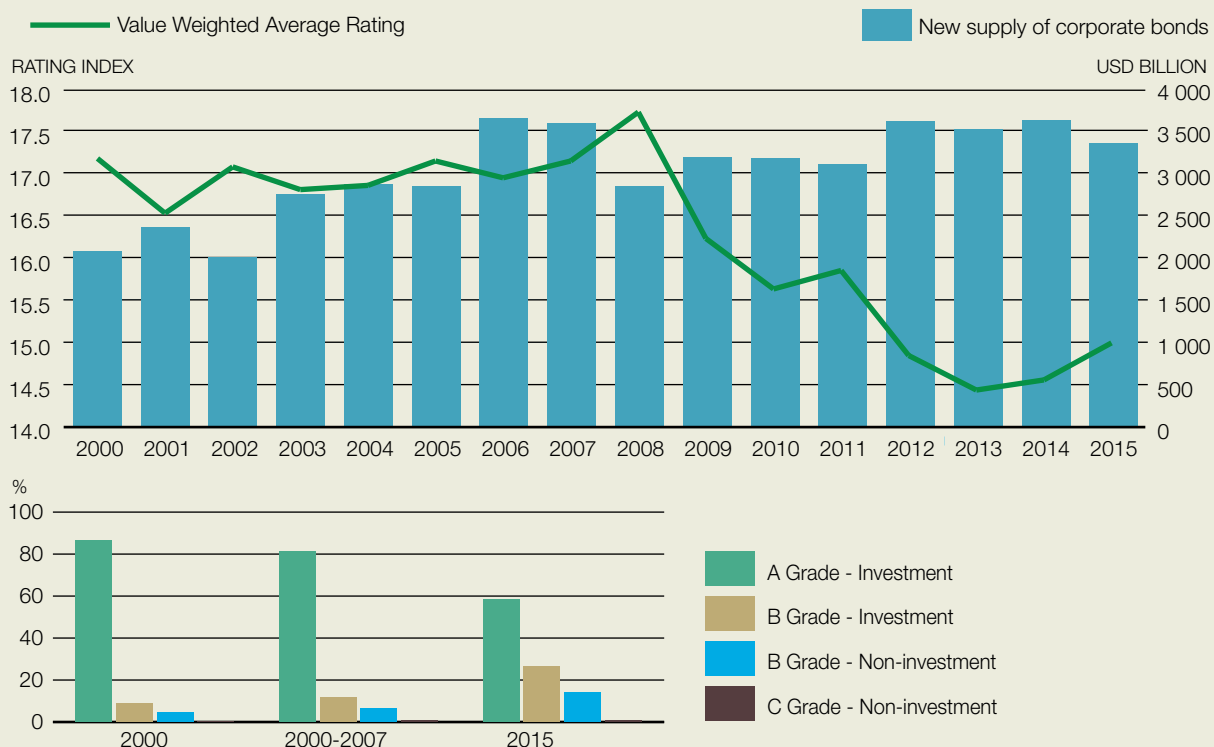
Source: OECD calculations, Bloomberg.

Figure 2 shows the size of investment in supercycle sectors. The **energy** and **materials** sectors alone rose to 40% of capital spending of 11 000 of the world's biggest companies. These two sectors are huge (see below). If **industrials** and **utilities** (for the energy to drive these sectors) are added, the number rises to 60%. Supercycle sectors have a huge derived demand for inputs and services from other sectors, so the linkages go even further.

Energy: oil, gas, drilling, oil and gas equipment and services, exploration, refining, storage, transportation, coal and consumable fuels.

Materials: chemicals, fertilisers, industrial gases, construction materials, metal and glass containers, paper packaging, aluminium, diversified materials and mining, gold, precious metals and minerals, forest products and paper products.

Figure 3. Corporate bond issuance and declining quality, 2000-2015

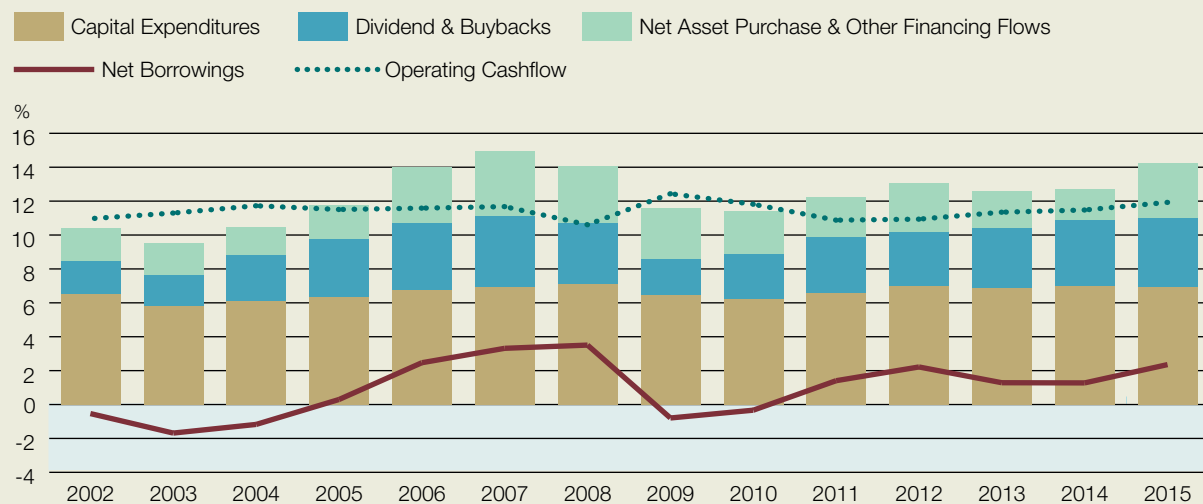


Note. See page 24.

Source: OECD calculations, Bloomberg.

Figure 3 shows the OECD index of quality for corporate bonds which has declined by 21% following the period of unconventional monetary policy—much of it in illiquid markets, and in the supercycle sectors faced with the most pricing pressure.

Figure 4. Capital expenditure and corporate finance: Advanced economies could expand CAPEX by 60% by reducing dividends and buybacks



Source: OECD calculations, Bloomberg.

Flattening the government bond yield curve does not help companies to invest. Most company investment is carried out with retained earnings, with relatively small recourse to external finance (see borrowing in the red line). In advanced economies, companies could increase capital expenditure (shown in gold) on average by 60% without any recourse to borrowing, simply by reducing dividends and buybacks (shown in blue).

“Inflation first” policies will delay a sustainable lift-off in rates.

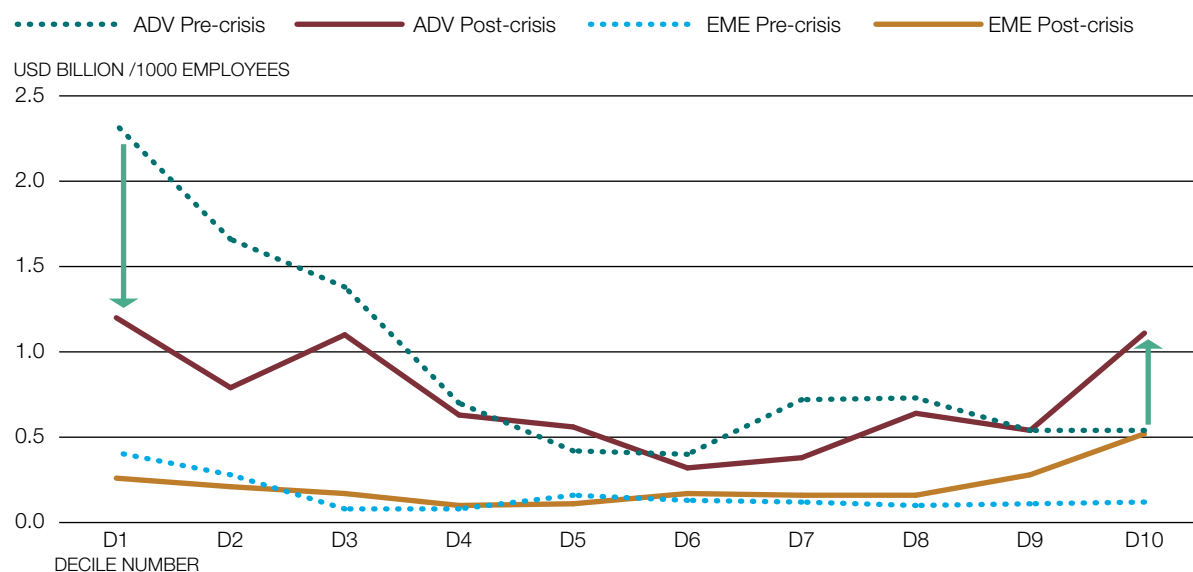
Policies need to restore “animal spirits” in the company sector by dealing with the global misallocation of resources and excess capacity and by creating incentives for long-term risk taking. When “animal spirits” recover to the point where “true” risk assets are desired in the company sector, and investors are willing to forego short-term income for long-term capital gain, there will be a significant asset allocation shift. Capital will move from

cash returns and leveraged instruments to “growth” investments simultaneously within and across all asset classes. This lift-off would lead to the end of secular stagnation. But how could this happen?

In the event that inflation comes first – say because unconventional monetary policy in advanced economies and credit expansion in emerging markets are not supported by measures to deal with structural problems – the outlook would not be too encouraging. Central banks would be obliged to lift interest rates in response to inflation, while growth of capital-widening investment using existing technology in the near term would raise global supply without lifting productivity growth. This is what happened in some emerging economies in response to the 2008 crisis. Any success would be short-lived now, just as it was then. The “creative destruction” phase needed on the supply side would not happen: i.e. just as some policies after the crisis worsened the excess capacity problems and increased debt, the lack of structural adjustment now and the actual emergence of inflation would ultimately cause the “lift off” in interest rates to turn into a two-step process.

Near zero interest rates allow companies to carry excess debt, to borrow cheaply to carry out buybacks and to engage in unproductive investments that are based on a distorted cost of capital while waiting for the tide of aggregate demand to rise. The global output gap will never close in a sustainable manner while the outstanding stock of unproductive and misallocated investment remains in place. Rising interest rates under an “inflation first” scenario would risk another financial crisis. The need for shedding excess capacity and debt would once more become a priority. If a healthy “creative destruction” phase ensued, because rates were not once again cut to zero and structural policies were implemented in advanced and emerging economies on the scale required, then the scene would then be set for more sustainable growth and normalised interest rates later on.

Figure 5. Company productivity levels and growth rates, pre-crisis versus post-crisis



Notes. See page 24.

Source: OECD calculations, Bloomberg.

Figure 5 shows the productivity growth distribution between large listed companies since the crisis. There is a “smile” pattern between deciles ranked according to weighted productivity growth within sectors and then aggregated (increasing in growth from left to right). On the left, there are incumbents with high levels but now declining growth of productivity, and a new group of rapid growth high-productivity companies on the far right.

A “productivity first” corporate scenario

Rather than inflation first, it would be desirable to have a productivity first scenario. Such a scenario is not encouraged at all by making the time value of money zero—monetary policy is not the instrument needed at this point in time. But what policies would actually address the productivity problem in the company sector? To answer this question, better knowledge of what is happening to productivity in the corporate world is required. This is the subject taken up in Chapter 2 of the *Outlook*.

By studying 11 000 (non-financial and non-real estate) companies in an OECD database (representing a large proportion of world GDP), some very interesting facts emerge about those companies that have succeeded and those that have failed since the crisis. These facts point the way to policies that might actually work. Prior to the crisis, there was a group of high-productivity level companies (sometimes referred to as being on the “frontier”), and a very long string of low-productivity level companies that appeared not to be sharing in technology and growth. The crisis shook up everything and led to two distinct groups of high-productivity companies in the post-2008 period: those in the high-level productivity group that remained there, but whose growth in productivity has been negative (i.e. they are losing their shine); and, at the other extreme, a separate group that succeeded in achieving rapid productivity growth. In between these two groups sits the majority of companies with both lower productivity levels and only moderate growth.

The group exhibiting both high levels of productivity and high growth shows all the signs of having been through a creative destruction phase: shedding businesses and locations that are not working in the tougher post-crisis environment while acquiring others that are more synergistic with their goals. However, there are simply not nearly enough of these companies.

The financial decisions that the more dynamic “creative destruction” companies took in order to succeed had four key interrelated corporate finance characteristics:

- They expensed much more on research and development (R&D) than other companies, which in turn requires risk taking and a long-term focus critical to the innovation process.
- They did not increase borrowing compared to equity in the post-crisis period (while those that did were in the low productivity groups). Equity is for the long term and success or failure is reflected in its price, whereas debt must be serviced and the inability to do so in the short-run will lead to bankruptcy.
- They had a buffer of free cash flow; i.e. their operating cash flow was in excess of that needed for capital expenditure. Such companies can maintain a focus on long-term goals in the face of short-term disruptions.
- They used mergers and acquisitions (M&A - buying and selling business segments) to rationalise what they were doing in the tougher, more competitive post-crisis environment.

Having identified these key characteristics of companies that succeed, it is critical to fashion policies that foster them in a broader range of companies.

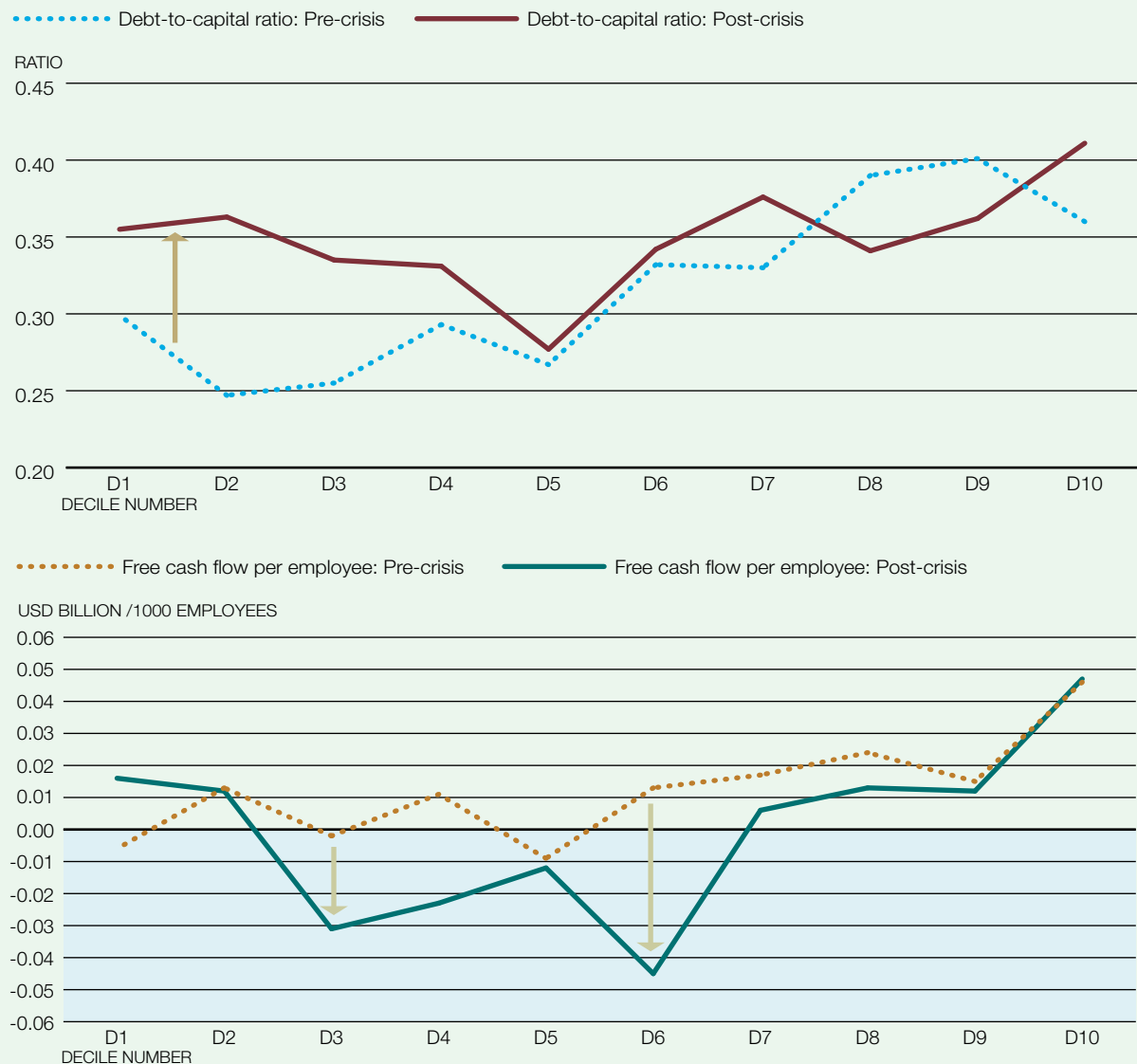
Some policy implications

With respect to R&D: R&D expensing can be encouraged by fiscal incentives and funding for basic research—provided the policies are well targeted. The issue of designing tax incentives for R&D that are consistent with broader tax policy efficiency is taken up in Chapter 3 of the *Outlook*.

With respect to equity finance instead of debt: Policies here include inter alia the removal of tax incentives that favour debt over equity; the simplification of equity listing rules that increase costs relative to private equity; and equity market reforms that encourage initial public offerings and improve trust. An examination of stock exchange fragmentation into lit exchanges and dark pools (where the latter reduce transparency, create distrust and impede price discovery) is taken up in Chapter 4 of the *Outlook*.

With respect to improving free cash flow: The best way to enhance this key requirement in a broader range of companies is to make it easier for them to access new markets for their core products and to adopt policies that minimise their costs (flexible labour contracts, more open cross-border and internal trade and investment regimes, access to cheaper external funding and fiscal incentives). Open trade and investment regimes between countries are particularly important, not only for market access, but also to ensure policies directed at supporting specific sectors do not inadvertently fracture global value chains which add to costs for other downstream companies hurting their cash flow (see Chapter 5 of the *Outlook*). Financial reforms need to be cognisant of their impact on the availability and cost of external financing (both debt and equity), and regulations and tax rules should not inhibit cheaper non-traditional sources of funds (angel investors, crowdfunding, peer-to-peer lending and distributed ledger innovations in payments technology). Fiscal support has a direct impact on cash flow but needs to be well targeted, e.g. where R&D is concerned, firms need a lot of upfront cash given the asymmetric information that exists between young firms and their potential investors (again, see Chapter 3 of the *Outlook*).

Figure 6. Debt-to-capital ratios and free cash flow per employee in advanced economy companies, pre-crisis versus post-crisis



Notes: See page 24.

Source: OECD calculations, Bloomberg.

Figure 6 looks at the key corporate finance aspects of debt versus equity and free cash flow. The better companies in the fast growth group took on no new debt, while the incumbents with weak productivity borrowed more (top panel). The crisis badly hit the free cash flow of the large majority of companies in the middle groups. At best we can say low interest rates support weak companies and it remains to be seen what happens to them when they are confronted with more normal interest rates. Strong operating cash flow after deducting capital expenditure is an indication of a strong company. It penetrates new markets for its products, has a strong competitive position delaying payments to suppliers and demanding rapid payment from its buyers. It is tax efficient, keeps overheads low and uses flexible labour market contracts. Rather than easy monetary policy, policy makers need to think about: market openness, tax and accelerated depreciation, reducing finance costs where debt is involved—including recapitalising banks, dealing with NPLs, reducing the huge margins and fees charged by banks via structural separation, and removing and/or avoiding regulatory barriers to non-traditional finance.

With respect to M&A activity: Breaking down cultural and regulatory barriers to cross-border M&A, consistent with allowing entry and facilitating a genuine open market for corporate control, is needed. Efficiency-enhancing measures include better co-operation between competition agencies when considering cross-border deals to speed up the M&A process, to minimise costs and to reduce inconsistent criteria. Eliminating the culture of “national champions” whereby governments support incumbent firms when they face challenges from new (particularly foreign) entrants is also an important requirement.

The role of expenditure and tax incentives for R&D

Fiscal incentives for R&D are discussed in Chapter 3 of the *Outlook*. Government support for business R&D seeks to encourage firms to invest in knowledge which can result in innovations that transform markets and industries and result in benefits to society. Most often, support is provided to firms with the intention of correcting market failure, such as difficulties appropriating the returns to investment in R&D and difficulties in finding external finance, in particular for small or young firms.

Fiscal incentives should be directed at specific barriers, impediments or synergies to facilitate the desired innovation and uses within each country and region. Public policy must recognise the heterogeneity of the markets and individual actors involved in developing and using new innovations, as well as the heterogeneity of alternative fiscal incentives and their design. The latter is particularly important in achieving R&D objectives: firms might easily restructure to meet age criteria for benefits, re-label expenditure that would have occurred anyway as R&D, or apply for a patent simply because it is required to qualify for an incentive measure.

Governments have many different fiscal incentives to encourage R&D, and tax incentives are an increasingly important element of the funding for business R&D. Thirty out of the thirty four OECD countries use tax incentives for R&D of some kind. The most widely used types of tax incentives include tax credits or favourable tax deductions for R&D expenditures, but other types are focused on income from certain R&D activities (such as royalties), on certain types of R&D financing and are, in some cases, provided directly to R&D researchers.

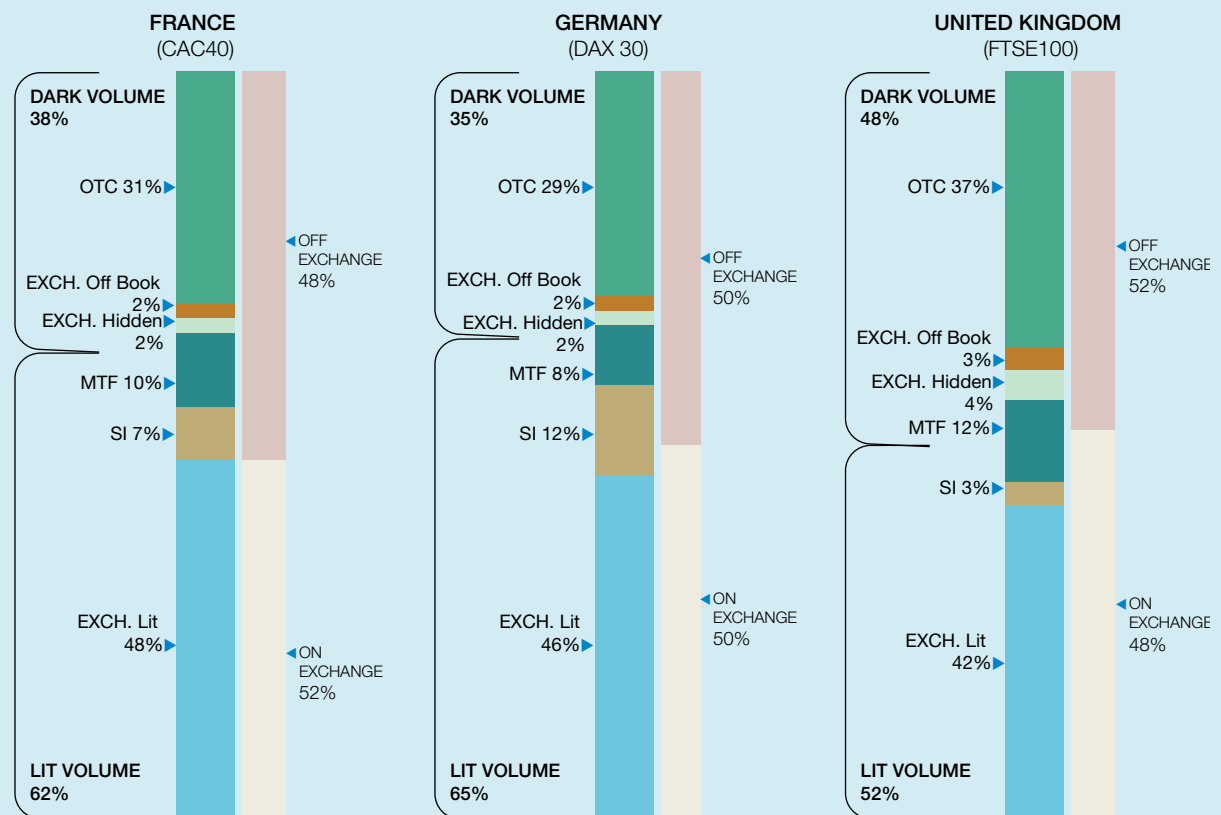
Most countries providing R&D tax incentives focus on reducing costs and encouraging increased expenditures on R&D. This can take the form of credits against income and/or payroll taxes for expenditures on wages and/or capital investments for R&D. It can also take the form of accelerated depreciation, allowing recovery of the investment faster than the underlying economic depreciation of the long-lived asset; or enhanced depreciation, where taxpayers can recover more than 100% of R&D expenditure costs.

Effectiveness requires specific circumstances of companies and the nature of activities to be taken into account. Income tax measures are most beneficial to companies that already have income, whereas such benefits can be lost if younger R&D companies experience prolonged periods without any taxable income. Direct measures that reduce costs and enhance cash-flow are more suitable for liquidity-constrained firms because they need upfront funds (including contracts, grants, and awards). Exemptions for payroll tax and/or withholding tax for qualified R&D workers also provide immediate relief, while wealth tax exemptions for angel investors can help to attract upfront funds for start-ups. The type of R&D in question also warrants consideration. OECD studies show that longer-term research activity may be better served by direct subsidies whereas tax schemes are more effective for short-term applied research.

An increasing number of countries have adopted, or are considering adopting, income-based tax incentives, often in addition to their expenditure-based incentives. These provide for lower tax rates on future income from investments in R&D and an increased after-tax rate of return to those investments. Assets are highly mobile, however, allowing both assets, and future income from them, to be located away from the activity that generated the assets and income. This is often in low-tax jurisdictions to reduce their corporate tax liabilities, which erodes tax revenues in the countries where the R&D investments were actually made.

To avoid harmful tax practices, preferential tax regimes for R&D should be consistent with a “nexus” approach, as established as a minimum standard in the G20-OECD Base Erosion and Profit Shifting (BEPS) project. This uses expenditure as a proxy for real activity and allows taxpayers to benefit from the preferential regime only to the extent that the taxpayers themselves incurred the qualifying expenditures that gave rise to the income generated by the R&D investment.

Figure 7. An illustration of the distribution of trading among venues and between lit and dark volume in France, Germany and the United Kingdom, December 2015 - March 2016

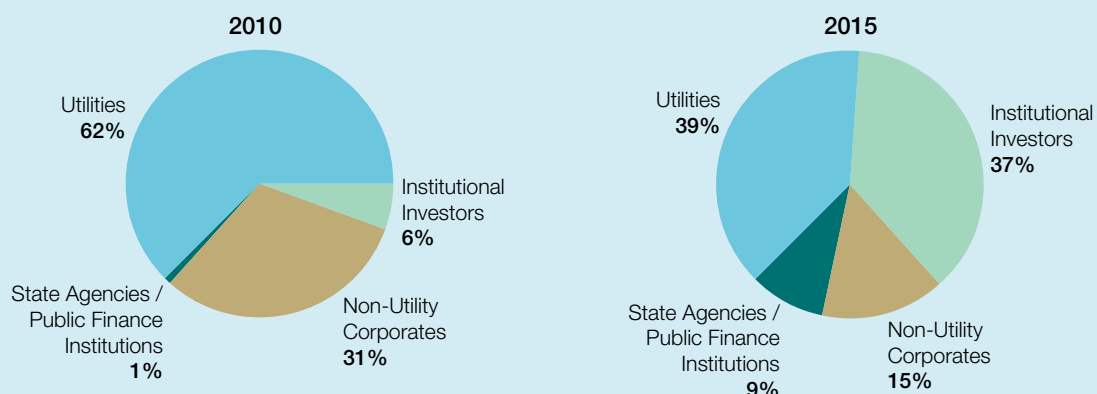


Notes: See page 24.

Source: Thomson Reuters, Factset, OECD calculations.

Stock markets in Europe have become fragmented in two dimensions; first, between trading on stock exchanges and off-exchange venues, such as multilateral trading facilities (MTF), and; second, between dark (non-displayed) and lit (displayed) trading. Today, around 50% of all trading in Germany, France and the United Kingdom takes place on off-exchange venues. The amount of dark trading varies across countries from 35-48% of all trading.

Figure 8. Change in equity mix in wind energy projects in Europe, 2010 and 2015



Notes: Figures correspond to shares of total equity in sample.

Source: Bloomberg New Energy Finance (BNEF), OECD calculations.

Figure 8 highlights changes to the equity mix of wind energy deals, comparing deals which reached financial closure in Europe in 2010 and 2015.

The role of the stock exchange

Regulatory reforms and developments in information and communication technology have increased competition between different types of stock trading venues. The result is fragmentation in two dimensions. First, the extensive fragmentation of trading between stock exchanges and off-exchange venues, such as Alternative Trading Systems and Multilateral Trading Facilities. Second, there is an increased fragmentation between dark (non-displayed) trading and lit (displayed) trading. These issues are analysed in Chapter 4 of the *Outlook*.

Fragmentation in both dimensions is now very large. In 2015, two-thirds of all stock trading in the United States took place on 11 different exchanges and the remaining 33% on numerous off-exchange venues. Of all trading, 42% was in the form of dark trading, of which about one-fifth was carried out on exchanges. In the European Union, around 50% of all trading takes place on exchanges and the rest on off-exchange venues. The amount of dark trading in Europe varies across countries from 35-48% of all trading.

Off-exchange and dark trading have often been seen as a way for investors to reduce the market impact that could occur if they placed large orders on a stock exchange. However, a detailed analysis of trading data for the United States indicates that average order size does not differ significantly between off-exchange venues and traditional exchanges. Nor does fragmentation seem to have affected the distribution of trading in large and small company stocks, which appears to be fairly similar across countries whether or not it occurs within concentrated or fragmented markets. Since 2000, trading in the largest decile of listed companies has accounted for 70-90% of all trading, both in the United States and Japan.

The main concerns with respect to increased off-exchange and dark trading are the quality of the price discovery process, the fairness of markets, and the level playing field among investors. This is more pronounced in an era of increased high-frequency and algorithmic trading. Investors typically have access to pre-trade information about buying and selling interests (lit trading). Transactions where pre-trade information is not available, often referred to as dark trading, can adversely impact the price discovery process to the detriment of some investors.

These developments may have undermined trust in the equity market which, as noted earlier, is the preferred vehicle for long-term investment and innovation. Recent enforcement action against some dark pools has opened up a discussion about the rationale for existing differences in regulatory regimes between trading venues that seem to serve similar functions. Looking ahead, it is likely that regulatory initiatives in both Europe and the United States will come to focus on regulatory convergence between exchange and off-exchange venues, to ensure a level playing field and improve price discovery. It remains to be seen what effect such reforms will have on stock market fragmentation in the future.

A case study of fragmentation and the clean energy sector

In many ways, the clean energy sector presents an excellent case study of many issues discussed in the first four chapters of this *Outlook*: the sector is at times constrained by access to bank credit; there are elements of excess capacity from emerging markets (for example, manufacturing of solar photovoltaic panels in 2010-2013); for some firms the return on equity has fallen versus the cost of equity; and the industry operates in fractured domestic and international markets. Yet despite these obstacles, an increase in the scale and pace of investment and its financing for renewable electricity generation is necessary to successfully implement the 2015 Paris Agreement concluded by the 21st Conference of the Parties (COP21) of the United Nations Framework Convention on Climate Change (UNFCCC). The case of market fragmentation and policy misalignment in clean energy investment and financing is taken up in Chapter 5 of the *Outlook*.

Investment in renewable energy has rebounded somewhat recently (to an all-time high of USD 286 billion in 2015) with growth centred mainly on China. In the tougher post-crisis environment it has done so by significant innovation in its financing model coupled with policy support for renewable energy. The tougher economic environment has seen the traditional providers of equity funds for renewable energy (typically the balance sheets of utilities and corporate project developers) almost halve their share of commitments over the past five years. In its place new ownership and financing models have emerged. Most notably, institutional investors with long-term liabilities to manage have recognised the infrastructure asset class (both debt and equity) as a source of inflation-linked, long-term and stable cash flow.

In essence, a strategy has emerged to recycle capital from the balance sheets of traditional funding institutions. By buying into projects and/or refinancing existing projects, institutional investors free up debt and equity capital in construction and operating-stage renewable electricity projects. Banks, private equity funds, project developers and utilities can then redeploy the proceeds into the development and construction of new projects. Closed-end funds and real-estate investment trusts (REIT) have played an important role in this respect for some time. More recently in the United States, utilities and other corporate entities have sponsored “yieldcos”, essentially selling renewable energy assets (e.g. wind and solar power generation) to the publicly-traded yieldco entities which pay significant dividends to their shareholders.

While innovative funding abounds, and technology costs for renewable electricity are falling fast, the most basic problem is the limited nature of the pipeline of bankable projects. There are both policy and market obstacles that significantly diminish investment opportunities and/or the risk-return profile of renewable electricity projects. The absence of carbon pricing mechanisms and other sufficiently ambitious and coherent climate mitigation policies is a well-known and critical issue, as is the historical instability of specific incentives for renewables such as feed-in tariffs. But the misalignment of broader policies and regulations with respect to climate goals can also hinder investment in renewable electricity. Misalignment can occur across the general investment environment, such as in areas of investment policy, attitudes of competition authorities, electricity market design, internal and external trade, and financial market policies.

Trade and investment policies that are inconsistent with climate change goals can create barriers to cross-border trade and investment in renewable electricity generation. The increasing use of local-content requirements (LCR) attached to solar photovoltaic and wind energy incentive schemes since 2008 threatens to fragment, rather than optimise, global renewable electricity value chains. With the best intentions in mind, policy makers believe that supporting the local manufacture of a renewable technology through LCRs helps employment when, in fact, failure to use cheaper intermediate inputs raises costs and reduces employment in much larger downstream activities (such as power plant project development). Other outstanding trade and investment barriers in solar photovoltaic and wind energy sectors include trade remedies and divergent national technical standards.

Fragmentation in electricity markets and networks, including in the development of transmission and distribution infrastructure, can favour fossil-fuel incumbency in the power sector and increase the cost of further integration of renewables. Factors include insufficient cross-border interconnection of transmission networks, which limits the flexibility of electricity systems and hinders integration of renewables, and heterogeneous design of capacity mechanisms with insufficient regional planning.

To unlock investment in renewable electricity, policy makers need to consider options to address existing obstacles to investment, especially concerning existing fragmentation in electricity markets and policy misalignments with climate change goals. Dissemination of research on these issues is needed to help policy makers address key policy priorities to overcome barriers to renewable energy investment and financing.

Fragmentation and the pension and insurance sector

Life expectancy increases have been putting pressure on pension systems to provide adequate and sustainable incomes in retirement: individuals are not necessarily working longer and may be spending more years in retirement. This alone poses a challenge to pension funds and annuity providers who must manage longevity risk. The issue of longevity and its interaction with very low interest rates affecting the solvency of pension

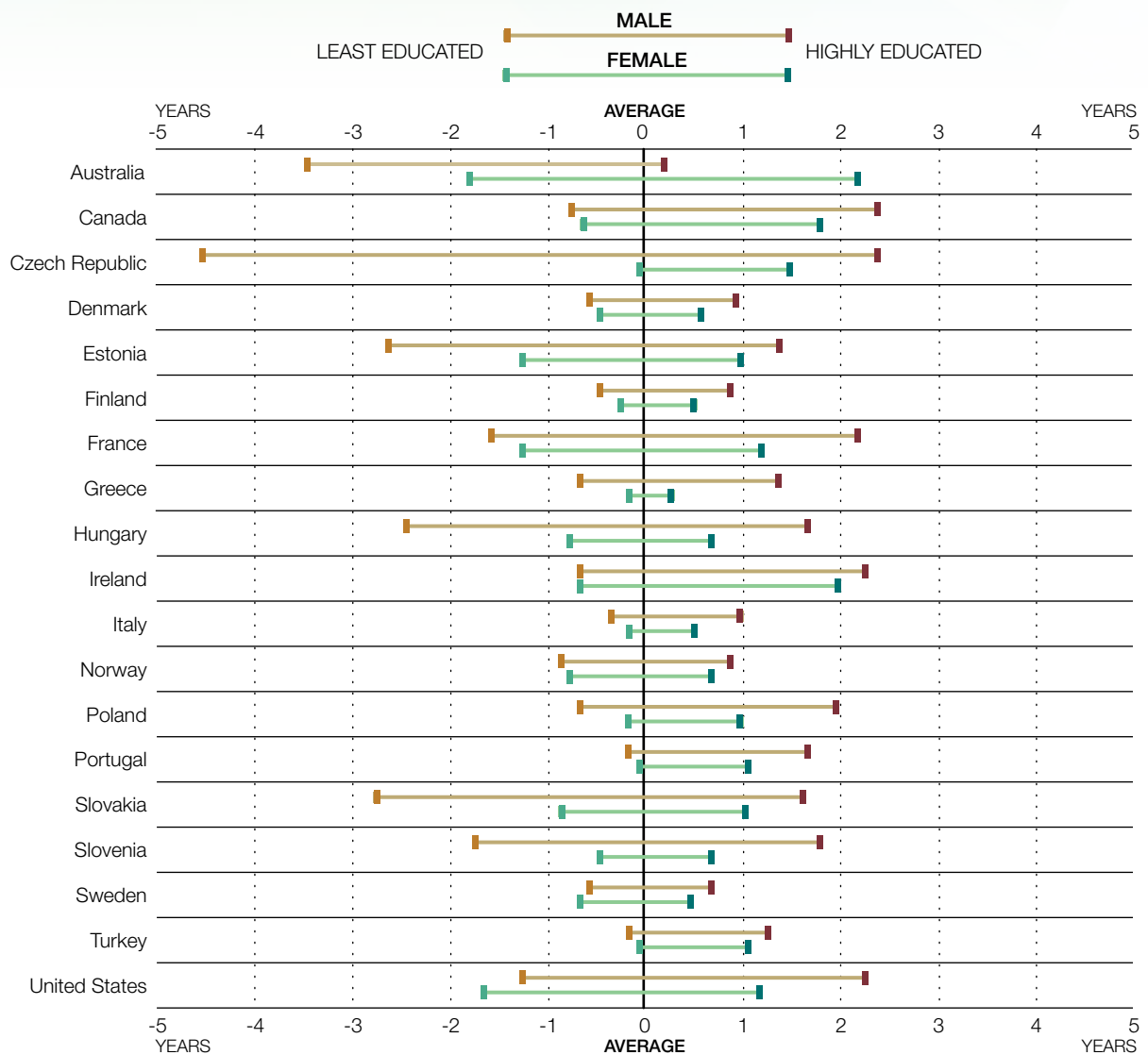
and insurance companies was taken up in the 2015 *Outlook*. Chapter 6 of the 2016 *Outlook* looks at the issue of fragmentation in the longevity of different social groups.

Significant differences in life expectancy across socio-economic groups, as measured by education, income and occupation, mean that the challenge of ensuring sufficient income in retirement cannot only be assessed “on average”. Chapter 6 of the *Outlook* also assesses the implications of this fragmentation for pensions and annuity markets and for public policy.

Not only are there differences in current levels of mortality and life expectancy, but evidence is growing that there are also differences in the rate at which mortality and life expectancy are improving over time across socio-economic groups. In many countries, those in higher socio-economic groups have benefited from larger improvements in mortality and life expectancy over the last few decades than those in the lower socio-economic groups.

As a result of these differences, two individuals of different socio-economic groups, retiring at the same age, can expect very different lengths of retirement. Policy makers need to be aware of these differences to ensure that rules governing the access to pensions and retirement savings do not put those in lower socio-economic groups at a disadvantage. Policies encouraging people to work longer, following the average increases in life expectancy may disproportionately put individuals in lower socio-economic groups who would be working longer, but not necessarily living longer, at a disadvantage. In addition, pension pay-out rules may have unintended consequences to the total pension payments that individuals in lower socio-economic groups can expect to receive.

Figure 9. Difference in life expectancy at age 65 by level of education relative to the population average



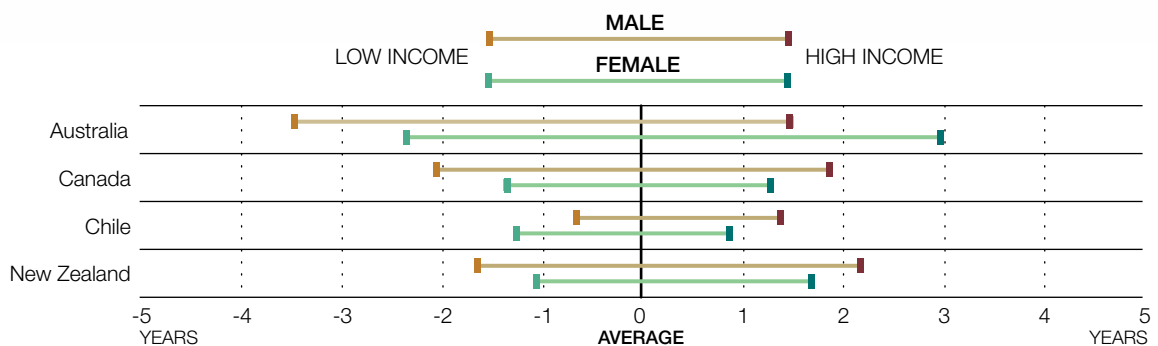
Notes: See page 24.

Source: OECD calculations based on sources given in Annex 6.A1 of the *OECD Business and Finance Outlook 2016*.

These differences present challenges for pension funds and insurance companies in measuring and managing longevity risk. The demographic mix of pensioners and insured populations will influence the actual longevity improvements that they experience. Unpredictable changes in demographics lead to higher uncertainty about the future life expectancy of these populations. Furthermore, adverse selection in annuity markets (longer-lived cohorts tend to buy them) implies a higher cost of mitigating the longevity risk of beneficiaries. While lower cost index-based hedges could present a solution to this problem, there is uncertainty about the efficacy of these instruments due to the differences in mortality trends across socio-economic groups. This presents a barrier to their widespread use.

Nevertheless, these differences also present opportunities to serve society's financial needs for retirement through increased market segmentation. Different segments of the population have different needs with respect to financing their retirement. Product innovation should adapt better to meet these diverse needs. Enhanced annuities, for example, have emerged as a solution to provide higher annuity incomes to more disadvantaged groups with lower life expectancies. Other types of products could be structured to provide unique solutions for different segments of society.

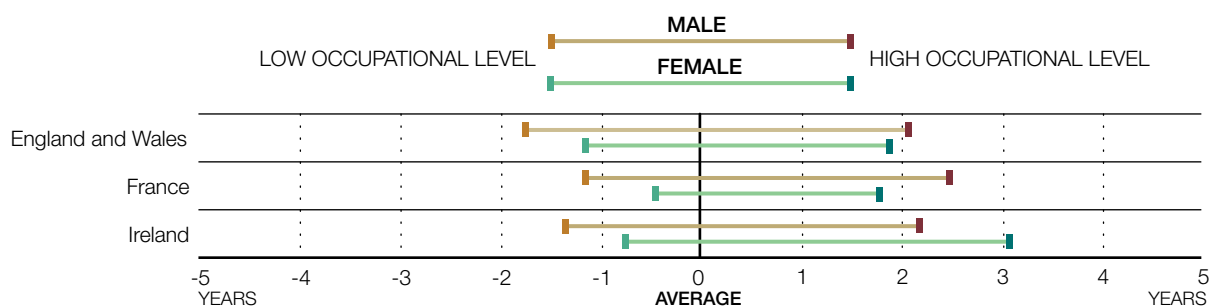
Figure 10. Difference in life expectancy at age 65 by income group relative to the population average



Notes: See page 24.

Source: OECD calculations based on sources given in Annex 6.A1 of the *OECD Business and Finance Outlook 2016*.

Figure 11. Difference in life expectancy at age 65 by level of occupation relative to the population average



Notes: See page 24.

Source: OECD calculations based on sources given in Annex 6.A1 of the *OECD Business and Finance Outlook 2016*.

There is scope for public policy to help. More accurate and timely mortality data by socio-economic group would facilitate the measurement and management of the longevity risk exposure of pension funds and annuity providers. Product innovation to meet the various needs of different market segments should be encouraged and facilitated so long as the risks arising from these products are managed appropriately. Finally, policy makers need to be aware of differences in mortality rates to ensure that rules on how overall access to funds earmarked for retirement are governed do not put lower socio-economic groups at a disadvantage. This may occur because policies defined “on average” may be regressive.

Variations in legal frameworks that fragment the business environment

While there are many reasons for variations in legal regimes, varying laws or legally constituted institutional arrangements across the global economy, these can in some cases unnecessarily fragment the economic environment by treating similar activities differently. Taxation and labour market regulations are two of the most obvious examples.

Two chapters in this *Outlook* examine areas which receive much less attention but are nevertheless important. Variations in enforcement regimes for the Anti-Bribery Convention provide one example of fragmentation of the economic environment, even though the origin is not really economic, and this is taken up in Chapter 7 of the *Outlook*. Many investment treaties, as interpreted by arbitration tribunals, establish a unique combination of rules that can result in fragmentation of companies and corporate governance on key issues. These aspects are addressed in Chapter 8 of the *Outlook*.

Foreign bribery: Variations in enforcement regimes across the 41 Parties to the Anti-Bribery Convention provide an interesting example of how different laws and enforcement regimes affect the profitability of bribery—if it is profitable, firms will bribe. These variations arise from the failure of many countries to combine strong sanctions with active enforcement of anti-bribery laws. This creates a situation where in many jurisdictions with weak sanctions, foreign bribery can be an attractive “investment”. In other jurisdictions, foreign bribery is subject to strong penalties, although some of these penalties exist on paper only because they are not backed up by effective enforcement.

Fragmentation across jurisdictions is documented in the chapter by simulations of returns on investments in foreign bribery for Parties to the Convention. These are based on cash flows from a real-world bribery scheme. For each Party that has a maximum sanction for foreign bribery, this maximum sanction is applied to the cash flow analysis to calculate a net present value for the investment in the bribery scheme. The results show that, because sanctions are weak in many jurisdictions, companies would still have an interest in investing in the bribery scheme, even if they knew with certainty that they would be caught at the end of the scheme.

Simulations under an uncertainty scenario, where a firm faces at least some probability of getting caught and sanctioned for bribery in each year of the scheme, also demonstrate great variations of incentives across countries. This implies that an appropriate balance between enforcement effort and levels of sanctions needs to be found in order to establish an effective system of deterrence.

Another way to discourage bribery would be to create an effective system of confiscation, that is, the deprivation of property by a competent authority such as a court. This would make disincentives to bribery more powerful, but in many cases the Parties to the Convention lack the necessary expertise and legal infrastructure to establish such systems.

An essential element of any regime that involves extremely high sanctions is to ensure that they are proportionate to the offence and arrived at through due process. Prosecutors and judges must be committed to justice and avoid overreach. In order to defend fundamental values of law such as non-discrimination, transparency and predictability, tools for disciplining discretion need to be in place for both judges and prosecutors.

Investment treaties: This chapter examines some consequences of investment treaties that typically offer covered foreign investors protection from certain host government conduct such as expropriation, discrimination or treatment that is not “fair and equitable”. Such treaty protection is not available to domestic shareholders or foreign shareholders not covered by the treaties. These treaties are concluded between two or more governments and include both stand-alone investment treaties and investment chapters in broader trade and investment agreements (e.g. the North American Free Trade Agreement or the Trans-Pacific Partnership).

Over 3 000 investment treaties have been signed. Claims against governments by covered investors under treaties are normally subject to resolution by arbitration by tribunals. At least 70 investment claims against governments were filed last year, many against developed countries, far outstripping the 14 requests for consultations at the WTO. As of 2012, the average claim in publicly-available resolved cases reportedly exceeded USD 620 million, almost doubling from five years earlier. Some individual awards can run much higher, but successful claimants generally receive far less than the claimed amount.

As interpreted in these arbitration proceedings, many treaties effectively establish rules that significantly modify widely-applied corporate law and corporate governance principles and can result in fragmentation of companies. They effectively create different classes of shareholder with different rights. The interpretations that create these differences include: i) the acceptance of claims by covered shareholders for losses incurred by companies in which they own shares (claims for “reflective” loss, typically loss in the value of shares as a result of injury to “their” company); and ii) the general availability of damages, including lost profits, as a remedy for government misconduct in breach of a treaty, subject to adequate proof.

In contrast to these treaty interpretations, claims for damages for reflective losses are generally barred under national corporate law and other systems of law. The injured company, not its shareholders, owns the claim for redress and recovers any damages. Shareholders that invest in a company are generally accordingly not permitted to seek recovery of reflective loss suffered due to a corporate loss.

The rules under many treaties as outlined above can allow covered shareholders to strip assets from the company to the detriment of company creditors and other shareholders. This is likely to affect the availability, pricing and other conditions of debt and equity financing for investment that is subject to regulatory risk. Providing greater rights to covered foreign shareholders than those of non-covered domestic shareholders creates incentives that are likely to affect the ratio of foreign and domestic share ownership over time. The unique rules can also fragment corporate governance because they shift power on key issues from the centralised corporate board of directors to covered shareholders. Governments and others are now carefully analysing and evaluating these likely impacts as part of their investment treaty policies going forward. They are developing new approaches to address different aspect of the issues that arise.

CHAPTER ABSTRACTS AND KEY FINDINGS

CHAPTER 1

The financial markets outlook

The global economy is caught between two major headwinds: the reversal of the investment-heavy commodity supercycle; and “L-shaped” recovery in advanced economies caused by the aftermath of the financial crisis and the interaction of re-regulation with low and negative interest rates. The zero and even negative time value given to money is having perverse effects. Investors are being herded into concentrated and less liquid positions which work against long-term value creation and productivity growth. Normalisation of interest rates and a sustainable recovery of asset prices is shown to depend on which global scenario emerges: an “inflation first” set of policies favoured by central banks, and avoidance of a “creative destruction” phase to deal with over-investment and excess capacity in certain sectors and countries; or “productivity first” policies that bring about structural adjustment more quickly. The scenario most likely to emerge is one of continued monetary ease and choppy and sometimes volatile markets. Equities are least overvalued but cannot rise sustainably on monetary policy alone. Longer-run negative valuation adjustments are implied for some of the other most severely overvalued asset classes.

MAIN FINDINGS

- The world is caught between two structural headwinds: (a) the reversal of the commodity supercycle and the related (and often underestimated) energy and materials company investment on which growth came to depend; and (b) the aftermath of the global financial crisis with re-regulation contributing to a continuation of the L-shaped recovery in advanced economies, and low and negative interest rates hurting bank returns and introducing distortions in investment portfolios.
- The supercycle headwind was caused by massive over-investment in the BRIICS, especially the People’s Republic of China, and the sector misallocation of resources globally resulting from it. The return on equity, less the cost of capital, is negative in the key supercycle sectors in emerging economies and this has spilled into other sectors globally. Despite a bounce related to recent Chinese policy, commodity prices are low and the Baltic Dry Index was at an all-time low in early 2016. This will take years to set right.
- Some regions (unlike the United States) have not been able to deal with non-performing loans by taking them off bank balance sheets; and bank exposure to energy assets is a problem. Both issues are reinforcing the L-shaped recovery. Negative interest rates interact with regulatory measures that force banks to hold high quality liquid assets. Bank distance-to-default (DTD) measures are declining again.
- The low and sometimes negative interest rates imply a zero or negative time value of money which is causing investor responses that portend problems for the future. Investors are being herded into concentrated trades with poor liquidity. A kind of barbell has developed with alternative assets: with private equity (because they specialise in managing long-term risk premiums) and exchange-traded funds (because their fees are low and easier access to illiquid assets can be obtained with promises of daily liquidity) at one end; and products which generate absolute cash-like returns based on leverage at the other end. In between is an allocation to equities and bonds within which further herding of investors into concentrated positions is found: in high-yield non-investment grade bonds; and in equities that focus on providing strong dividends and buybacks (instead of investment).
- Cross-border divestment (apparent in M&A activity) concentrated in emerging economies accelerated after the crisis. To this weakened longer-term trend component was added portfolio outflow pressure at the turn of the year when US tightening came into view, resulting in exchange rate pressures (temporarily abated in March with the softer Federal Reserve tone).
- Normally markets have a way of forcing required policy adjustments. But because emerging countries are less market oriented, pressures arising from resource misallocation are also relayed elsewhere. Emerging countries (and notably China) have increased market restrictions and Chinese equity prices are distorted by policy actions.

- Corporate borrowing is concentrated in the supercycle sectors (especially energy, materials and capital goods) which are particularly exposed to falling commodity prices.
- The impact of normalisation or “lift-off” in interest rates will depend on whether this occurs as an “inflation first” scenario with more monetary ease and emerging economy investment spending (which raises global supply further), or as part of a “productivity first” strategy led by structural policy. With the former, central banks would be obliged to lift interest rates in response to inflation before the “creative destruction” phase to deal with excess capacity, as happened in 2009. The “lift-off” in interest rates would turn into a two-step process.
- If a healthy “creative destruction” phase ensued, as higher interest rates confronted companies with a realistic cost of capital and structural policies were implemented, then the scene would then be set for more sustainable growth and normalised interest rates later on. The required structural policies to lift productivity that might actually work, based on evidence from the analysis of financial decisions of companies that succeeded following the crisis, are set out.
- If monetary policy continues to try to do the heavy lifting without global structural reform, then choppy and sometimes volatile markets with little sustainable rise in asset valuations will be the result. Equity is the least overvalued asset class, but even here a sustained rally would be unlikely unless productivity growth accelerates—it cannot be based on monetary policy alone.

CHAPTER 2

Corporate finance and productivity

One of the puzzles of the post-crisis period is low observed aggregate productivity growth. This chapter dissects the problem using the company and sector value-added data of more than 11 000 of the world's largest listed non-financial and non-real estate companies, taken from 20 different industry sectors of the Global Industry Classification Standard (GICS). The contribution to productivity growth of these companies is very narrowly based within each sector. This chapter explores why productivity growth is fragmented, i.e. highly varied across enterprises. It considers what distinguishes "more" from "less" productive companies and examines the effect of different company financial decisions with respect to capital expenditure, sales, dividend and buy-back policies, research and development (R&D) expensing, debt-versus-equity, and merger and acquisition (M&A) activity.

MAIN FINDINGS

- When 11 000 large global companies are sorted by weighted productivity growth into deciles within 20 GICS sectors, fragmentation is apparent. Prior to the crisis, there was a single group of high-productivity-level companies (incumbents) grouped from various sectors in advanced economies, some of whom were beginning to experience declining growth rates. There was a very long tail of low-growth and low-productivity-level companies outside of this cutting edge group. In emerging market economies, growth was much stronger than for advanced economies but the level of productivity much lower.
- The crisis seems to have shaken things up in advanced economies. A second group of companies emerged with strong dynamic growth and rising productivity levels, reflecting a competitive challenge to the pre-crisis incumbent group: sometimes from incumbents who adopted new financial strategies and moved into the growth group and sometimes from entirely new companies. There is a large amount of company "persistence" within and between these two groups. In the post-crisis period, productivity growth in emerging economy companies has collapsed.
- In advanced economies, R&D spending is concentrated mainly in pharmaceuticals and biotechnology, and in the main digital economy sectors. It is much lower in emerging market economies. Between the pre- and post-crisis periods, R&D was, on average, cut in those companies staying in the incumbent group, but appears to have been a key factor in those that transitioned to the high-growth group.
- Changes in favour of more debt financing in the post-crisis period is more prevalent in the incumbent (negative productivity growth) companies with falling free cash flow. High-growth companies had higher levels of debt but did not increase it in the post-crisis period and instead focused on maintaining high levels of free cash flow and favouring equity as an external source of finance. Productivity growth and innovation involve risk taking and require a longer-term perspective for which equity capital and free cash flow (as a buffer for unforeseen short-term disruptions) is more suited. Weaker firms with poor cash flow might borrow excessively in order to be able to compete with more successful firms in carrying out M&A activity, paying dividends and carrying out buybacks, achieving their tax objectives, or defending against takeover. This undermines their ability to have a longer-term focus.
- In 2002-2015, there was an average of 1 650 M&A deals per annum, or around 15% of the 11 000 companies in the sample. When M&A data are matched with the company names in this sample, they are found to be heavily concentrated in those companies that transitioned to higher growth. M&A activity appears to be a surprisingly net positive mechanism for rationalising a business and promoting productivity growth.
- Stock prices reflect expected future earnings and benefit from productivity growth, and hence may shed some light on the efficacy of the four corporate strategies: higher R&D, a greater equity (versus debt) focus, higher free cash flow and more M&A activity to rationalise business models. The strategies seem quite powerful in helping companies raise share prices and transition to the strong productivity growth group in the tougher post-crisis period. In this latter period strong equity performance continues in portfolios based on the four identified business strategies.
- At present the world is characterised by excess supply capacities, and it is critical to rationalise industries and to boost productivity growth in non-excess-capacity areas as quickly as possible. Low interest rates do not address this problem of fragmentation holding back sustainable productivity growth. Policies that help companies lock in the four key corporate finance factors associated with improving productivity growth are identified, and Chapter 3 discusses tax incentives for R&D in detail.

CHAPTER 3

Fiscal incentives for R&D and innovation in a diverse world

Public policy has an important role to play in promoting research and development (R&D) the development, diffusion, and use of new knowledge and innovations. Fiscal incentives, including tax policies, should be directed at specific barriers, impediments or synergies to facilitate the desired level of investment in R&D and innovations. Without careful design, policies can have unintended consequences such as favouring incumbent firms, encouraging small firms to undertake less efficient activities, or creating arbitrage and rent-seeking activity. R&D tax policy needs to be considered in the context of the country's general tax policies, its broader innovation policy mix and its other R&D support policies. More R&D activity in one country does not necessarily result in an overall increase in global innovation if it is simply shifted from another country. More research is needed to determine the extent to which R&D fiscal incentives in one country increase overall R&D, the quality of that R&D, and its positive spillovers to other sectors of the economy and other countries.

MAIN FINDINGS

- Government support for business R&D seeks to encourage firms to invest in knowledge that can result in innovations that transform markets and industries and result in benefits to society. Most often, support is provided to firms with the intention of correcting market failure such as difficulties appropriating the returns to investment in R&D and difficulties in finding external finance, in particular for small or young firms.
- Fiscal incentives should be directed at specific barriers, impediments or synergies to promote R&D among other innovation activities and facilitate innovation within each country and region. Public policy must recognise the heterogeneity of the markets and individual actors involved in developing and using innovations, as well as the heterogeneity of alternative fiscal incentives and their design.
- Tax policy is an increasingly important element of these incentives. The most widely used types of tax incentive include tax credits or favourable tax deductions for R&D expenditures, but other types are focused on income from certain R&D activities, on certain types of R&D financing, and are, in some cases, provided directly to R&D researchers.
- Most countries providing R&D tax incentives focus the incentives on reducing the cost and encouraging increased expenditures on R&D. This can take the form of credits against income and/or payroll taxes for expenditures on wages and/or capital investments for R&D. It can also take the form of accelerated depreciation, allowing recovery of the investment faster than the underlying economic depreciation of the long-lived asset; or enhanced depreciation, where taxpayers can recover more than 100% of the cost of the R&D expenditures.
- An increasing number of countries have adopted, or are considering adopting, income-based tax incentives, often in addition to their expenditure-based incentives. These provide for lower tax rates on the future income from investments in R&D and increase the after-tax rate of return to those investments. The assets are highly mobile, however, allowing both the assets and future income from them to be located away from the activity that generated the assets and income. This is often in low-tax jurisdictions to reduce their corporate tax liabilities, which erodes tax revenues in the other countries where the R&D investments were actually made.
- To avoid harmful tax practices preferential tax regimes for research and development should be consistent with a “nexus” approach. This uses expenditure as a proxy for real activity and allows a taxpayer to benefit from the preferential regime only to the extent that the taxpayer itself incurred the qualifying expenditures that gave rise to the income generated by the research and development investment.

CHAPTER 4

Changing business models of stock exchanges and stock market fragmentation

This chapter provides an overview of structural changes in the stock exchange industry. It provides data on mergers and acquisitions as well as the changes in the aggregate revenue structure of major stock exchanges. It describes the fragmentation of the stock market resulting from an increase in stock exchange-like trading venues, such as alternative trading systems (ATS) and multilateral trading facilities (MTF), and a split between dark (non-displayed) and lit (displayed) trading. Based on firm-level data, statistics are provided for the relative distribution of stock trading across different trading venues as well as for different trading characteristics, such as order size, company focus and the total volumes of dark and lit trading. The chapter ends with an overview of recent regulatory initiatives aimed at maintaining market fairness and a level playing field among investors.

MAIN FINDINGS

- Regulatory reforms and developments in information and communication technology have increased competition between different types of stock trading venues. The result is fragmentation in two dimensions. First, we find extensive fragmentation of trading between stock exchanges and off-exchange venues, such as ATSs and MTFs. Second, we also find an increased fragmentation between dark (non-displayed) trading and lit (displayed) trading.
- In 2015, two thirds of all stock trading in the United States took place on 11 different exchanges and the remaining 33% on numerous off-exchange venues. Of all trading, 42% was in the form of dark trading, of which about one-fifth was carried out on exchanges. In the European countries, around 50% of all trading takes place on exchanges and the rest on off-exchange venues. The amount of dark trading in Europe varies across countries from 35-48% of all trading.
- Off-exchange trading and dark trading have often been seen as a way for investors to reduce the market impact that could occur if they place large orders on a stock exchange. However, our analysis of trading data for the United States indicates that average order sizes do not differ significantly between off-exchange venues and traditional exchanges.
- Fragmentation does not seem to have affected the distribution of trading in large and small company stocks. Moreover, the distribution of trading in large and small company stocks is fairly similar in countries with fragmented trading venues and countries where trading is concentrated. Since 2000, trading in the 10% largest companies has accounted for 70-90% of all trading, both in the United States and Japan.
- The main concerns with respect to increased off-exchange and dark trading are the quality of the price discovery process, the fairness of markets, and the level playing field among investors. Together with recent enforcement actions against some dark pools, this has opened up a discussion about the rationale for existing differences in regulatory regimes between trading venues that seem to serve similar functions.
- Looking ahead, it is likely that regulatory initiatives in both Europe and the United States will come to focus on regulatory convergence between exchanges and off-exchange venues. It remains to be seen what the effects will be in terms of stock market fragmentation.

CHAPTER 5

Fragmentation in clean energy investment and financing

This chapter reviews how policy and market fragmentation is constraining financing of, and investment in, renewable electricity projects. Scaling-up investment in renewable electricity is critical for reducing greenhouse gas emissions from the power sector, and is therefore important for implementing the 2015 Paris Agreement on climate change. Despite increasing cost-competitiveness of renewable electricity technologies, overall investment in renewables projects remains constrained by policy and market obstacles. These hinder development of a sufficient pipeline of bankable projects and affect the risk-return profile of renewable electricity projects. This chapter reviews recent trends in renewable electricity investment and financing and identifies policy misalignments and market barriers constraining investment in renewable electricity, with a focus on fragmentation issues.

MAIN FINDINGS

- An increase in the scale and pace of climate change mitigation efforts, including mobilising investment and financing for renewable electricity generation, is necessary to successfully implement the 2015 Paris Agreement concluded by the 21st Conference of the Parties (COP21) of the United Nations Framework Convention on Climate Change (UNFCCC).
- Global new investment in renewable energy has rebounded since its decline in 2012-13, to an all-time record of USD 286 billion in 2015, with a shift in geographic focus towards Asia. The growth in investment flows has been sustained by an evolution in financing models and financial stakeholders for renewable electricity projects, coupled with significant policy support to renewable energy.
- The struggling finances of many utilities have contributed to new ownership and financing models in certain renewable electricity technologies such as wind energy. Traditionally, utilities and project developers have provided the majority of equity in large renewable projects through their balance sheet. In the past five years, other types of investors have increased their commitments to renewable electricity. A large number of institutional investors have notably recognised infrastructure investments through debt and equity finance as a source of inflation-linked, long-term and stable cash flows.
- Partnerships between financial actors are increasingly used to recycle capital from the balance sheets of utilities through the sales of project stakes or refinancing. Institutional investors have an important role in freeing up debt and equity capital in operating-stage renewable electricity projects. Banks, private equity funds, project developers and utilities can then redeploy the proceeds into the development and construction of new projects. Innovative financing structures are now being used during construction and operational stages of renewable electricity projects. Since 2013, some utilities and other corporate entities have notably launched “yieldcos”, publicly traded companies formed to hold renewable energy assets whose growth is one of the main trends affecting renewables investment.
- Even though technology costs are falling fast, policy and market obstacles still constrain overall growth in investment in renewable electricity, limiting the pipeline of bankable projects and affecting the risk-return profile of renewable electricity investments. As well as insufficiently ambitious climate mitigation policies, the misalignment of other policies and regulations with respect to climate goals can act to hinder investment in renewable electricity. Misalignments can occur across the general investment environment, such as in the areas of investment policy, competition policy and electricity market design, trade and financial markets policy.
- Trade and investment policies that are inconsistent with climate change goals can create barriers to cross-border trade and investment in renewable electricity generation. The increasing use of local-content requirements in solar photovoltaic (PV) and wind energy since 2008 threatens to fragment rather than optimise global renewable electricity value chains. Other outstanding trade and investment barriers in solar PV and wind energy include trade remedies and divergent national technical standards.
- Fragmentation in electricity markets, including in the development of transmission and distribution infrastructure, can favour fossil-fuel incumbency in the power sector and increase the cost of further integration of renewables. Factors include: insufficient cross-border interconnection of transmission networks, which limits the flexibility of electricity systems and hinders integration of renewables; and heterogeneous design of capacity mechanisms with insufficient regional planning.
- In order to unlock investment in renewable electricity, policy makers need to consider options to address existing obstacles to investment, especially concerning existing fragmentation in electricity markets and policy misalignments with climate change goals. Additional research is needed to help G20 and OECD policy makers address key policy priorities to overcome barriers to renewable energy investment and financing.

CHAPTER 6

Fragmentation of retirement markets due to differences in life expectancy

This chapter provides evidence of the differences in life expectancy around retirement age across different socio-economic groups in selected OECD countries based on measures of education, income and occupation. Evidence shows that higher socio-economic groups live longer than those in lower socio-economic groups and these differences may be increasing over time. Fragmentation of mortality rates has implications for pensions, annuity markets and public policy. It makes it more challenging for pension funds and insurance companies to manage longevity risk. However, it also presents an opportunity to better tailor retirement solutions to the needs of different segments of society. Policy makers need to be aware of these differences to ensure that rules governing access to pensions and retirement savings do not put those in lower socio-economic groups at a disadvantage.

MAIN FINDINGS

- There are significant differences in life expectancy across socio-economic groups, as measured by education, income and occupation, and there are also differences in the gradient of improvements over time in mortality and life expectancy across socio-economic groups.
- Differences in life expectancy present a challenge for pension funds and annuity providers in managing longevity risk; both in terms of establishing appropriate mortality assumptions and of effectively mitigating exposure to the risk.
- These differences also present an opportunity for pensions and insurers to expand their markets and diversify their longevity risk exposure by adapting product offerings to different segments of society.
- Policy makers should help to facilitate the measurement and management of the longevity risk exposure of pension funds and annuity providers by making accurate and timely mortality data available by socio-economic group.
- Policy makers should encourage and facilitate product innovation to meet the various needs of different market segments, though they should also ensure that the risks arising from these products are managed appropriately.
- Policy makers should be aware of these differences in mortality rates to ensure that the rules governing overall access to funds earmarked for retirement do not put lower socio-economic groups at a disadvantage, as policies defined “on average” may be regressive.

CHAPTER 7

Is foreign bribery an attractive investment in some countries?

One of the most basic legal principles is that crime should not pay. Yet this chapter will show that, in many jurisdictions with weak sanctions, foreign bribery may be an attractive investment. In others, foreign bribery is subject to strong penalties, although some of these penalties exist only on paper because they are not backed up by effective enforcement. Only a few countries combine strong sanctions with active enforcement of anti-bribery laws. Thus, this chapter paints a picture of fragmented deterrence across the 41 Parties to the Anti-Bribery Convention. This patchwork of incentives and disincentives for foreign bribery is explored using simulations of “net present value” for “investments in foreign bribery” under assumptions of both certainty and uncertainty. The simulations draw on sanctions data produced by the OECD Working Group on Bribery for each of the 41 Parties to the Anti-Bribery Convention and on the cash flows including both bribes and benefits associated with a real-world bribery scenario. They show, in particular, that in many countries having low fines for paying bribery, a company would still be willing to “invest” in a foreign bribery scheme even if it knew in advance that it would be caught and fined at the end of the bribery scenario. This implies that fines for bribery are set too low in many jurisdictions.

MAIN FINDINGS

- Fragmentation across jurisdictions of fines and enforcement effectiveness create both strong incentives and disincentives for foreign bribery across the Parties to the Anti-Bribery Convention. This fragmentation is documented by simulations of returns on investments in foreign bribery for Parties to the Convention.
- The simulations are based on the cash flows from a real-world bribery scheme. For each Party that has a maximum sanction for foreign bribery, this maximum sanction is applied to the cash flow analysis to calculate a net present value for the investment in the bribery scheme.
- The results show that, because of low sanctions in many jurisdictions, companies would still have an interest in investing in the bribery scheme, even if they knew with certainty that they would be caught at the end of the scheme.
- Simulations under an uncertainty scenario where a firm faces at least some probability of getting caught and sanctioned for bribery in each year of the scheme also show a strong fragmentation of incentives. This implies that an appropriate balance between enforcement effort and levels of sanctions needs to be found in order to establish an effective system of deterrence.
- The simulations also show that the availability of effective systems of confiscation – that is, the deprivation of property by a competent authority, such as a court – has the potential to significantly reduce the fragmentation of incentives, but in many cases the Parties to the Convention lack the necessary expertise and legal infrastructure to establish such systems.

CHAPTER 8

The impact of investment treaties on companies, shareholders and creditors


Investment treaties are concluded between two or more governments and typically offer covered foreign investors protection for their investments from host government conduct in violation of the treaty such as expropriation without compensation, discrimination or treatment that is not “fair and equitable”. This chapter identifies the unique combination of rules applied under many investment treaties which includes rules about the types of loss recoverable by shareholders covered by treaties and about the availability of damages for covered investors in claims against governments. The chapter considers the incentives created by these rules and how they may affect companies, shareholders, creditors and capital markets. It also considers how those incentives may affect corporate structuring of investment.

MAIN FINDINGS

- Investment treaties are concluded between two or more governments. They typically offer covered foreign investors protection for their investments from host government conduct in violation of the treaty such as expropriation without compensation, discrimination or treatment that is not in accordance with “fair and equitable treatment” obligations. They include both stand-alone investment treaties (often referred to as bilateral investment treaties or BITs) and investment chapters in broader trade and investment agreements such as the North American Free Trade Agreement (NAFTA), the Trans-Pacific Partnership (TPP) or the Energy Charter Treaty (ECT).
- Investment treaties were developed to protect investors of one country when investing in another country, to lower non-commercial risk for such investors, and overall to promote a sound investment climate. A mostly-older generation of investment treaties provides little detail on the applicable substantive and procedural rules, while a number of modern agreements provide significantly greater detail on these and other issues.
- Investment treaties create economic incentives and disincentives. As treaties become better known to investors and lawyers, and apply to more investments between advanced economies, their economic impact is likely to increase. At least 70 investment claims against governments were filed last year, many against developed countries, far outstripping the 14 requests for consultations at the World Trade Organization (WTO).
- As interpreted by arbitral tribunals in claims brought by covered investors against governments, many of the over 3000 existing investment treaties establish a unique combination of rules. Some of those rules significantly modify widely-applied corporate law and corporate governance principles, and can result in fragmentation of companies. The unique combination includes i) the acceptance of claims by covered shareholders for losses incurred by companies in which they own shares (claims for reflective loss); and ii) the general availability of damages, including lost profits, as a remedy for government misconduct in breach of a treaty, subject to adequate proof.
- The general acceptance of covered shareholder claims against governments for damages for reflective losses under many investment treaties is unique because such claims are generally barred under national corporate law and other systems of law. The injured company, not its shareholders, owns the claim for redress and recovers any damages. The impact of the unique treaty rules in fragmenting recovery of corporate loss is amplified because frequently indirect shareholders higher up the corporate ownership chain have also been permitted to recover reflective loss.
- Because the unique rules can allow covered shareholders to bring claims that could be perceived as stripping assets from the company to the detriment of company creditors and other shareholders, they could affect the availability, pricing and other conditions of debt and equity financing for investment that is subject to regulatory risk. The unique rules provide greater rights to covered foreign shareholders than those of non-covered domestic shareholders which is likely to affect the ratio of foreign and domestic share ownership. The unique rules can also fragment corporate governance because they shift power on key issues from the centralised corporate board of directors to covered shareholders.
- By allowing a wide range of claims by direct and indirect shareholders of a corporation injured by a government, the unique rules may also encourage the complex structuring of investment through multi-tiered corporate structures. Each covered shareholder can be a potential claimant under a different treaty. Governments and others should carefully analyse and evaluate the impact of treaty incentives on companies and stakeholders as part of their investment treaty policy.

NOTES TO BE TAKEN INTO CONSIDERATION WHEN INTERPRETING THE DATA

- Figure 1. See Annex 2.A1 in the *OECD Business and Finance Outlook 2016* for a description of company data and sample.
- ROE (return on equity): ratio of net income to common equity.
- COE (cost of equity): sum of dividend and buyback yield and underlying trend in EPS growth.
- COK (cost of capital): weighted average sum of cost of equity and cost of debt.
- Dividend and buyback ratios are expressed in percent of net sales.
- Figure 3. There are eleven non-investment grade categories: five from C, C to CCC+; and six from B, B- to BB+. There are ten investment grade categories: three from B, BBB- to BBB+; and seven from A, A- to AAA. This index is weighted as one for C, two for CC and rising to twenty one for AAA. A fall in the index indicates declining quality.
- Figure 5. Company productivity growth rates, weighted by the company's share of value added within its own sector, are ordered within each sector and separated into deciles. The figures shown are the average productivity levels of the companies in each decile, weighted by value added across sectors. The geometric Törnqvist weighting procedure is used for the periods 2002-2007 (pre-crisis) and 2008-2015 (post-crisis) within each sector. The energy sector is excluded from the averages shown here due to the extreme volatility in oil and gas prices.
- ADV: advanced economies; EME: emerging economies.
- Figure 6. The figures shown are the weighted average debt-to-capital ratio and free cashflow per 1000 employee using the geometric Törnqvist weighting procedure for the periods 2002-2007 (pre-crisis) and 2008-2015 (post-crisis) within each sector.
- Figure 7. For each index constituent company, the trading volume across all European venues between 1 December 2015 and 31 March 2016 is included. The figure covers only EUR volume for France and Germany and GBP volume for UK companies. All firm-orders are classified according to their visibility, on/off exchange trading and the type of the venue. For example, transactions reported by exchanges on behalf of Systematic Internalisers (SI) or over-the-counter (OTC) are reclassified as SI and OTC transactions respectively. Transactions that are recorded as give up/give in trades are excluded.
- Figure 9. Australia figures shown for age 60. Reference years and categories differ across countries and are for the latest year available, see Annex 6.A1 of the *OECD Business and Finance Outlook 2016*.
- Figure 10. Australia figures shown for age 60. Reference years and categories differ across countries and are for the latest year available, see Annex 6.A1 of the *OECD Business and Finance Outlook 2016*.
- Figure 11. Reference years and categories differ across countries and are for the latest year available, see Annex 6.A1 of the *OECD Business and Finance Outlook 2016*.



This work is published under the responsibility of the Secretary-General of the OECD. The opinions expressed and arguments employed herein do not necessarily reflect the official views of OECD member countries. This document and any map included herein are without prejudice to the status of or sovereignty over any territory, to the delimitation of international frontiers and boundaries and to the name of any territory, city or area.

Doing business in a fragmented world. It is seven years since the global crisis and despite easy monetary policy, financial regulatory reform, and G20 resolutions favouring structural measures, the world economy is not making a lot of progress. So what is blocking business investment and productivity growth?

The second edition of the *OECD Business and Finance Outlook* examines the many contributors which we can summarise here as “fragmentation”: the heterogeneous policies, rules, laws and industry practices that create perverse incentives and block business efficiency and productivity growth. It suggest priorities and directions for changes that will encourage inclusive growth. This booklet reproduces highlights from the publication.

Find the OECD Business and Finance Outlook online at
www.oecd.org/daf/oecd-business-finance-outlook.htm

www.oecd.org/daf

