

Financial Markets, Insurance and Pensions

INCLUSIVENESS AND FINANCE



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Foreword

This publication focuses on mechanisms and policies to improve inclusiveness in financial markets, insurance and pensions. These mechanisms and policies are designed to ensure that increasing numbers of people, firms and projects are supported and integrated in the economic system, benefiting from all the potential rights and rewards.

The first chapter examines the automatic enrolment pension schemes which have been introduced in several OECD countries to make sure people save for retirement. These schemes improve participation in voluntary funded pension arrangements while maintaining freedom of choice for individuals, taking into account behavioural biases such as inertia and procrastination. Experiences in introducing automatic enrolment to date show an increased participation in pension schemes.

The chapter presents several messages to policy makers and regulators on design elements that may lead to higher participation levels and higher retirement income. The main recommendations for achieving high participation levels are: cover as many workers as possible; analyse the characteristics of individuals who opt out to better target the policy; adapt the financial incentives to the characteristics of the target population; and finally, keep things simple. Default options for the pension provider, the contribution rate and the investment strategy are essential for typically less engaged, automatically-enrolled participants. Automatic payroll deductions to fund contributions also help make these schemes an easy tool for saving.

The main recommendations for achieving higher retirement income are: set default contribution rates at a low initial level and implement automatic escalation; consider establishing a life-cycle investment strategy as a default; consider establishing a default post-retirement product; and monitor and regulate fees in the automatic enrolment scheme.

The second chapter explains why initial coin offerings (ICOs) could be an inclusive financing vehicle for small and medium size enterprises (SMEs). It analyses the practical implications of this innovative funding method, shedding light on the importance of network effects as an important source of value creation in token offerings. It highlights limitations of ICOs that go beyond the uncertainty of the applicable regulatory framework for ICOs and crypto-asset markets, and involve misalignment of interests, issues around the structuring, valuation, pricing and trading of tokens issued in ICOs, as well as risks linked to the technology underpinning such offerings.

Uncertainty in the applicable regulatory framework for ICOs and crypto-asset markets, coupled with limitations in the structuring of ICOs and operational risks related to DLT-based networks, pose significant risks for investors participating in ICOs, while at the same time exposing SMEs to risks.

Clarity in the regulatory and supervisory framework applying to ICOs is arguably a stepping stone to the safer use of token issuance for financing purposes. Standardised

disclosure requirements are indispensable so as to overcome information asymmetries that are already present in the financing of SME risk. Enhanced investor protection for retail investors, coupled with efforts for the financial education of retail investors, can safeguard their informed participation in such financing. AML/CFT requirements on all ICO issuances are equally important, especially given the wide range of relevant issues observed in the crypto-assets space.

Chapter 3 shifts to the importance of financial well-being in financial inclusiveness. The chapter summarises current thinking around the definition and measurement of financial well-being, with a focus on adults. It then develops a potential framework to consider financial well-being globally, and discusses factors that may improve financial well-being and thus contribute to a more inclusive society. The analysis lays the foundation for developing a data collection tool, as well as exploratory analysis of potential associations between specific aspects of financial well-being and financial literacy scores.

Chapter 4 focuses on the positive impact and the potential detrimental effect of short-term consumer credit for inclusiveness. The presence and access to short-term consumer credit products, when effectively supervised and regulated, can have positive consequences on consumer's financial well-being and support financial inclusion. It can prevent the financially excluded, people facing negative life events such as accidents, ill health, and breakdowns, or the most vulnerable consumers from turning to illegal lenders when in need of short-term credit to cover unexpected expenses or to make ends meet when facing temporary income shortfalls.

The presence of a market for short-term consumer credit can also have negative consequences on financial inclusion. The use of short-term credit can exclude vulnerable groups from mainstream financial services, it may lead to over-indebtedness, and may carry a "poverty premium", users of short-term credit may pay higher costs as they may not have other alternatives.

The chapter then presents a toolkit for policy makers and regulators to minimize the potential negative impact. The toolkit focuses on evidence, ensuring effective market monitoring and studying consumer behaviour; assessing regulatory and supervisory coverage; introducing regulatory provisions such as moving beyond disclosure, caps on the cost of short-term credit; specific responsible lending provisions; and financial education.

The articles in this publication were produced within the work streams of the OECD Committee on Financial Markets, and the OECD Insurance and Private Pensions Committee. They have benefited from comments from both committees, the G20/OECD Task Force on Financial Consumer Protection, the OECD International Network on Financial Education, and the OECD Working Party on Private Pensions. The publication contributes to a broader OECD project on inclusiveness (see www.oecd.org/inclusive-growth/ and www.oecd.org/social/towards-a-more-productive-inclusive-world.htm) which focuses on spreading innovation and improving market access for all.

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Chapter 1. The role of automatic enrolment schemes in enhancing funded pension systems' inclusiveness and retirement income adequacy

This chapter assesses the role of automatic enrolment schemes in enhancing funded pension systems' inclusiveness and retirement income adequacy. It provides a general description of automatic enrolment schemes in ten OECD countries. It then assesses the parameters embedded in the design of automatic enrolment schemes that affect participation levels and retirement income outcomes. It ends with an analysis of the costs of automatic enrolment schemes for employers and governments.

Introduction

Automatic enrolment is an important mechanism to increase participation in voluntary pension arrangements (OECD, 2018^[1]). People often suffer from behavioural biases and limited financial knowledge that prevent them from joining voluntary pension arrangements early enough to build a pension that would supplement their mandatory public pension. Automatic enrolment involves signing people up automatically to a pension plan while giving them the chance to opt out with specified timeframes and conditions. The policy harnesses the power of inertia and procrastination to keep people in the plan. At the same time, the opt-out option maintains individual choice and responsibility for the decision to participate in the plan. In addition, automatic enrolment usually comes with default options for the contribution rate, the investment strategy or the pension provider, to help people unwilling or unable to make choices to join the pension plan without having to worry about these parameters.

The prevalence of this policy to enhance participation and the inclusiveness of voluntary funded pension arrangements is growing. Initially developed in the United States, there are now ten OECD countries that permit automatic enrolment: Canada, Chile, Germany, Italy, Lithuania, New Zealand, Poland, Turkey, the United Kingdom and the United States. Although ensuring high participation is a necessary first step to help people build complementary pensions to supplement their public pensions, it may not be sufficient by itself to ensure that savings are sufficient to reach an overall retirement income that people may deem to be adequate. Automatic enrolment schemes' default options for the contribution rate in particular will influence strongly the effective savings rate of members and eventually their retirement income. Other parameters embedded in the design of automatic enrolment schemes may also affect the level of future retirement income.

This chapter assesses the role of automatic enrolment schemes in enhancing funded pension systems' inclusiveness and retirement income adequacy. Previous OECD work analysed the factors that affect the success of the policy in raising participation in funded pension plans based on the experience in six countries (OECD, 2014^[2]). The analysis herein updates this work by extending it to four more countries, and looks also at the potential impact on retirement income of some of the main parameters. The analysis shows that automatic enrolment has a positive impact on participation, the level of which depends on design parameters such as employers' duties and targeting features. Moreover, parameters such as default contribution rates, investment strategies and post-retirement products affect the level of retirement incomes. Introducing automatic enrolment usually brings in additional costs to employers and governments compared to mandatory or voluntary opt-in arrangements.

This chapter starts with a general description of automatic enrolment schemes in the OECD. It then assesses the parameters embedded in the design of automatic enrolment schemes that affect participation levels and retirement income outcomes. It ends with an analysis of the costs of automatic enrolment schemes for employers and governments.

Automatic enrolment schemes in OECD countries

Automatic enrolment schemes differ across countries. Table 1.1 provides a brief general description of the automatic enrolment schemes in place in ten OECD countries. The automatic enrolment scheme is set up at the national level in Chile, Italy, Lithuania, New Zealand, Poland and the United Kingdom. In Canada, Germany and the United States,

employers can choose to set up such a scheme for their employees or to incorporate automatic enrolment provision in their existing schemes. Some states in the United States have also passed legislation to require employers to enrol automatically their employees in an IRA-based savings programme. In the case of Chile, automatic enrolment was for a limited period and only for self-employed workers.

Table 1.1. General description of automatic enrolment schemes

Country	Description
Canada	A Pooled Registered Pension Plan (PRPP) is a defined contribution pension plan offered by a licensed third-party administrator to the employees of various employers and to self-employed individuals. PRPPs were introduced at the federal level in 2012, and since then six other provinces have passed PRPP legislation, including Quebec, which introduced its own version called a Voluntary Retirement Savings Plan (VRSP). PRPPs are voluntary for employers, while VRSPs are mandatory for employers with more than five employees who do not already offer another type of pension or retirement savings plan to their employees. For both VRSPs and PRPPs, enrolment of employees is automatic unless they opt out.
Chile*	Between 2012 and 2017, certain categories of self-employed workers paid automatically pension contributions at the rate of 10% from the tax rebates owed to the workers, unless they explicitly state that they did not wish to pay these contributions. From 2018, all eligible self-employed workers have to contribute with no possibility to opt out.
Germany	Since 1 January 2018, automatic enrolment in occupational pension schemes can be included in collective agreements between social partners. The employee has the right to opt out within a period of at least one month and can cease membership at any time with a notice period of at most one month. At the time of writing, there was no evidence available that such contracts were implemented.
Italy	Automatic enrolment was introduced in January 2007. For all private sector employees, it involved the payment into pension funds of the future flow of the severance pay contributions (<i>Trattamento di fine rapporto</i> , TFR), set at 6.91% of salary. Workers were given the possibility to opt out of this arrangement for a period of six months, keeping their rights regarding the TFR as in the past. The same mechanism applies since then to all first-time private sector employees.
Lithuania	Automatic enrolment was introduced in January 2019. The State Social Insurance Fund Board (Sodra) enrolls all workers, employees and self-employed, aged under 40, in the second pillar pension system. Workers have six months to opt out. For new members, and those who were already in the second pillar but were not making voluntary contributions, the default contribution rate will gradually increase from 1.8% to 3% of income between 2019 and 2023, with a growing government contribution from 0.3% to 1.5% of the average wage. For workers who were already in the second pillar before January 2019 and were making voluntary contributions (2%), the default contribution rate is 3% of income immediately, with a government contribution of 1.5% of the average wage.
New Zealand	KiwiSaver was introduced on 1 July 2007. Employers must enrol new employees (i.e. those starting a new job) aged 18-64 into the scheme and employees have maximum eight weeks to opt out. The minimum contribution is 3%, which is deducted from employees' salary or wages, and an employer contribution of 3% of salary is added. The government also contributes 50 cents for every dollar of member contribution, up to NZD 521.43 annually.
Poland	Automatic enrolment was enacted in January 2019. Employers are obliged to enrol all employees aged under 55 into an Employee Capital Plan (acronym PPK in Polish). The employee has the right to resign at any time. Minimum contributions are 1.5% for employers and 2% for employees, with the possibility to make additional contributions of up to 2.5% for employers and 2% for employees. The government also contributes PLN 240 per year and makes a PLN 250 welcome contribution. The duty on employers is being staged in between 1 July 2019 and 1 January 2021.
Turkey	Since 1 January 2017, employers have to choose a private defined contribution pension plan and automatically enrol employees younger than 45 into it. Employees may choose to opt out of the system within the first two months following their automatic enrolment. Employers are not required to contribute, while employees must contribute at least 3% of their gross income. The government matches 25% of an employee's contributions and makes an additional one-time contribution of TRY 1 000 for those who do not opt out within the first two months. Moreover, there is an additional government contribution, in the event the individual chooses a minimum 10-year annuity at retirement, of 5% of the assets accumulated at retirement.

Country	Description
United Kingdom	Automatic enrolment was introduced in October 2012 for all workers who were not already covered by a workplace pension scheme. Employers are required to enrol automatically their eligible jobholders into a qualifying workplace pension. Minimum contributions are being phased in to reach 8% of qualifying earnings by April 2019.
United States	<p>- Occupational plans: Employers have been able to use automatic enrolment from the start of occupational defined contribution plans. In 1998, the Treasury and the Internal Revenue Service issued a ruling clarifying that automatic enrolment in 401(k) plans is permissible for newly hired employees. In 2000, automatic enrolment was extended to current workers who were not enrolled in a pension scheme. In 2006, the adoption of the Pension Protection Act encouraged automatic enrolment by giving employers more certainty regarding the regulatory treatment of automatic enrolment schemes and establishing simplified requirements to fulfil.</p> <p>- State-based auto-IRAs: Since 2015, five states have enacted auto-IRA programmes, which generally require private sector employers who do not already offer an occupational pension scheme to enrol their employees automatically in an Individual Retirement Account (IRA) sponsored by the state. Employees can opt out, while employers do not contribute. Only Illinois and Oregon had begun implementing their programmes at the time of writing.</p>

Note: Since January 2019, eligible self-employed workers in Chile have to contribute to the whole social security system, not just for pensions. By default, the overall contribution rate will increase from 10% to 17% gradually over nine years. Individuals can however opt out of this arrangement and have their income base for contributions related to health and pensions lowered and increased gradually over nine years. The analysis for Chile in this chapter focuses on the period 2012-2017.

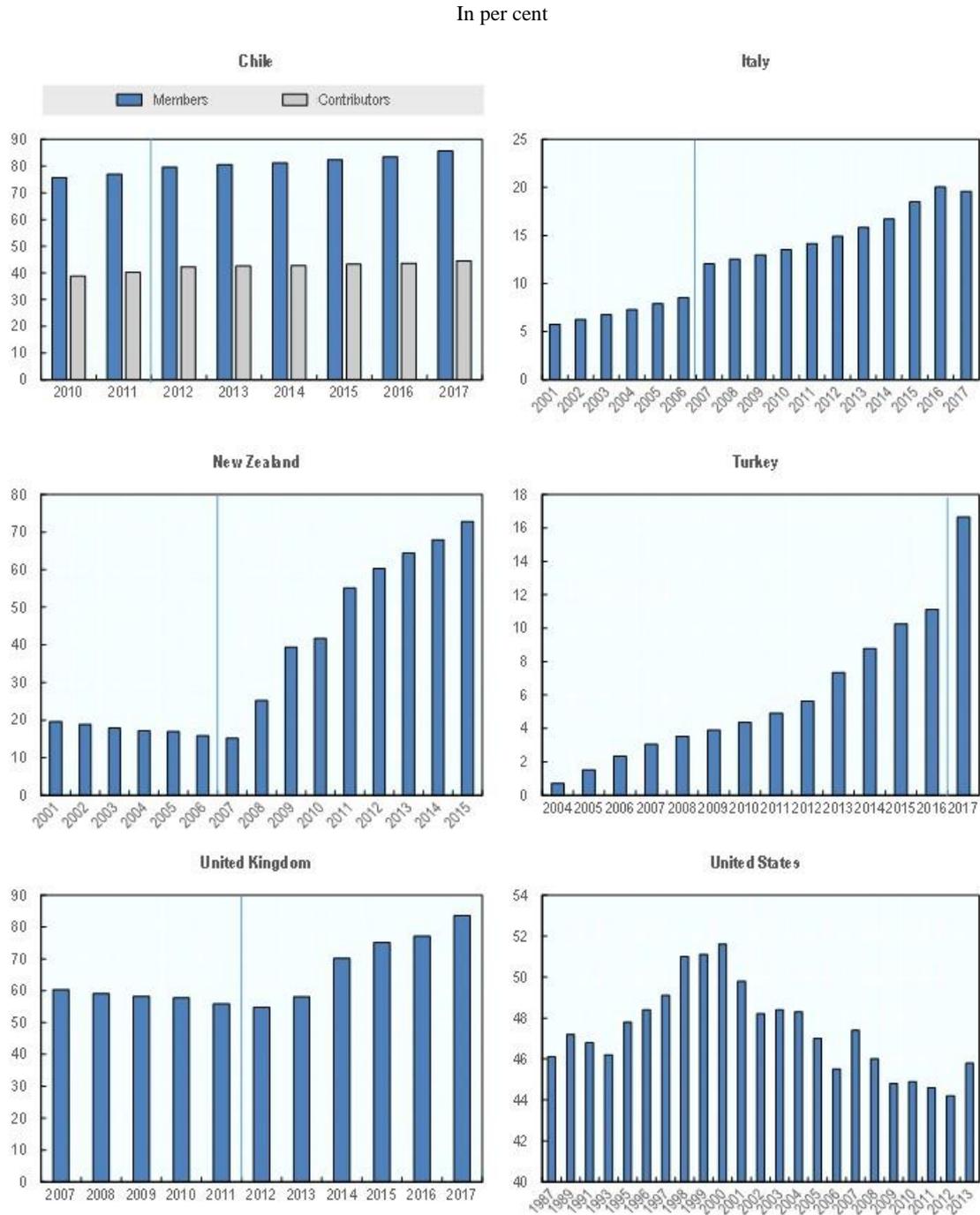
Parameters affecting the impact of automatic enrolment on participation levels

This section provides evidence that automatic enrolment has a positive impact on participation levels. It then assesses how different parameters embedded in the design of automatic enrolment schemes may affect that impact.

Automatic enrolment significantly increases participation in occupational pension plans at the company level compared to voluntary opt-in arrangements. In traditional voluntary pension systems, individuals must take a decision on whether or not to enrol in a pension plan and do not participate until they actively decide to opt in. In the United States, several studies demonstrate that automatic enrolment increases 401(k) participation by 35 to 67 percentage points relative to voluntarily opt-in arrangements (Madrian and Shea, 2001^[3]; Choi et al., 2002^[4]; Choi et al., 2004^[5]). In the United Kingdom, for eligible private sector employees, automatic enrolment led to an increase of 37 percentage points in the probability of participating in an occupational pension plan (Cribb and Emmerson, 2016^[6]). In both countries, funded pension arrangements benefit from a favourable tax treatment compared to traditional savings vehicle. Automatic enrolment therefore improves on the effect of tax incentives on pension plan participation.

At the national level, however, the impact of automatic enrolment on participation levels may not be as strong, it depends on the scheme's design. While the introduction of automatic enrolment reversed the previous downward trend in participation rates in New Zealand and the United Kingdom, and is accelerating the pace of development of the private pension system in Turkey, the effect has been more modest in Chile, Italy and the United States (Figure 1.1).¹

Figure 1.1. Evolution of participation rates in funded pension systems with automatic enrolment schemes



Note: Participation is measured as the number of members enrolled in a pension plan (i.e. having assets or accrued benefits in a plan). It is expressed as a percentage of the working-age population (15-64) in the case of Chile, Italy and Turkey; as a percentage of people under age 65 in the case of New Zealand; as a percentage of eligible employees in the case of the United Kingdom; and as a percentage of wage and salary workers in the case of the United States. Vertical lines represent the dates when the automatic enrolment scheme was established.

Source: National sources.

In addition, coverage levels achieved with automatic enrolment tend to remain lower than those achieved with compulsion. Mandatory and quasi-mandatory occupational pension arrangements typically cover more than 70% of the working-age population (e.g. 76% in Australia, 84% in Denmark, 90% in Finland, 88% in Iceland, 90-100% in Sweden and 74% in Switzerland) (OECD, 2018^[7]).

The employers' level of obligation, the gradual implementation of the policy, the size of the target population, the possibility to opt out or cease membership, the automatic re-enrolment process, the financial incentives provided, and the simplicity of the process for individuals, are key parameters to explain the relative success of automatic enrolment mechanisms in reaching high participation levels across countries.

Employers' level of obligation

The role of employers is essential as overall participation rates are likely to be higher when employers have to offer access to a pension plan and to implement automatic enrolment. In Italy, Canada (for VRSPs in Quebec), New Zealand, Poland, Turkey, the United Kingdom and the United States (for state-based auto-IRAs), employers are required to offer access to a pension plan and have to enrol their employees automatically into that plan. By contrast, in Canada (for PRPPs in the provinces of British Columbia, Ontario, Manitoba, Nova Scotia, Saskatchewan and at the federal level), Germany and the United States (for occupational plans), employers can voluntarily offer an occupational pension plan. As part of that plan, employers have to implement automatic enrolment in Canada, while it is still a voluntary option in Germany and the United States.

The difference in the level of obligation for employers may have large implications for participation. The success of the policy in the case of voluntary involvement from employers depends on the proportion of employers offering an occupational pension plan and, among them, the proportion implementing automatic enrolment. It is possible to start comparing the two models in Canada. In the jurisdictions with voluntary employer participation in PRPPs, at the end of 2017, only one PRPP provider had started operating. It had entered into a contract with 6 employers and enrolled 111 members. By contrast, in Quebec, which requires employers (with 5 or more employees) that do not already offer a registered pension plan or retirement savings plan to offer a VRSP, 10 providers had entered into contracts with 9 733 employers and enrolled 71 547 members at the same date.

Chile and Lithuania are the only two countries not relying on employers to implement their automatic enrolment programme. In Chile, the automatic enrolment mechanism worked through the income tax declaration and targeted self-employed workers. In Lithuania, employers have the duty to calculate and transfer employees' contributions to the State Social Insurance Fund Board (Sodra), which is responsible for collecting all social insurance contributions (including employees' contributions to so-called second pillar pension funds). However, Sodra enrolls workers, both employees and the self-employed, into one of the pension funds.

Gradual implementation of the policy

The implementation of the policy is usually gradual to allow workers and employers to adjust to the change. In Canada (Quebec), Poland, Turkey, the United Kingdom and the United States (state-based auto-IRAs), the duty on employers (offering access to a plan and enrolling employees automatically) is being staged over a certain period, starting with larger employers. In New Zealand, the duty to enrol employees automatically was

immediate for all employers at the introduction of the KiwiSaver system, but it only refers to newly hired employees. Due to this gradual implementation, participation in automatic enrolment schemes may continue to increase.

Target population

The size of the target population for the automatic enrolment scheme directly affects the overall participation rate. The broader the target population, the larger the potential impact on participation. Countries should define the target population for their automatic enrolment scheme according to the savings needs of different population sub-groups. Policy makers need to assess which people would benefit the most from supplementary pension savings, taking into account the overall structure of the pension system. Table 1.2 compares the target population of the different automatic enrolment schemes.

Table 1.2. Target population for automatic enrolment

Country	Automatically enrolled population
Canada	- Quebec (VRSPs): Full-time and part-time employees aged at least 18 who have at least one year of uninterrupted service and employed with an employer with five or more employees who does not offer a registered pension plan or retirement savings plan - Other provinces and federal jurisdiction (PRPPs): All full-time employees, and part-time employees having at least 24 months of continuous service with the employer, without access to a registered pension plan or retirement savings plan
Chile	Self-employed workers aged under 55 for men and 50 for women as at 1 January 2012, who personally carry out an activity by which they obtain work income taxed under Article 42 No.2 of the Income Tax Law.
Germany	Private sector employees
Italy	All private sector employees in January 2007. All first-time employees afterwards.
Lithuania	All workers (employees and self-employed) aged under 40 with a statutory income from which pension social insurance contributions are computed
New Zealand	New employees aged 18 to 64
Poland	All employees aged under 55
Turkey	All employees aged under 45
United Kingdom	All employees aged 22 to state pension age, and earning over GBP 10 000
United States	- Occupational plans: Employees eligible to participate in the plan sponsored by the employer - State-based auto-IRAs (Illinois and Oregon): Full-time and part-time private sector employees, as well as business owners who are considered as employees, aged at least 18, and not currently offered an employer-sponsored occupational plan at work.

The target population of automatic enrolment schemes excludes the self-employed in most countries. The two exceptions are Chile and Lithuania. In Chile, the automatic enrolment policy between 2012 and 2017 was specifically directed towards the self-employed. In Lithuania, the State Social Insurance Fund Board enrolls all workers younger than 40 automatically in a pension fund, irrespective of their employment status. In the other countries, employers only enrol their employees automatically. This restriction excludes an increasing share of the workforce in some countries. For example, in the United Kingdom, the share of self-employed workers in total employment has risen from 11.9% in 2000 to 14.9% in 2016 (Office for National Statistics, 2016_[8]).

Some countries use job tenure as a criterion to define the target population. In Canada, some employees need a minimum length of service to enrol into the plan. This excludes employees with short-term temporary contracts. In New Zealand, only newly hired employees are part of the target population. In the United States, although the regulation in place allows employers to enrol automatically all of their employees, many use

automatic enrolment only for new employees (Vanguard, 2018^[9]). This can potentially slow down the growth of participation rates.

Countries may establish minimum and maximum age limits for the automatic enrolment scheme. A minimum entry age exists in Quebec (18), New Zealand (18), the United Kingdom (22) and the United States (18 for state-based auto-IRAs). There are discussions in the United Kingdom to reduce the age limit to 18 years old, acknowledging the fact that people should start contributing as early as possible in order to accumulate significant pension assets (Department for Work and Pensions, 2017^[10]). Chile, Lithuania, New Zealand, Poland and Turkey exclude older workers from the target population. While the amount of assets accumulated by older workers entering an automatic enrolment scheme is likely to be relatively small, some older workers may still receive good value on their pension contributions from enrolling in a pension plan (Pensions Policy Institute, 2014^[11]).

An earnings limit may also restrict the size of the target population. In Chile, only self-employed workers with covered earnings above the monthly minimum wage are part of the target population.² In the United Kingdom, only workers earning over GBP 10 000 are eligible to be automatically enrolled by their employer.³ The rationale for an earnings limit is to exclude people who already enjoy high replacement rates from the public system, or for whom pension contributions may not be affordable. Unfortunately, this may lead to the exclusion of employees with multiple jobs who do not meet the criteria for automatic enrolment in any individual job although they could afford contributing to a pension plan. In addition, contributions are set up as a percentage of earnings, so that low earners need to contribute low amounts. Leaving low earners out of the target population for automatic enrolment means that they miss employers' contributions. Studies in the United States show that the largest gains in participation following the introduction of automatic enrolment in 401(k) pension plans are observed for young and lower-wage earners (Madrian and Shea, 2001^[3]).

By contrast, individuals earning above a certain limit may need to opt out in some state-based auto-IRAs. For example, in Illinois and Oregon, the accounts used for the automatic enrolment mechanism are Roth IRAs.⁴ The federal government establishes income limits that determine whether an individual can contribute in each year in these accounts. For example, a single individual earning more than USD 135 000 in 2018 cannot contribute to a Roth IRA account. These individuals will need to opt out in Illinois, while in Oregon they will be able to select a traditional IRA.

Finally, it is worth noting that most countries allow people outside the target population to opt into the automatic enrolment scheme voluntarily. In Chile, anyone can contribute voluntarily to the pension system, including self-employed workers outside the scope of the automatic enrolment mechanism. In Canada, self-employed workers and employees whose employer does not offer a PRPP can join the PRPP of their choice by contracting directly with a plan provider. In Lithuania, individuals older than 40 can conclude an agreement with the pension fund of their choice to join the second pillar if they are working and paying social insurance contributions. In New Zealand, existing employees, self-employed workers, people not working and even children under the age of 18 can voluntarily opt into a KiwiSaver plan.⁵ In Poland, employers can enrol employees aged between 55 and 70 only after their explicit consent. In the United Kingdom, two categories of employees outside the target population can voluntarily opt in an occupational pension plan. If they earn more than the lower level of qualifying earnings (GBP 6 032 in 2018-2019), the employer is required to pay contributions on their behalf, while if not, the employer is under no obligation to pay any contributions.⁶ In addition, self-employed workers can opt into NEST.⁷

Opting out and re-enrolment

The main difference between mandatory and automatic enrolment pension schemes is the possibility for individuals to opt out within a certain timeframe. Automatic enrolment's aim is to maximise participation without imposing compulsion. The expectation is that inertia will lead many people to remain in the plan once enrolled. Automatic enrolment preserves choice and the individuals' responsibility for the decision about whether to save in a pension plan by giving them the option to opt out within a certain timeframe.

This timeframe is referred to as the opting-out window. Table 1.3 compares the opting-out windows in the countries with an automatic enrolment scheme. The length of the opting-out window varies from one month in the United Kingdom to six months in Italy and Lithuania. In Chile, between 2012 and 2017, self-employed individuals had until the submission of their income tax declaration each year to refuse using their tax rebate to pay pension contributions for the previous year. In Poland and the United States (state-based auto-IRAs), employees can opt out at any time. A longer opting-out window may lead to more opt-outs, although how much depends on how far inertia drives behaviour.

Table 1.3. Opting-out and re-enrolment

Country	Opting-out window	Possibility to cease membership once the opting-out window has passed	Automatic re-enrolment
Canada	Within 60 days following automatic enrolment. Contributions start at the end of the opting-out window	No	VRSPs: Every two years PRPPs: No
Chile	Until before the submission of the income tax declaration in each respective tax year	No	Every tax year
Germany	Within at least one month following automatic enrolment. Contributions start at the end of the opting-out window	Yes, at any time	No
Italy	Within six months following automatic enrolment. Contributions start at the end of the opting-out window	No	No
Lithuania	Within six months following automatic enrolment. Contributions start at the end of the opting-out window	No	Every three years
New Zealand	Anytime between two and eight weeks following automatic enrolment. Contributions already made are refunded	No	No
Poland	No limit. Contributions start immediately	Yes, at any time	Every four years
Turkey	Within 60 days following automatic enrolment. Contributions already made are refunded	Yes, at any time	Once within three years
United Kingdom	Within one month following automatic enrolment. Contributions already made are refunded	Yes, at any time	Every three years
United States	- Occupational plans: Within 90 days following automatic enrolment for schemes complying with certain notice requirements. Contributions already made are refunded - State-based auto-IRAs (Illinois and Oregon): No limit. Contributions start one month following automatic enrolment.	Yes, at any time	No

The treatment of contributions with respect to the opting-out window varies across countries. In some countries, contributions start as soon as the individual is enrolled into the scheme, without waiting for the end of the opting-out period. This means that contributions need to be refunded in case the individual opts out. This applies in New Zealand, Turkey, the United Kingdom and the United States (for occupational plans). By contrast, contributions only start after the opting-out window has passed in Canada, Italy and Lithuania. This delays the start of contributions but facilitates the administration of the scheme.

In some countries, participation in the plan is irrevocable once the opting-out window has passed. In Canada, Italy, Lithuania and New Zealand, individuals cannot cease membership in the plan if they did not actively opt out during the opting-out window.⁸ By contrast, Poland, Turkey, the United Kingdom and the United States allow people to leave the plan at any time.⁹

Opt-out rates vary greatly across countries. These rates, together with participation rates, provide a measure of the success of automatic enrolment. Opt-out rates are large in Chile, Turkey and Italy. On average, 74% of self-employed workers in Chile decided not to contribute to individual retirement accounts between 2012 and 2017. Figure 1.2 even shows that people have learnt how to opt out over time. Statistics from the Pension Monitoring Center reveal that the opt-out rate in Turkey stood at 52% by the end of 2018. Another 16% ceased membership after the opting-out window. Large opt-out rates can also be inferred for Italy as, by the end of 2016, members enrolled automatically only represented around 6% of new membership of private sector workers since 2007 (COVIP, 2017_[12]). At the other extreme are New Zealand and the United Kingdom. As of June 2018, 16% of all employees enrolled automatically in KiwiSaver plans had opted out and remained out of the scheme, with a declining trend over the years (Figure 1.2). In the United Kingdom, around 10% of people currently opt out of their workplace pension, with the increase in the minimum contribution rate in April 2018 not triggering an increase in opt-out rates (Department for Work and Pensions, 2018_[13]).¹⁰ Finally, initial data for Oregon suggest an opt-out rate of around 30% (Belbase and Sanzenbacher, 2018_[14]).

Figure 1.2. Opt-out evolution in Chile and New Zealand



Source: National sources.

People who opt out tend to be in younger or older age groups, with lower earnings and less stable employment, according to evidence from New Zealand, the United Kingdom and the United States (Inland Revenue, 2015^[15]; Department for Work and Pensions, 2013^[16]; 2014^[17]; Belbase and Sanzenbacher, 2018^[14]). The main reason for opting out is financial constraints, particularly the affordability of contributions. Older workers may also feel that retirement is too close to consider saving for retirement or that they already have sufficient savings. Lack of trust and understanding in pensions, or preference for other forms of savings may also prompt people to opt out.

In addition, there may be external incentives pushing people to opt out. In Italy for example, automatic enrolment into a private pension fund is competing with the previously existing TFR system (*Trattamento di Fine Rapporto*). Private sector workers have to choose whether the future flows of severance pay contributions (set at 6.91% of salary) remain in the firm or are transferred into a pension plan. As both employers and employees highly value the TFR system, it creates an incentive to opt out of the pension arrangement (Rinaldi, 2011^[18]). In Turkey, automatic enrolment competes with existing pension provision. Employees already contributing to a personal pension plan may not want to contribute to another plan and decide to opt out.

Finally, re-enrolling workers who have opted out may help bring opt-out rates down. In Lithuania, Poland and the United Kingdom, eligible workers who chose to opt out or cease membership are re-enrolled automatically at regular intervals (every two to four years, see Table 1.3). This gives workers the opportunity to think again about their finances and pension savings options in case their situation has changed since they decided to opt out. Data for the United Kingdom show that opt-out levels following re-enrolment are higher than those following initial automatic enrolment, at 33%. The overall level of membership cessation following re-enrolment is also higher, at 24% against 16% following first enrolment. These results are still encouraging, as they mean that a significant proportion of employees, who originally stopped saving and have been automatically re-enrolled, are now saving into an occupational pension plan (Department for Work and Pensions, 2018^[19]). This re-enrolment system, however, also implies an additional administrative burden on employers who have to keep track of employees' membership status, re-assess the eligibility of employees who opted out or ceased membership, and automatically re-enrol them.

Financial incentives

Countries usually offer financial incentives to encourage individuals to participate in the plan once enrolled and reduce opt-out rates. These incentives can also nudge individuals outside of the automatic enrolment target population to opt into the plan voluntarily. Financial incentives can take various forms: employer contributions, tax and non-tax financial incentives, and the possibility to withdraw funds early or to pause the payment of contributions. Table 1.4 compares the provision of these different types of incentives across automatic enrolment schemes.

Employer contributions may represent an incentive for employees to join or remain in a pension plan, as they harness individuals' tendency to respond to immediate gratification. Employers have to pay minimum contributions into their employees' accounts in Italy, New Zealand, Poland and the United Kingdom. They can voluntarily decide to contribute on behalf of their employees in Canada (PRPP and VRSP), Lithuania and the United States (occupational plans). Employer contributions are encouraged in the United States

through the provision of simplified compliance requirements. Evidence in the United States suggests that employer contributions in occupational pension plans with automatic enrolment have a positive but modest effect on participation (Beshears et al., 2007_[20]).

Countries encourage plan participation through tax or non-tax financial incentives. Tax incentives take the form of a favourable tax treatment for the automatic enrolment pension plan as compared to other savings vehicles (e.g. the “EET” tax treatment, where contributions and returns on investment are exempt from tax and withdrawals are taxed). This favourable tax treatment translates into lower taxes paid by the individual over the entire lifetime (OECD, 2018_[21]). Non-tax financial incentives are payments made by the government directly into the pension account. These payments are defined as a proportion of the individual’s own contributions (matching contributions) or are fixed in nominal terms. While tax incentives have been the main type of financial incentives historically, non-tax incentives are gaining momentum, in particular among automatic enrolment schemes (Lithuania, New Zealand, Poland and Turkey use them). They are better tools than tax incentives to target the incentive at low and middle-income earners, which is usually where coverage gaps are concentrated. Tax and non-tax financial incentives imply a cost to the government, which Section 5 discusses.

Table 1.4. Provision of financial incentives

Country	Employer contributions	Tax and non-tax incentives	Early withdrawals	Contribution holidays
Canada	Voluntary	“EET” tax treatment	- PRPPs: Employee and employer contributions are locked-in until retirement except in certain situations (e.g. shortened life expectancy, small balance, non-residency) - VRSPs: Member contributions can be withdrawn at least once per 12-month period. Employer contributions are locked-in until age 55 except in certain situations (e.g. shortened life expectancy, mental or physical disability, non-residency)	PRPPs and VRSPs: Employees may set their contribution rate at 0% once they have been contributing to the plan for at least 12 months
Chile	No	“EET” tax treatment	No	No
Germany	Depend on agreement	“EET” tax treatment	Depend on agreement	Depend on agreement
Italy	Yes	“ETT” tax treatment	Once every seven years: unemployment; medical expenses; purchase of a house	No
Lithuania	Voluntary	“TEE” tax treatment and contributions exceeding 3% are tax exempt; Fixed nominal subsidy corresponding to 1.5% of the average wage in the country the year before last	No	A contribution holiday of up to 12 months can be taken all at once or in parts
New Zealand	Yes	50% matching contribution up to NZD 521.43; “HomeStart” grants for homeownership*	Serious illness; buying a first home; significant financial hardship; emigration (to countries	After 12 months of membership, possibility to take a contribution holiday of between 3

Country	Employer contributions	Tax and non-tax incentives	Early withdrawals other than Australia)	Contribution holidays months and 5 years; Can be granted earlier for members in financial hardship
Poland	Yes	"TEE" tax treatment; PLN 250 kick-start contribution; PLN 240 annual contribution	Severe illness; purchase of real estate (must be repaid within 15 years.)	No
Turkey	Voluntary	TRY 1 000 kick-start contribution; 25% matching contribution; subsidy equal to 5% of assets at retirement if 10-year annuity	No	For as long as the member wishes, any time after the opt-out period
United Kingdom	Yes	"EET" tax treatment	No	No
United States	- Occupational plans: Voluntary - State-based auto- IRAs: No	"EET" or "TEE" tax treatment	Hardship withdrawals (medical and educational expenses, purchase of a first home) and loans (must be repaid)	No

Note: There are two HomeStart grants available to participants who are over 18 years old, have been contributing to KiwiSaver at least 3 years, and are earning under a certain threshold (NZD 85 000 for a single buyer and NZD 130 000 for two or more buyers). The first one helps purchasing an existing home and is worth between NZD 3 000 and NZD 5 000 based on NZD 1 000 each year of membership. The second one helps building or purchasing a new home, or purchasing land to build a new home on, and is worth NZD 2 000 per year of membership, up to a maximum of NZD 10 000 for five years.

Allowing people to withdraw part of their retirement savings to face contingencies removes one of the barriers that may prevent individuals to participate in a pension plan. People are usually worried that money in private pension arrangements is locked-in until retirement. This means that they cannot use it to face financial hardship or exceptional expenses. For this reason, some countries allow withdrawals from retirement savings systems under specific, exceptional circumstances. Canada, Italy, New Zealand, Poland and the United States allow withdrawals to face contingencies. Italy, New Zealand, Poland and the United States also allow early withdrawals to help members buy their first home, acknowledging the fact that some people consider homeownership as a first step to be financially prepared in retirement.¹¹ However, one needs to be careful as early withdrawals may divert too much money that was initially intended to finance retirement and affect negatively retirement income adequacy.

Similarly, allowing people to stop contributing for a while can reassure savers and increase the attractiveness of private pension arrangements. Canada, Lithuania, New Zealand and Turkey allow members to pause the payment of contributions to face other expenditures, without ceasing membership in the plan. However, it can also raise adequacy concerns if people do not increase their contributions afterwards to fill the gap. Few people seem to exercise that option in New Zealand. As at June 2018, just 5% of KiwiSaver members were on a contribution holiday, most of them for a period of five years (the default if the member does not specify a length).¹²

Simplification

People unwilling or unable to choose among different available options may simply opt out if automatic enrolment requires them to make complex choices with respect to the pension plan provider, the contribution level and the investment strategy. Simplifying

decision-making processes can then help people make better choices and combat their natural tendency to procrastinate when decisions about the future need to be made (OECD, 2018^[11]). This simplification relies on the use of default options and automatic mechanisms.

Default options are an essential complementary tool to automatic enrolment as both rely on people's inertia. Default options address the problem of individuals putting off important actions related to their retirement planning, while preserving individual choice. All countries covered in this analysis offer default options for the contribution rate and the investment strategy. In Canada, the number of investment options offered to members is limited to six. In most countries, the employer chooses the pension provider. In Lithuania, Sodra enrolls workers randomly into one of the providers in equal parts, but individuals can change providers later on.

Automatic payroll deductions to pay contributions also help make automatic enrolment schemes an easy tool to save. As deductions are made at source, individuals do not need to think about contributing and the feeling of loss aversion is milder. Only Chile does not have this feature. Self-employed individuals had to decide whether to use their tax rebate to pay pension contributions for the previous year.

Parameters affecting retirement income outcomes

Automatic enrolment addresses directly the issue of low levels of participation in private pension arrangements. Once people are enrolled, however, it is important to check whether the design of automatic enrolment schemes will lead to a retirement income that would sufficiently supplement other pension sources. For example, allowing people to withdraw early or to pause the payment of contributions can encourage people to join or remain in the automatic enrolment scheme, but can harm future retirement income adequacy. Other parameters that may also affect retirement income outcomes in automatic enrolment schemes are the contribution levels, the investment strategies, the fees and charges levied and the post-retirement products.

Contribution levels

Automatic enrolment, by increasing the number of individuals participating in funded pension arrangements, also increases the overall level of contributions to funded pension systems. For example, in the United Kingdom, the total amount saved in private-sector occupational plans has increased from GBP 39.3 billion in 2011 to GBP 49.8 billion in 2017 (Department for Work and Pensions, 2018^[13]). The automatic enrolment policy has brought people who had never saved for retirement before to do so.

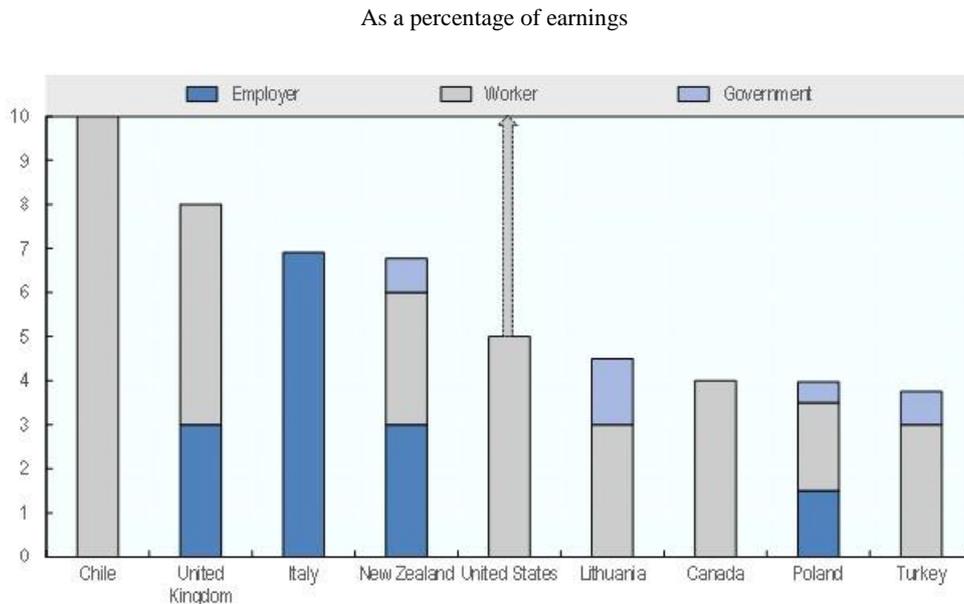
However, average contribution levels per saver may be lower. Indeed, compared to individuals who opt in voluntarily, members enrolled automatically may have lower contribution rates, either because they contribute less themselves or because their employer contributes less. For example, in the United Kingdom, the average contribution level (from employees and employers) per eligible saver in private-sector occupational plans declined from GBP 6 782 in 2012 to GBP 3 873 in 2017 (Department for Work and Pensions, 2018^[13]). This is likely due to the increased number of savers who receive minimum contribution levels. In 2017, 40% of eligible employees with workplace pensions received an employer contribution of between 0% and 2% (the minimum employer contribution then was 1%). It remains to be seen how average contribution

levels will evolve once data account for the minimum contribution rate increases (from 2% of a band of earnings up to 8% from April 2019).

There is also the risk that the introduction of automatic enrolment schemes may lead to a levelling down of contribution rates for existing members prior to the reform. Evidence in the United Kingdom suggests that levelling down strategies have become more common since the introduction of automatic enrolment (from around 12% of eligible savers in the private sector prior to 2012 to 15% between 2016 and 2017) (Department for Work and Pensions, 2018^[13]). However, only 1% of employers who have experienced increased contribution costs as a result of automatic enrolment have implemented a levelling down strategy to absorb these costs (Department for Work and Pensions, 2018^[19]).

To minimise opt-out rates, default contribution rates for workers tend to be set at low levels in automatic enrolment schemes. Workers' default contribution rates represent 3% of earnings or less in Lithuania, New Zealand, Poland and Turkey (Figure 1.3). In 2017, 50% of automatic enrolment occupational plans managed by Vanguard in the United States had a default contribution rate of 3% or less (Vanguard, 2018^[9]). Goldin, Homonoff and Tucker-Ray (2017^[22]) show that more U.S. military service members chose to participate in the Thrift Savings Plan when the default contribution rate was low (1-2%) rather than medium (3-5%) or high (6-8%).

Figure 1.3. Default contribution rates for an average earner



Note: Data for Canada refer to Quebec as of 1 January 2019, as in the other provinces and the federal jurisdiction, pension providers define default contribution rates. Data for the United Kingdom reflect the situation as of April 2019. Data for the United States refer to state-based auto-IRAs (Illinois and Oregon). In Oregon, contributions increase automatically from a 5% default rate by 1% annually until reaching a maximum of 10%. Participants may opt out of automatic escalation, however.

The total default contribution rate in the automatic enrolment scheme needs to be determined in coherence with the overall pension system. If the pay-as-you-go (PAYG) pension system already provides high benefits, the automatic enrolment system only needs to provide a complementary income that can be achieved with modest

contributions. If, on the contrary, the PAYG system provides benefits that just prevent people from falling into poverty, but does not help people smooth their consumption when retiring, the automatic enrolment system needs to provide a significant part of total retirement income and contribution levels need to be set accordingly.

The current design of automatic enrolment schemes may not be conducive to contribution rates that allow people to reach their target retirement income. Total default contribution rates (from workers, employers and the government) are below 5% of earnings in Canada, Lithuania, Poland and Turkey, without any plan to increase them further in the future. In Lithuania and Poland, gross replacement rates from the PAYG system for an average earner are around 26-27% (OECD pension models), suggesting that higher contribution rates may be needed in the automatic enrolment scheme to help people reach a target retirement income of say 60% of final salary, for example.

In addition, inertia keep people at default contribution rates, even when a higher rate would increase their chances of reaching a target retirement income. Default options in general reduce individuals' engagement with respect to pensions. Inertia and procrastination may prevent people from considering other options in the presence of a default. Research suggests that some individuals who kept the default contribution rate in the automatic enrolment scheme would have chosen a higher contribution rate in the absence of the policy (Madrian and Shea, 2001^[3]; Choi et al., 2004^[5]).

Alternatives to low static default contribution rates exist to nudge people into higher contribution rates. One option is to set default contribution rates at a higher level, while offering lower rates alternatives that are easy to choose. The default contribution rate does not need to be the minimum contribution rate. Beshears et al. (2017^[23]) show that, compared to a 6% default contribution rate, higher defaults do not harm participation rates as long as individuals can select a lower contribution rate. The only exception was for the highest tested default contribution rate of 11%. Another option is to implement an automatic increase in the contribution rate. Increases may be set according to an agreed agenda (e.g. the United Kingdom, the state of Oregon) or linked to future increases in wages (e.g. the Save More Tomorrow programme introduced in occupational pension plans in the United States by Thaler and Benartzi (2004^[24])).

Investment strategies

Retirement income outcomes will also depend on the returns obtained from investing the contributions, and thereby on the investment strategy.

All the countries covered in this analysis offer default investment strategies as part of their automatic enrolment scheme. In Chile, Lithuania and Poland, the default investment strategy follows a life cycle approach (target date funds or multi-funds) with declining exposure to risky assets as the individual gets older. NEST, the provider set up by the UK government for automatic enrolment, uses target date funds as a default investment strategy that follow a hump-shaped relationship with exposure to risky assets. NEST's research indeed found that young savers may stop contributing in the event of a sharp fall in their pension account. The foundation phase (40+ years until retirement) therefore aims at capital preservation rather than high growth. In Canada, the default investment option must be a balanced fund or a life cycle investment strategy. In New Zealand, individuals not choosing a scheme and for whom the employer did not choose a scheme, are allocated to one of the nine government-appointed default providers, with contributions invested in a conservative investment fund. Finally, Italy is the only country where the default investment strategy offers an investment return guarantee.

While default life cycle investment strategies alleviate the impact of market risks for people close to retirement, they are not a panacea. They provide protection for those close to retirement in the case a negative shock in financial markets happens just before retirement. OECD work shows that life cycle strategies tend to outperform fixed-portfolio strategies when a shock to equity markets occurs just before retirement (Antolin and Payet, 2011_[25]). However, the positive impact of life cycle strategies dwindles as shocks to equity markets occur further from retirement age. Indeed, people with a fixed portfolio could have an opportunity to recover should returns to equities become positive in the remaining years before retirement, while with a life cycle strategy, the automatic reduction in equity exposure reduces the chances for recovery. In addition, life cycle strategies do not address the problem of volatility of retirement income resulting from market fluctuations.

Fees

Given the potential scale of automatic enrolment schemes in terms of participants, most countries are concerned about the quality of the plans into which individuals are enrolled, and focus in particular on the fees charged to members. In many countries, fees are calculated as a percentage of the assets under management. Over 40 years of participation, these fees represent large amounts and reduce the level of benefits. Comparing pension providers takes time and effort, and low levels of financial literacy and behavioural biases may encourage uncompetitive practices and potentially drive costs and fees up (OECD, 2018_[1]). Therefore, most countries regulate more strictly fees for automatic enrolment plans to make sure that less engaged, automatically enrolled participants, who tend to stick to default investment options, do not end up with expensive arrangements.

Table 1.5 lists the strategies used by the different countries to monitor and regulate fees for their automatic enrolment scheme. Canada (Quebec), Lithuania, Poland, Turkey, the United Kingdom and the United States (state-based auto-IRAs) use fees caps, which vary from 0.5% of assets under management in Lithuania and Poland to 1.5% in Canada. Chile and New Zealand use tender mechanisms to monitor and control fees. In Canada, the expectation is that, because PRPP members will pool their pensions through their administrators, the PRPPs will benefit from economies of scale and offer investment and savings opportunities with better risk pooling at lower administration costs.

Table 1.5. Strategies to monitor and regulate fees

Country	Fee caps	Other strategies
Canada	VRSPs: Maximum fee is 1.25% of AUM for the life cycle investment option and 1.5% for all other options	Costs to PRPP members (i.e. all fees, levies and other charges that reduce a member's return on investment) must be at or below the costs incurred by members of defined contribution plans that provide investment options to group of 500+ members
Chile		Through a tender mechanism, the supervisory entity selects the provider with the lowest fee. The selected provider gets all new entrants in the system for a period of 2 years
Lithuania	Maximum asset management fees are going down from 1% of AUM to 0.8% in 2019, 0.65% in 2020, and 0.5% from 2021. For pension companies managing more than EUR 2.5 billion, the maximum management fee drops to 0.4% of AUM.	
New Zealand		All KiwiSaver schemes are required to have fees that

Country	Fee caps	Other strategies
Zealand		are not unreasonable. Default providers are selected through a tender mechanism based on several criteria: investment capability, corporate strength, administrative capability, track record, stability, and fee levels
Poland	The maximum asset management fee is set at 0.5% of AUM annually, with assets capped at 15% of PPK market assets. A performance fee of up to 0.1% of AUM is levied when the rate of return is positive and above the benchmark established in secondary legislation	
Turkey	Pension providers can only charge a fund management fee. Depending on the fund performance relative to inflation, providers can charge an additional fund management fee. If the annual net rate of return exceeds certain thresholds for specific asset classes, providers can charge an additional performance fee as a fund management fee. The total fund management fee is capped at 0.85% of AUM.	
United Kingdom	A charge cap of 0.75% of AUM applies to all management charges, except transaction costs	
United States	Charge caps for state-based auto-IRAs (0.75% of AUM in Illinois, 1.05% in Oregon)	In private sector occupational plans, the strategy is based on responsibility for those who select and monitor pension providers, and potential liability for pension providers who charge other than "reasonable" rates for services

Note: AUM stands for assets under management.

Post-retirement products

The design of automatic enrolment schemes generally covers the accumulation phase only. Individuals are nudged into retirement savings, with access to default options to help them with complex decisions, and a greater control of fees to achieve better value for money. However, once they reach retirement age, they are on their own for the pay-out phase and need to decide by themselves how to allocate the money accumulated to finance their retirement. In most countries covered in this analysis, individuals have complete freedom and no incentive regarding the way to allocate their assets during retirement. There is no default option and no safeguard against scams or too high prices.¹³ In addition, overconfidence and the desire for immediate gratification (present bias) may lead individuals to withdraw their assets as a lump sum and bear fully the risk of outliving their resources.

The exceptions are Lithuania, Turkey and Poland. Poland requires that at least 75% of savings are paid in at least 120 monthly instalments. Turkey encourages plan members to take an annuity, with a financial incentive corresponding to 5% of the accumulated assets at retirement. In Lithuania, from 2020, the form of pension benefits will depend on the amount of assets accumulated at retirement:

- a lump sum if the participant has accumulated less than EUR 3 000;
- programmed withdrawals if the participant has accumulated EUR 3 000 to EUR 10 000;
- an immediate or deferred life annuity if the participant has accumulated EUR 10 000 to EUR 60 000; or

- a combination of a lump sum and an annuity if the participant has accumulated more than EUR 60 000.

Countries could enhance the design of automatic enrolment schemes and make sure that people have resources throughout retirement by promoting certain types of post-retirement products. For example, the OECD Roadmap for the Good Design of Defined Contribution Pension Plans argues for combining programmed withdrawals with a deferred life annuity (e.g. starting payments at age 85), to provide flexibility and protection against longevity risk. Members of automatic enrolment plans could be defaulted into such a post-retirement product when the pension income derived from those plans is expected to represent a large part of total retirement income.

Cost of automatic enrolment schemes for employers and the government

Introducing automatic enrolment is not without additional costs. Automatic enrolment increases participation and with appropriate design features may allow people to save enough to reach their target retirement income. However, compared to compulsory and voluntary opt-in arrangements, automatic enrolment involves additional responsibilities from employers in most cases and generates costs for the government through the financial incentives provided to minimise opt-out rates.

The role of the employer in most automatic enrolment systems is essential. With the exception of Chile and Lithuania, employers usually have to perform a number of tasks. These tasks include informing workers, choosing a pension provider, categorising workers to determine whether they are eligible for automatic enrolment, enrolling eligible workers, acting on opt-in and opt-out requests, calculating, and paying employer contributions if any, calculating, deducting and paying employee contributions, adapting payroll systems and keeping records. Therefore, on top of employer contributions, this role entails additional costs of compliance for employers.

Some of these responsibilities would not be incurred in a mandatory system or in a purely voluntary system. In mandatory systems, employers do not need to choose a pension provider (except for occupational plans), to act on opt-in and opt-out requests, or to re-enrol workers who have opted out. In voluntary occupational systems, employers do not need to act on opt-out requests or to re-enrol workers who have opted out. Automatic enrolment may therefore lead to higher costs of compliance.

The burden on employers is likely to be larger when regulation imposes that they provide access to a pension plan and enrol automatically their employees into that plan. When providing access to a pension plan is voluntary, automatic enrolment is likely to be implemented primarily by employers who already offer an occupational pension plan and are willing to increase the participation level in their plan. The additional burden of automatic enrolment is likely to be moderate. By contrast, employers who need to set up a plan and implement automatic enrolment may have a significant entry cost.

In New Zealand, efforts have been done to minimise additional costs of compliance for employers. The implementation of KiwiSaver indeed relies on the existing Employer Monthly Schedule filing process. For both small and medium enterprises (SMEs) and large employers, this has helped containing costs of compliance. According to Inland Revenue (2015^[15]), the average cost of compliance for SMEs was NZD 661 in 2013. This cost was lower than in 2009 (NZD 770) thanks to a reduction in external costs (likely due to the embedding of KiwiSaver into payroll practices).

Automatic enrolment may be a bigger challenge for small employers than for large employers. For example, in the United Kingdom, the regulator has been using its powers more often as small and micro employers increasingly reached their staging date. These employers tend to wait until the last moment to prepare for the introduction of automatic enrolment. The number of “compliance notices” (letters reminding the employer of his legal duties regarding automatic enrolment) sent by the regulator rose from 34 000 in 2016/17 to 61 000 in 2017/18 in line with the rise in micro employers staging and the behaviours expected from this group (Department for Work and Pensions, 2018^[13]). In addition, in 2017, levels of awareness of the reforms were higher among large employers (99%) than among micro employers (88%). In Canada (Quebec), Turkey and the United States (Illinois), small employers do not have to provide access to a pension plan with automatic enrolment.

The introduction of automatic enrolment may also translate into an increase in costs related to contributions. Employer contributions to automatic enrolment schemes are mandatory in Italy, New Zealand, Poland and the United Kingdom. For employers who were already offering an occupational pension plan before the introduction of automatic enrolment, the policy may increase the number of employees receiving employer contributions. For employers who did not previously offer an occupational pension plan, they have to pay contributions on behalf of employees for the first time.

Automatic enrolment also implies costs to the government, in particular through the provision of financial incentives. In order to increase the attractiveness of retirement savings and minimise opt-out rates, countries offer financial incentives (tax and non-tax) to members of automatic enrolment schemes, increasing the cost to the government compared to other mandatory or voluntary schemes (see Table 1.4). In addition, in Lithuania, the rates of social insurance contributions and income tax were reduced by 1.55 percentage points overall to encourage employees’ contributions to second pillar pension funds.

Compared to other existing pension arrangements, New Zealand, Poland and Turkey offer additional incentives for their automatic enrolment scheme. These incentives take the form of government matching contributions and fixed nominal subsidies.¹⁴ Lithuania provides a government subsidy for the second pillar of 1.5% of the average wage. As the number of participants is expected to increase thanks to automatic enrolment, the total cost to the government will also increase.

The other countries only offer tax incentives, which are identical to those applying to pension arrangements outside the automatic enrolment scheme. However, the cost related to these tax incentives may still increase. For example, in Canada, the United Kingdom and the United States, only pension withdrawals are taxed, while contributions and returns on investment are exempt (“EET” tax regime). An increase in participation in private pensions due to automatic enrolment would lead to higher tax revenues foregone on contributions and on returns, thereby increasing the net tax expenditure in the short term. In the long term, however, the net tax expenditure could decline, if relatively larger cohorts of workers reach retirement age and pay taxes on their pension benefits.

New Zealand evaluated the value for money of KiwiSaver. In fiscal year 2012/13, the government spent one dollar to get NZD 0.38 of additional savings from individuals in the target population. This low value is due to the fact that most KiwiSaver members are not in the initial target population of the scheme and that only part of KiwiSaver contributions represents new savings (Inland Revenue, 2015^[15]). The policy objective of KiwiSaver is to “encourage a savings habit and asset accumulation amongst individuals

who may not be in a position to enjoy standards of living in retirement similar to those in pre-retirement". This defines a target population for the scheme. Research conducted in 2011 found that the KiwiSaver scheme reached about only one third of the target population and that as much as 93% of KiwiSaver members were outside the target population. In addition, in 2010, research found that only about 36% of KiwiSaver contributions were new contributions, and this estimate decreased to 31% in 2013.

Conclusion

This chapter has examined the main features associated with automatic enrolment schemes that contribute to greater participation levels and more adequate savings, improving therefore the inclusiveness of funded pension systems. It has also looked at the potential costs associated with automatic enrolment.

Country experiences regarding their automatic enrolment schemes vary greatly and offer lessons about which design elements may lead to

1. Higher participation levels:
 - **Cover as many workers as possible.** To significantly increase participation levels in voluntary funded pension systems, the target population of the automatic enrolment scheme should be broad-based, possibly covering all employees as well as the self-employed. Entry barriers should be defined according to the savings needs of different population subgroups and should avoid excluding individuals who may benefit from building a supplementary pension. Workers outside the target population should be offered an easy access to the scheme with the same financial incentives.
 - **Analyse the characteristics of individuals who opt out to better target the policy.** A broad target population for the automatic enrolment scheme may be associated with large opt-out rates. Given the burden associated with the enrolment and re-enrolment processes, in particular for employers, opt-out rates statistics could be used to adjust the definition of the target population over time. In addition, these data could facilitate the identification of external incentives that favour opting out and help address the issue.
 - **Adapt the financial incentives to the characteristics of the target population.** Different types of workers are sensitive to different types of financial incentives. Earlier OECD work shows that low and middle-income earners value more non-tax financial incentives, such as matching contributions and fixed nominal subsidies (OECD, 2018_[21]). Early access to funds and contribution holidays are also important incentives but should be limited to avoid future harm to retirement income adequacy.
 - **Keep things simple.** Default options for the pension provider, the contribution rate and the investment strategy are essential for typically less engaged, automatically enrolled participants. Automatic payroll deductions to pay contributions also help make automatic enrolment schemes an easy tool to save.
2. Higher retirement income:
 - **Set default contribution rates at a low initial level and implement automatic escalation.** Low default contribution rates may help reduce opt-out

rates but jeopardise retirement income adequacy. Automatically increasing contributions according to an agreed agenda or following pay rises can help people reach their optimal contribution rate.

- **Consider establishing a life-cycle investment strategy as a default.** It allows younger individuals to take more investment risk and to reduce risk as people age, thereby reducing potentially large losses close to retirement age.
- **Consider establishing a default post-retirement product.** Automatic enrolment relies on inertia and default options, which tend to reduce engagement. Leaving individuals on their own for the pay-out phase could increase the risk that they make mistakes when allocating their accumulated assets during their retirement years. A combination of a deferred life annuity with programmed withdrawals could be appealing to many people as a default, as it provides protection from longevity risk and flexibility.
- **Monitor and regulate fees in the automatic enrolment scheme.** Given the potential scale of the policy, individuals should be enrolled into high quality pension plans delivering value for money. Possibilities include fee caps and tender mechanisms.

Notes

¹ There is no clear starting date for automatic enrolment in the United States for occupational pension plans, see Table 1.1.

² Annual covered earnings considered for contributions by self-employed workers correspond to 80% of the total gross income subject to Article 42 n°2 of the Income Tax Law obtained by the worker during the calendar year prior to the tax statement.

³ The government reviews this threshold every year. It used to be linked to the personal tax allowance but has been frozen at the GBP 10 000 level since 2014/15. This means that, as wages grow in nominal terms, more people enter the target population.

⁴ A Roth IRA is an individual retirement plan where contributions are not tax-deductible, while investment returns and withdrawals are tax-free.

⁵ As at June 2018, 58% of KiwiSaver members had opted in voluntarily, either through their employer or through a provider.

⁶ Employees aged between 16 and 21 or aged between state pension age and 74, and earning above GBP 10 000 a year, as well as employees aged between 16 and 74 and earning between GBP 6 032 and GBP 10 000 are called “non-eligible jobholders”. Employees aged between 16 and 74 and earning less than GBP 6 032 are called “entitled workers”.

⁷ NEST is the only pension provider with a Public Service Obligation to accept self-employed savers.

⁸ In Canada, members may set their contribution rate at 0% indefinitely, however.

⁹ In the United Kingdom, if someone ceases membership after the one month opting-out window, a refund of contributions does not have to be made. The money will be kept in the pension fund until retirement.

¹⁰ This comes on top of the proportion of employees who cease membership after the opting-out window, estimated at 16%, with around two-thirds due to employees leaving their job.

¹¹ For example, KiwiSaver members can withdraw some of their savings to purchase a first home after 3 years of membership. The first-home withdrawal can be of any amount provided that the individual leaves a minimum balance of NZD 1 000 in his/her account.

¹² Amendments in a Bill before parliament at the time of writing should reduce the maximum and default period from 5 years to 1 year as of 1 April 2019.

¹³ In Canada, if members elect a programmed withdrawals option (called “variable benefits”), they remain in the low cost environment of the PRPP/VRSP.

¹⁴ In Turkey, the 25% matching contribution is common with other existing private pension provision, while the other financial incentives (the kick-start contribution and the annuity subsidy) represent an extra cost for the government.

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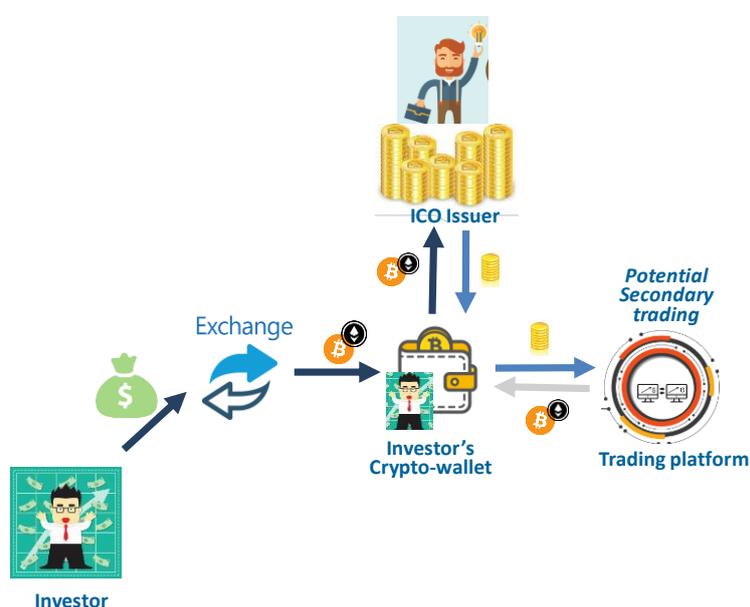
Chapter 2. Initial Coin Offerings (ICOs) for inclusive SME financing

This chapter explains why ICOs could be the most inclusive financing vehicle for SMEs. It analyses the practical implications of this innovative funding method, shedding light on the importance of network effects as an important source of value creation in token offerings. It highlights limitations of ICOs that go beyond the uncertainty of the applicable regulatory framework for ICOs and crypto-asset markets, and involve misalignment of interests, issues around the structuring, valuation, pricing and trading of tokens issued in ICOs, as well as risks linked to the technology underpinning such offerings.

What are Initial Coin Offerings?

Initial Coin Offerings (ICOs)¹ consist of the creation of digital tokens by start-up companies (i.e. young micro-SMEs) and their distribution to investors in exchange for fiat currency or, in most cases, mainstream cryptocurrencies, such as Bitcoin or Ether (Figure 2.1). ICOs are enabled by the use of Distributed Ledger Technologies (DLTs), such as the Blockchain,² which facilitate the exchange of value without the need for a trusted central authority or intermediary (e.g. government, bank) and allow for efficiency gains driven by such dis-intermediation. Tokens are cryptographically-secured and benefit from the inherent characteristics of DLTs on which they are built such as transparency, security and immutability of the ledger given its distributed nature.

Figure 2.1. Subscribing to an ICO issuance

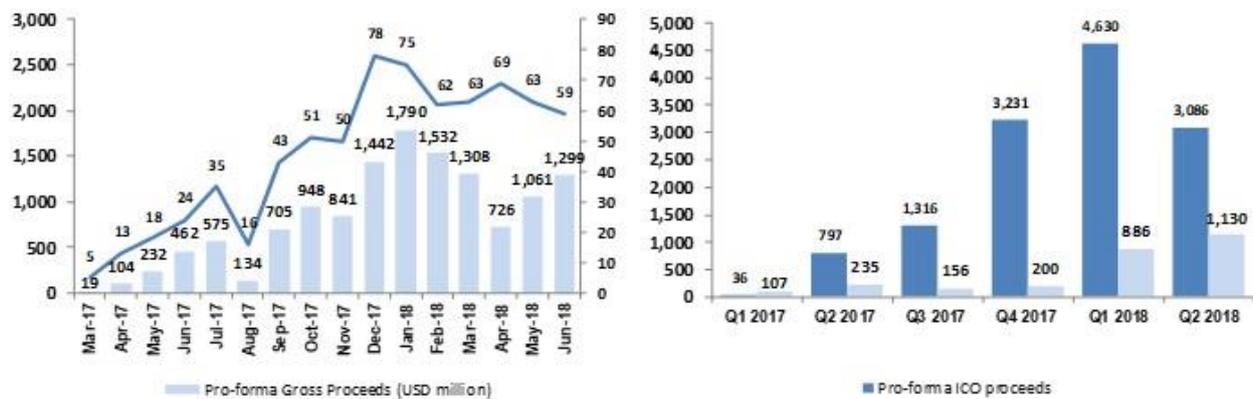


Despite being a very recent phenomenon, ICO activity has exploded in the past two years.³ The first ICO issuance was the MasterCoin, proposed by J.R. Willett in 2013 (Willett, 2013). The growth in ICO activity can be attributed to the novelty of the mechanism and the speculative hype around crypto-currencies experienced in the period 2016-17 with the rise of the bitcoin. Ethereum's introduction of the ERC20 standard for token creation allowed for a much easier ICO process which also contributed to such growth. At the same time, the need of early bitcoin investors to divest part of their massive gains within the cryptocurrency environment has also had an impact on the trend.

In 2018, the global ICO volume exceeded USD 15.8 billion as of Q3, against USD 2.3 billion for the same period in 2017⁴. On a pro-forma basis excluding the Telegram and EOS ICOs of USD 1.7 and 4.2 billion, the peak of the ICO activity is observed in January 2018 (Figure 2.2). According to a dataset compiled by Zetzsche et al. (2018), in terms of geography, ICO issuances are global but the US is the dominant offering jurisdiction. Interestingly, in around 1/3 of the offerings of the sample used, issuing entity or promoter's origin could not be identified.

Figure 2.2. Pro-forma ICO activity (excluding Telegram and EOS ICOs)

By number of offerings and ICO proceeds (LHS), ICO proceeds vs. VC proceeds for blockchain funding (RHS) on a pro-forma basis excluding the Telegram and EOS ICOs



Note: ICO proceeds on a pro-forma basis, excluding the Telegram ICO (USD 1.7bn raised in two rounds on February and March 2018) and the EOS ICO (USD 4.2bn closed in June 2018). Venture capital funding includes only blockchain-related funding.

Source: OECD calculations, based on data from Coindesk.

Failure rates are extremely high, around 45% of ICOs issued in 2017 have failed (Risley et al. 2017). Survival rates for SMEs 120 days after the ICO, measured by the absence of any announcement about the capital raised or failure to list their token in an exchange, were only 44.2% (Benedetti and Kostovetsky, 2018). Early stage financing is by definition high-risk, so failure rates are expected to be high.

Definitions, rights and token classification

There is currently no standardised definition of tokens, and the term token is sometimes used interchangeably with the term coin. Tokens issued through ICOs share common characteristics with a number of different asset classes, which makes it difficult to classify them under one conventional asset class: they are issued through processes that resemble equity issuance, trade like currencies, while they can also be used to facilitate the use of a platform (utilities). In addition, such tokens share the characteristics that inherent to DLTs on which they are built, such as a truly global nature, transparency, security and immutability given their distributed nature.

Tokens issued in ICOs can confer a combination of different types of rights to their holders (Figure 2.3). These include access rights to participate in the platform (in which case tokens are used to pay for fees involved in platform participation), rights to buy the service or product of the issuer (in which case tokens are used to pay for the service), claims on future revenues of the company, rights to contribute to the development of the software, voting rights similar to those assigned to shares, and other governance rights that can range from decision-making about the platform to validation of new participants or transactions in proof-of-stake models.⁵

Figure 2.3. Types of token rights



Note: Indicative, non-exhaustive list of token rights. Ownership rights are mentioned as theoretically possible but in practice the majority of tokens issued in ICOs do not confer ownership rights.

The types of rights assigned to tokens differ a lot from one ICO to another and are closely linked to the strategy of the company and the intended purpose of the token issuance. For example, if the company relies on the developer community for the creation of applications that run on the platform, the tokens will need to incentivise and reward those participants. In certain proof-of-stake systems, validators of new transactions must own tokens in order to be able to participate in the validation of new transactions.

Estimates of recent academic literature demonstrate that in most cases ICO tokens grant contributors the right to access platform services (68% of the cases), governance powers (24.9% of the cases) and only the minority of tokens hold profit rights (26.1% of the cases) (Adhami et al., 2018).⁶

Tokenholders have no refund rights if the issuer fails to develop the platform, if the network fails to be created or if the product fails to be created in the absence of investor protection legislation of unregulated offerings.

A number of regulators have proposed different approaches to classification. The Swiss Financial Market Supervisory Authority classifies tokens based on their underlying economic function into payment tokens, utility tokens, or asset tokens (FINMA, 2018). Other classifications can be made according to the way tokens generate returns or the way these are allocated to investors. According to the U.S. Securities and Exchange Commission, the definition of a token and its regulatory treatment do not depend on its “labelling” but on a careful assessment of the economic realities underlying a transaction (SEC, 2017a).

The dividing line between the different types of tokens is blurred and many issuers tend to self-classify their tokens as utility tokens, in order to avoid the triggering of financial requirements linked to the offering of securities. For a token to be treated as a pure utility token, i.e. intended to perform a function within the network and facilitate the use of the platform, the token would need to have zero value outside the network it is being used (e.g. tokens that are part of a rewards programme or tokens that are used in online gaming platforms and cannot be exchanged for fiat currency or cryptocurrencies). This, however,

is not the case with most ICO-issued tokens which tend to list on crypto-exchanges after the offering, and freely traded in secondary markets with the expectation of a profit. In such cases, value is derived from trading the token and without its practical use on the platform.

Regulatory framework

Token classification and taxonomies are being discussed by regulators and the industry in an effort to understand what regulation should apply to them. Tokens could be considered as financial instruments, securities, commodities, non-cash payment facilities or managed investment schemes, depending on the characteristics. To date, regulatory responses to ICO issuances differ and range from no guidance (“wait and see” approach), to introducing a statutory framework for the regulation of ICOs (e.g. Bermuda), introduce bans (e.g. China) or apply a case-by-case approach to regulating ICOs (e.g. U.S. SEC). Regulators from a number of jurisdictions have issued warnings or guidance.

Lack of clarity in the regulatory treatment of ICOs exposes both companies issuing ICOs and ICO subscribers (whether investors or consumers) to a number of important risks. This limitation is further aggravated due to the global nature of ICOs and the cross-border implications of ICO issuances to investors in different jurisdictions, and the sometimes difficult task of determining the jurisdiction of the issuer. At the same time, ICOs relying on regulatory arbitrage or exploiting loopholes in regulation tarnish the ICO market’s reputation and integrity, impeding a possible fruitful exploitation of an innovative mechanism for the financing of SMEs.

It should be noted, however, that in addition to regulatory frameworks applying to the tokensale and the tokens issued, questions remain as to if and how regulation will apply to the DLT technology underpinning ICO structures. Indicatively, this is particularly relevant to the use of smart contracts in transactions and their enforceability as contracts under standard contract law or the overall application of contract law on such applications.

In addition to the regulatory framework applying to ICOs, clarity on the regulation applying to the rest of the ecosystem built around token sales is of paramount importance in order to ensure market integrity and investor protection throughout the process. For example, most regulators have stated that Anti-Money Laundering and Countering the Financing of Terrorism (AML/CFT) regulations apply to ICOs, as well as to digital exchanges and payment systems which facilitate token trading, clearing and settlement. On 19 October 2018, the FATF adopted changes to the FATF Recommendations and Glossary that clarify that these apply in the case of financial activities involving “virtual assets” and “virtual asset service providers”, including providers of financial services for ICOs (FATF, 2019).

Benefits of ICOs for SMEs

Regulated ICOs can be a more inclusive financing vehicle by allowing small retail investors to participate in the financing of small businesses and start-ups and can offer numerous benefits to issuers and investors (Figure 2.4). Depending on the type of rights assigned to ICO tokens, companies can raise risk capital without sharing ownership, addressing one of the main impediments to the use of public equity financing (dilution). SMEs are granted direct access to an unlimited investor pool and the liquidity of tokens

issued in ICOs is one of most important benefits of ICOs, especially when compared to conventional start-up financing mechanisms such as Venture Capital (VC) funding.

Figure 2.4. Benefits of ICOs



Disintermediation and efficiencies driven by blockchain

ICOs facilitate the exchange of value without the need for a trusted central authority or intermediary (government, bank) which allows for efficiency gains. It could be argued that the disintermediation that occurs in ICOs could “democratise” SME financing, distributing control among SMEs and participants/token-holders instead of concentrating decision power in the hands of financiers, as is the case with banks in traditional debt financing. At the same time, SMEs diversify their financing options, allowing them to appeal on not just their profit potential but other characteristics of their project, which in turn could encourage banks to look into seeking alternative ways to determine their SME financing methods, too.

Automation and the use of innovative applications enabled by the use of distributed ledger technologies, such as the blockchain, can create further efficiencies gains in addition to the ones driven by disintermediation. In theory, such efficiencies can be shared by SMEs and investors alike, potentially translating into lower funding costs when compared to public offerings, depending on the specifics of each offering.

From a technical perspective, tokens issued in ICOs are cryptographically secured and, given that they are based on the blockchain, benefit from characteristics of DLTs, such as immutability, permanence, transparency and security. The use of smart contracts may reduce counterparty risk as the programming of such applications guarantees the automatic execution of a transaction upon triggering of pre-defined conditions.

Speed and cost of execution

ICOs are faster to implement when compared to other public offerings, at least in the current state of the cryptocurrency market (Figure 2.5). The examples of Bancor (USD 150 million raised in 3 hours) or BAT (USD 34 million raised in less than a minute) are prominent examples of the speed of execution for the raising of financing, and the pre-ICO phase is similarly shorter compared to other financing instruments. This, however, cannot be exclusively attributed to the benefits of the technology employed, as it is also due to limited disclosure requirements and due diligence performed in many of the

current ICOs. Such practices, however, have a detrimental effect on the credibility and viability of the project and on investor protection.

Figure 2.5. ICO process vs. IPO process



The cost and speed of execution are also linked to lower regulatory requirements applying to some ICOs. Depending on the jurisdiction, the lack of registration and disclosure requirements, or due diligence before the issuance increase the speed of execution, while the absence of required disclosure post-issuance reduces costs. Such benefits can be overridden by reduced transparency and related risks carried by subscribers to token offerings.

Network effects as source of value

Network effects describe the positive externalities observed in networks when the value of a product/service to a user increases as the number of users increases, and the potential links between participants grow for every new participant joining the network (Hendler and Golbeck, 2008)⁷. Existing theory on network effects suggests that "embeddedness" of network systems provides participants with unique opportunities and benefits derived from each other's participation, and firms organised through networks have higher survival chances than firms that are not (Uzzi, 1996).

In other words, the benefits a user enjoys from joining a network increase with the total number of users who are part of the network. This value proposition has first been quantified by *Metcalf's law* (the value of a network is proportional to the square of the number of users of the network) and *Zipf's law* (the value of a network is proportional to 'n log n', where n is the number of users of the network) (Briscoe et al., 2007). Irrespective of how its value is measured, the existence of network effects is widely acknowledged.

ICOs enable value creation by design: through the formation of platforms based on distributed ledger technologies; the attraction of participants and users (effectively all subscribers/tokenholders) and their possible interactions; and ultimately the inducement of positive network externalities on those platforms. These potential network effects increase the economic value of the platform itself and can have wider economic and social benefits.

ICOs have the potential to create economic value that goes beyond the value of the company and the product/service that is developed on the back of funds raised. Network effects created in ICOs by the mere participation of subscribers in the newly-built network is an important value creator and a comparative advantage of ICOs when compared to traditional methods of financing.

Entrepreneurs may decide to seek financing through an ICO instead of VC as a way to attract a consumer-base and build a network around the project instead of seeking a personal financial reward. While there is a fundamental difference between the two financing methods, the easier network effects may partly explain why ICO funding has overtaken VC funding in recent months. Rather than resorting to an ICO in the absence of other alternatives, companies may seek to fund their companies through token issuance with a view to create and monetise value from network effects.

Unlike the internet, where most of the value was captured at the application layer, value in blockchain-based companies is captured also at the protocol level ("fat" protocol layer) on top of which digital applications can continue to be deployed. Blockchain-based models have the ability to continue to attract and deploy projects on the platform, create value at the protocol level and incentivise the creation of additional applications at the application layer.

Liquidity and ownership

ICOs have the potential to overcome some of the impediments to the financing of early stage SMEs in an innovative way. The unwillingness of entrepreneurs to give away equity ownership or control in their company restrains the use of public equity funding by SMEs (Nassr and Wehinger, 2016). Depending on how token offerings are structured, companies can raise risk capital without necessarily conferring ownership rights. In other words, the entrepreneur can publicly raise finance without risking dilution.

The undeniable comparative advantage of an ICO offering compared to venture capital financing from the perspective of both the investor and the entrepreneur is liquidity. Tokens issued in ICOs can be traded in secondary markets with immediate liquidity from the day of listing.⁸

Recent academic studies on financing of entrepreneurial ventures by ICOs shows that in high volatility projects,⁹ ICO financing is expected to be more prevalent (if not the preferred source of) financing given that the VC investors would require a higher return to cover for such volatility. In the same vein, ICOs are shown to dominate VC funding for ventures which have a higher proportion of idiosyncratic risk (Chod and Lyandres, 2018).

Naturally, ICOs will be the preferred funding avenue for entrepreneurs as they can receive tokens without pledging any personal funds for the project. Indeed, academic research suggests that ICOs are preferred for projects with a high risk of failure and right-skewed payoff distribution, given that in case of some retention of ICO proceeds by the entrepreneur, the payoff for the entrepreneur is positive even when the project fails (Chod and Lyandres, 2018).

ICOs introduced an alternative new instrument for capital raising of SMEs, with the potential to improve competition in SME financing. In addition to providing capital to those companies that have no alternative, ICOs could put pressure on existing financing sources (e.g. VCs) to compete and provide better terms for the financing of SMEs.

Finally, the fact that ICOs had been unregulated for a large part of issuances that have already occurred helped proliferate the mechanism. The absence of a regulatory framework, however, can only be viewed as a benefit for fraudulent issuers and scam ICOs, and carries important risks for investors and issuing companies alike.

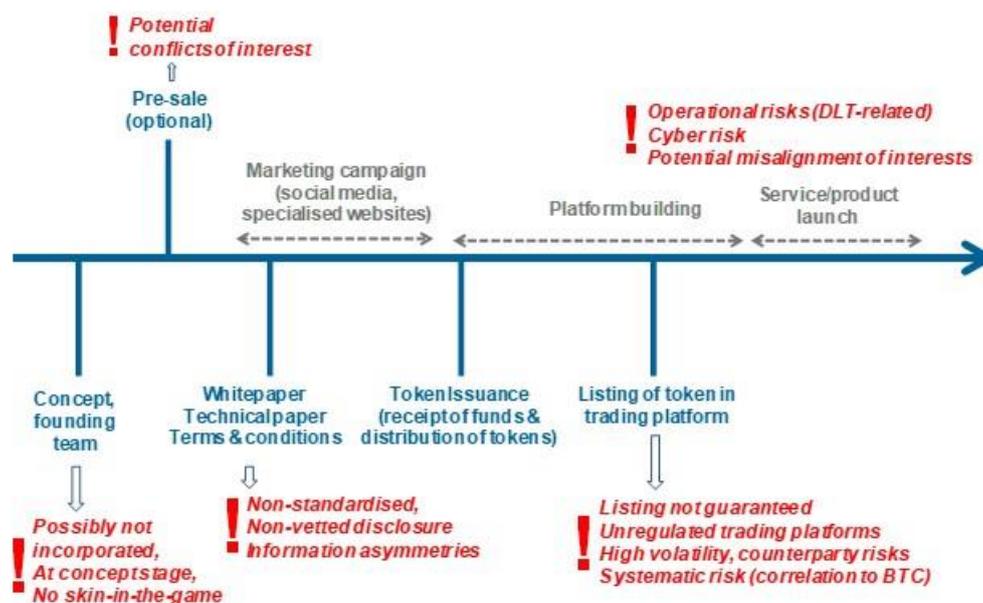
Limitations of ICOs for SMEs¹⁰

In their current form, ICOs involve a number of challenges both for SMEs and investors subscribing to offerings (Figure 2.6). They also risk having repercussions to the wider SME financing market by diverting important resources from productive investments to fraudulent activity and scams.

Regulatory uncertainty

The regulatory framework applying to ICO offerings is not always clear and may depend on the circumstances of each ICO offering on a case-by-case basis (IOSCO, 2018). Regulatory uncertainty around ICOs and the possible absence of supervision of such offerings exposes both issuers and participants to important risks. According to one estimate, no information was provided at all as to the regulatory status of the ICO in more than 2/3 of ICOs out of a sample of 400, while only 1/3 of ICOs in the sample mentioned the law applicable to the ICO (Zetsche et al., 2018).

Figure 2.6. Red flags along the ICO process



In addition to the lack of clarity around the regulatory framework applying to the offerings and the tokens issued, regulatory uncertainty exists around the underlying distributed ledger technology and its digital applications, on the basis of which ICOs occur. For example, the legal enforceability of smart contracts and the application of standard law on smart contracts remains to be determined, as is the recourse of investors in case of a loss that is due to a technological failure of the distributed network (OECD, 2017).

Given the global nature of ICO offerings, cross-border issues around marketing and issuance of tokens will arise, especially in the absence of coordinated activity by regulators. The disproportionate distribution of ICO offerings in a small number of jurisdictions may be evidence of regulatory arbitrage being exploited by issuers (Zetsche

et al., 2018). Taxation is also another important motivation behind such regulatory arbitrage.

In unregulated ICOs, the absence of disclosure requirements in ICOs exacerbates information asymmetries already present in early stage SME financing due to the non-existence of prior financial information or performance track record of start-ups. The absence of standardised disclosure requirements and the fact that whitepapers are not verified or vetted does impede proper risk assessment of the investment by investors and exposes them to unidentified or undocumented risks. The absence of appropriate due diligence by financial professionals, which would force issuers to consider factors that need to be examined acting as a natural filter for selection, and the lack of requirements for regular reporting post-ICO, further reduces transparency. The lack of any formal auditing process can further aggravate any resulting weaknesses at the post-issuance stage.

“Tokenomics”, structuring of ICOs and conflicts of interest

The economics of ICO issuances, increasingly known as *tokenomics*, involve the financing and economics around the issuing and implementation of a token within an ICO ecosystem, and the way holders of tokens are able to use these to exchange goods and services on the platform. This includes the structuring of the offering, sale models, pricing of tokens and allocation mechanisms.

Entrepreneurs may find it challenging to accurately calculate the financing needs of the company for the foreseeable post-ICO future, in order to pre-define token supply and avoid dilution of early token-holders. The separation of value attribution in case of a follow-on offering with traditional financing instruments, such as straight equity, may also be a challenge to the SME itself, with repercussions to investors.

The structuring of token issuances can give rise to conflicts of interest by the issuer. The ability of entrepreneurs to receive tokens issued through an ICO on the back of a concept that has not been executed and without having taken any personal financial risk in the venture could create such misalignments of interest.

In the absence of lock-up period requirements, the lack of any "skin-in-the-game" from the side of the entrepreneur can be a source of potential conflicts (e.g. pump and dump schemes): once the token sale is over, there is little incentive left for the founding team to actually deliver the project. The fact is that most ICOs are single-round offerings with a time mismatch between developers' rewards and token buyers' interests and a lack of feedback mechanisms between the development of the project and access to financing (Buterin, 2017).¹¹

Before the actual ICO, some issuers choose to undertake a private offering of tokens or token "pre-sale" to a small number of identified parties, in most cases insiders or cornerstone investors such as VC funds. Tokens in such pre-sales enjoy a discounted price for the tokens and in most cases proceeds raised are used to cover the set-up and expenses of undertaking the ICO transaction (marketing expenses, advisory fees, etc.).

Private sales of tokens ahead of ICOs raise a number of issues, as they tend to favour insiders by offering heavy discounts on the tokens that hold exactly the same risk as the ones purchased by investors during the offering. Issuers who use pre-sales to cover the expenses of undertaking an ICO offering do not take on any personal risk at all.

Companies raising funds through ICOs are exposed to increased volatility that may be partly due to subscribers who are only driven by speculation and have no intention of participating in the newly-created network. Indeed, investors driven by speculative herd behaviour may invest with the intention to sell as soon as the tokens become tradeable (in what is called "flipping"). This further exacerbates the inability of SMEs to exercise their own pricing strategy when tokens may be the only way to consume the product/service.

ICO offerings limit the flexibility of the issuer to raise further rounds of financing via follow-on offerings of tokens or of traditional equity financing. Entrepreneurs need to pre-determine and reserve a portion of the tokens issued for the purposes of further financing rounds. This exercise needs to be done upfront, before the platform is even launched and when uncertainty is at its maximum. In case of an equity offering following a token offering, the dynamics of value attribution between token-holders and equity-holders would need to be examined.

Valuation, pricing and secondary market trading

Valuation and pricing of tokens is challenging, as traditional corporate finance theories may not be easily applicable to token issuances. Most ICO offerings do not fit the standard investment paradigm, *inter alia* because of the ways value is created and attributed between the different participants of a network, the estimation and quantification of network effects, and the duality in the function of the tokens which in most cases have some usage value in addition to investment-specific value.

Estimating the appropriate value of tokens is even more difficult given the lack of transparency of most ICOs. Assessing the fundamentals of projects that are still at concept stage is almost impossible, and the task is further complicated by the absence of standardised and vetted information disclosure.

In addition, financial reporting of companies that have raised financing through a tokensale is currently a challenge for all ICO participants. To date, there is no international standard agreed for the accounting of ICO tokens. The absence of standardised financial reporting practices for tokens of unregulated ICOs (through the extension of the application of existing standards to tokens or through the development of new standards), further impedes transparency and complicates decision-making by participating investors.

As far as trading of tokens is concerned, secondary trading of tokens is neither automatic nor guaranteed after the issuance of tokens in an ICO. The listing and active trading of a token in a crypto-exchange or crypto-trading platform is actually considered as a proxy for the success of the IPO. Listing in multiple exchanges is thought by the market to be a good benchmark for the strength of the token, acting as a signal for investor interest. This also pushes some ICO issuers to pay to have their tokens listed on a crypto-exchange with healthy liquidity, which in turn increases the costs of ICOs.

Empirical evidence suggests that the market returns of tokens issued in ICOs are strongly correlated with bitcoin returns (Hu et al., 2018).¹² According to this research, ICO tokens carry a common source of systematic (non-idiosyncratic) risk correlated with bitcoin returns. This could be driven by the fact that most tokens need to be converted to bitcoins before being converted into fiat.

Any correlation of ICO tokens with bitcoin returns gives rise to risks stemming from market failures in the bitcoin market. Given that the price of the bitcoin is prone to price manipulation, likely by single traders (Gandal et al. 2018) and that the law of one price is

often violated for bitcoin which trades at different prices across various exchanges (Kroeger and Sarkar, 2017), issuing tokens that are correlated to the course of the bitcoin is exposing tokens to such market deficiencies or failures.

The importance of secondary trading means that launching an ICO and issuing a token is not sufficient: SMEs need to be able to sustain tokens in the market by ensuring investors are interested in buying them in the post-offering market. This is challenging when some token-holders are driven by the hype and/or speculative purposes.

When tokens are used to provide access to products/services on the platform (utility tokens), secondary trading may lead to the entrepreneur losing control over the pricing of his product/service.

Trading of tokens purchased solely as a means of accessing a platform and using the product/service de-links the value of the token from its usage value, especially when speculators are participating in such market. In a theoretical model, where the exchange rate of ICO tokens against other crypto or fiat remains stable, the tokens that the SME is receiving in payment for its services reflect the customers' willingness to pay and reveals consumer value (Catalini and Gans, 2018). However, the price of a token traded in the market is driven by multiple forces, including speculation. Issuing tokens can therefore prevent the entrepreneur from exercising an independent pricing strategy for his product/service.

Investor protection

As the uncertainty and risks involved in ICOs in their current form are vast, particularly given the regulatory vacuum in crypto-asset markets, many ICO offerings may not be considered as an appropriate investment for retail investors who do not necessarily have the financial skills or knowledge required to undertake high-risk investments. This financing instrument is by default risky, as it targets early stage risk finance. Regulatory uncertainty, the lack of transparency and difficulties in applying traditional valuation methodologies further prevent investors from making rational, informed decisions and exposes them unduly to risks.

The high price volatility of crypto-assets has raised concerns about the suitability of such instruments for retail investors (FSB, 2018). Tokens traded in secondary markets experience high volatility levels upon listing and in the aftermath.

Appropriate financial literacy skills are required for retail investors to be able to understand the risks involved in token issuance and grasp the main elements of token valuation. In the absence of vetted disclosure or formalised audit, the burden of due discovery lies with the investor and for this a solid financial understanding of the investment instrument is of paramount importance for retail investors in particular.

Investors wishing to subscribe to ICO offerings would need to have technical skills in addition to financial literacy skills. These may extend beyond the basic technical understanding of the blockchain and may involve coding skills. This would be required for investors wishing to audit the code used by the company, which in many cases is open source and shared with potential investors. In the absence of a track record, such code may be the basis for the evaluation of the start-up.

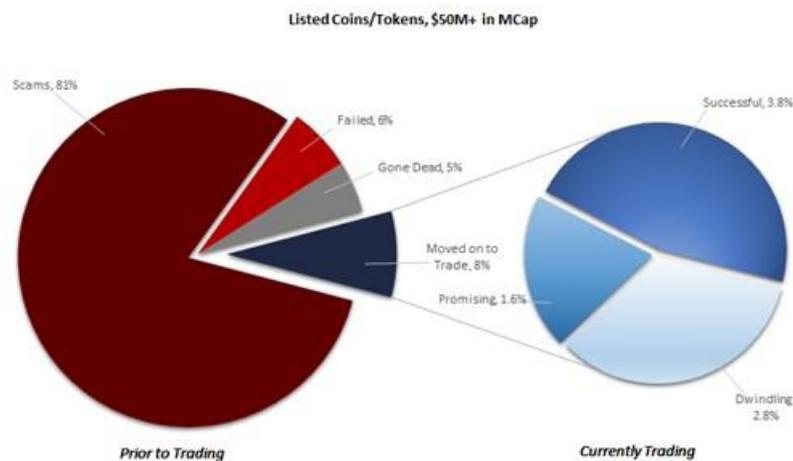
In addition, retail investors need to be able to manage private keys which give total control over the funds associated with one's public keys and with one's investment. This

involves the storing and protection of private keys and is critical given that it is impossible to recover invested funds if the private key is accidentally lost or stolen.

In the absence of a clear regulatory framework applying to the token issuance, the rights of investors to obtain redress and compensation are also unclear and potentially limited due to the legal uncertainty. Similarly, coverage by bankruptcy laws is not assured, and the ranking of token-holders compared to other creditors is unclear.

The risk of fraud is high in ICOs, although the data on offerings reported as scams varies. Estimates of frauds range between 5% to 25% of ICO offerings (Catalini and Gans, 2018) and up to a stunning 81% (Figure 2.7), depending on the classification used. Examples of fraud cases include Pincoin, iFan, OneCoin Ponzi scheme, Bitconnect referral system, Plexcoin and Centrtech, to name just a few.¹³ SEC set up a fake ICO, called HoweCoins, to educate investors about how to avoid scams (SEC, 2018).

Figure 2.7. Estimates of ICO Scams



Source: Dowlat and Hodapp, 2018.

In addition to the potential absence of financial consumer protection for investors participating in ICO offerings, the impact of standard private law liability is also constrained. Without specific requirements for the provision of information around the issuing entity, the impact of private law liability as a correcting factor is severely limited (Zetsche et al., 2018). According to recent academic studies, issuers are, in many cases, difficult to track as they do not report a domicile, with ICO documentation often failing to provide a physical, postal or other contact address (Zetsche et al., 2018).¹⁴

Segregation of assets is another issue in ICOs, as it is even difficult to understand whether investor funds are kept in pooled or segregated accounts. According to some estimates, out of a sample of 400 ICOs studied, only 14.46% provided information on whether the funding received from investors will be pooled or remain segregated (IIF, 2018).

Risks for investors and entrepreneurs extend beyond the issuance of tokens and into the wider crypto-asset ecosystem. Trading platforms used for secondary trading of tokens, as well as crypto-exchanges to which investors resort for conversion of tokens into other crypto or fiat, may lack normal disciplines in protecting investor assets held for trading and settlement, as seen by recent losses incurred by such exchanges (e.g. Bit Grail and Coincheck hacks). Even in ICOs with geographical restrictions for the marketing of the

issuance, which may act as a safeguard for consumer protection purposes, secondary trading has no restrictions. The lack of regulatory market structure around governance of issuance, trading and exchange of tokens across the different markets accepting tokens exposes both token-holders and issuers to additional risks.

Corporate governance and regulatory compliance

The lack of governance structures at the issuer level and the network level create an extra source of risk for both issuers and investors. Corporate governance issues affect token-holders in the absence of voting rights assigned to tokens issued in some offerings, or through the potential unbalanced or even unfair allocation of tokens (e.g. heavy discounts in pre-sales for the exact same risk taken) and the absence in some offerings of anti-dilution protection.

Most structures would not have a (in)formal board structure or any other oversight mechanism over management. This is more problematic in structures without skin-in-the-game by the entrepreneur and where there is no binding commitment from the entrepreneur's side to deliver the project on the basis of which the financing was provided. The lack of disclosure around use of funds adds another level of complexity to this issue.

Regular reporting requirements are also lacking, including around large ownership stakes which may give more space for price manipulation by single large stakeholders.

Decentralised governance is also problematic for the SMEs themselves. Token-holders can perform so-called “51% attacks” when the majority of the network decides to make changes that are not in line with the initial plan of the company. Token-holders could also “fork”, similar to what happens in crypto-currency blockchains, when token-holders disagree with the original protocol and decide to deviate and develop a second version of the token by adjusting the basic code.¹⁵ This would mean that the SME would in fact give up total control to token-holders (democratised governance).

Control may also become divided for SMEs in terms of pricing policy due to the high volatility associated with tokens traded on secondary markets.¹⁶ Limitations exist on SMEs on whether they can offer their products/services to non-token-holders wishing to pay in fiat currency, as the determination of price becomes challenging when tokens are also floating in secondary markets. This has repercussions on the customer base as it means excluding a big part of the non-crypto community from access to the product/service.

Without pre-defined rules set for the post-ICO supply of tokens, token-holders risk devaluation if the SME decides to take action without approval from existing token-holders. The SME itself risks becoming unable to further expand the network if such an eventuality is not incorporated in the code, in order to avoid one-sided actions taken by the company at the expense of the network.

In terms of regulatory compliance, Know Your Customer (KYC) and Anti-Money Laundering (AML) are a big area of concern for ICO offerings, and current requirements may be inadequate. Depending on the case, there may be no requirement for ICO issuers to identify and verify the identity of participants in the ICO, including for compliance with AML/CFT requirements. Anonymity of the funding process can be addressed in “whitelisted” ICOs where a register of participants is kept, especially when issuers want to control participation.

ICOs may non-deliberately contribute to (and participate in) money laundering or financing of terrorism by allowing investors to invest funds that have not gone through AML/CFT control checks. By way of example, in the absence of KYC performed, a money launderer can buy tokens in the ICO or in secondary markets, trade those tokens for other crypto-currencies with no trace of illicit activity and eventually trade for fiat. AML issues around crypto-assets in general have been a major source of concern, adding another layer of concern to the ICO market (FATF, 2018a).

On 19 October 2018, in response to the increasing AML/CFT risks associated with crypto-asset financial activities, the FATF adopted changes to its Recommendations and Glossary that clarify and include in their scope of application financial activities involving “virtual assets” and “virtual asset service providers” – such as exchanges, certain types of wallet providers, and providers of financial services for ICOs (FATF, 2018b). These changes make clear that jurisdictions should ensure that virtual asset service providers are subject to AML/CFT regulations, for example conducting customer due diligence including ongoing monitoring, record-keeping, and reporting of suspicious transactions. In addition, such providers should be licensed or registered and subject to monitoring to ensure compliance. The FATF will further elaborate on how these requirements should be applied in relation to virtual assets.

Data privacy and identity protection may be contrary to the inherent public nature of some DLTs. The “right to be forgotten”, provided in some jurisdictions, may be difficult to be applied in immutable databases such as the blockchain. These may be issues that need to be further investigated in the area of ICOs.

Operational and business risks

Anecdotal evidence suggests that ICO issuers have difficulty in getting banking services. This can restrict the fundraising to crypto-currencies as the issuer would not be able to accept and use fiat currency. It can also restrain the conversion and use of proceeds in fiat and reduce their ability to hedge their crypto-asset exposure (exchange rate, volatility).

In cases where the SME ecosystem extends beyond the blockchain network, participants may not necessarily be ready for the use of crypto-assets throughout, in which case conversion from crypto-currencies will be required. Having systems in place to abide by the KYC and AML/CFT requirements could in turn signal greater credibility and integrity of the offering and allow for more issuers to be accepted in the banking system. Currently, the vast majority of ICOs only accepts crypto-currency in exchange for newly-issued tokens.

Technical skills are required for both SMEs and token-holders to maintain a network based on DLT. The need of technological expertise is not a given for SMEs that are not involved in blockchain-enabled projects. This further increases execution risks for token issuance and the maintenance of the platform/network.

Operational risks of DLT-based applications, such as scaling, network stability, coding errors, and uncertainty of settlement finality, are transposed to ICOs and depend on the protocol used. Transaction speed, capacity for execution and computational power required for validation and recording differ depending on the type of blockchain used (lightning and ETH vs. Bitcoin) and the type of consensus mechanism being applied. Concerns about interoperability of different DLT-based systems and networks among each other and relative to legacy infrastructure and systems may impact the wider SME ecosystem of blockchain-based projects.

Token issuance and trading is also exposed to cyber-attacks, with a number of recorded incidents of hacking and cyber-attacks, exposing SMEs and investors to losses and reducing the credibility of ICOs. Digital wallets and exchanges are attractive targets for cyber-criminals. ICOs themselves are hacked by hackers giving false instructions for the funds to be sent to the address of the hacker instead of the address of the issuer. According to some estimates almost 10% of ICO funds have been lost to hackers' attacks (Ernst & Young, 2017). SMEs and start-ups are particularly vulnerable to cyber-attacks as they lack the cyber security strategies and the budget required for such risks to be effectively mitigated.

To sum up, Figure 2.8 provides a compact view of all the limitations of ICO offerings.

Policy and regulatory considerations

ICOs offer an innovative way to raise capital for young and innovative SMEs enabled by DLTs and the blockchain. Under specific caveats, regulated forms of ICOs have the potential to become an alternative financing mechanism for young SMEs with DLT-related projects, which could improve competition in the SME financing space. ICOs could facilitate faster financing of SMEs at a lower cost compared to most traditional financing mechanisms, benefiting from cost efficiencies derived from automation and disintermediation through the use of DLTs and the blockchain.

Can ICOs become a mainstream financing mechanism?

Although ICOs are hyped by some as the solution to SME financing gaps, ICOs may not be the right financial instrument for every person or every project, even in a more mature, safe and regulated form. A differentiation needs to be made between blockchain-enabled projects/products/services, and businesses or products/services not built on DLTs.

For an SME to benefit from the raising of financing through an ICO, there needs to be a business rationale that requires the use of a DLT solution to address real consumer need. A number of SMEs are creating concepts that will allow for a successful ICO offering without a real business rationale behind the use of the blockchain. The benefits of token issuance when such rationale is non-existent are limited to cost and speed.

ICOs are particularly beneficial for products/services founded on the basis of a network. Token issuance allows for quicker adoption of the product/service and the creation of a customer-base before the launch of the project. Most importantly, maximising value creation through network effects present in newly-created networks of investors purchasing tokens is one of the major comparative advantages of ICOs when compared to other financing forms. In the absence of a business model that can benefit from such network effects, launching an ICO may not be a viable and sustainable financing solution.

It therefore seems inappropriate to consider ICOs as a potential "mainstream" financing mechanism for SMEs whose projects are not enabled by DLTs and which would not benefit from network effects. Nevertheless, a number of companies are pursuing such offerings, exploiting the momentum in token issuances.¹⁷ Limitations in the use of the tokens by the non-blockchain based SME will further impede the viability of the business, as tokens will need to be used to facilitate transactions within the boundaries of the entire ecosystem of the company which will not be the case for non-blockchained SMEs.

Figure 2.8. Limitations of ICO offerings

LEGAL AND REGULATORY UNCERTAINTY	Regulatory framework applying to ICOs	<ul style="list-style-type: none"> Absence of clear regulatory framework applying to an ICO offering, depending on the jurisdiction; Unclear legal rights and obligations of token issuers and token holders, depending on the jurisdiction; Low understanding among the investor community of potential legal and regulatory requirements of token issuances.
	Regulation of underlying technologies	<ul style="list-style-type: none"> Lack of clarity around the regulatory framework applying to the underlying distributed ledger technology; Issues around the use of smart contracts in DLTs (legal enforceability, recourse).
	Cross-border regulatory arbitrage	<ul style="list-style-type: none"> Risk of regulatory arbitrage to the extent that regulatory action is not somehow coordinated; Issues around the cross-border marketing and issuance/ purchase of tokens.
STRUCTURING-RELATED ISSUES	Valuation & pricing	<ul style="list-style-type: none"> The application of standard corporate finance valuation frameworks to tokens issued in ICOs is challenging; ICO offerings do not fit the standard investment paradigm (e.g. duality in token function; evaluation of network effects; sharing of value created in the network).
	Token economics	<ul style="list-style-type: none"> Challenging to pre-define SME financing needs before project is launched in order to avoid token holder dilution in the future; Dichotomy in value attribution between token holders and traditional equity holders in case of follow-on financing round.
	Conflicts of interest	<ul style="list-style-type: none"> Lack of "skin-in-the-game" when founders carry no personal financial risk in the transaction; Allocation of tokens to founders without lock-up periods leads to misalignment of interests; Time mismatch between entrepreneurs/ developers' rewards and token holders' interests; Increased volatility of token price, partly driven by speculation (e.g. flipping) increases the inability to exercise an independent pricing strategy for the product/service
INVESTOR PROTECTION	Asymmetries of information & disclosure	<ul style="list-style-type: none"> Lack of transparency in the absence of disclosure requirements pre and post-ICO exacerbate information asymmetries.
	Investor suitability & skills	<ul style="list-style-type: none"> ICOs are high-risk, highly volatile and speculative investments and may not be suitable for most retail investors; In addition to financial literacy skills required, retail investors need to have basic technical knowledge around DLTs (e.g. loss of private key resulting in complete loss of investment).
	Investor rights (redress, bankruptcy)	<ul style="list-style-type: none"> Investor rights to obtain redress and compensation may be unclear and potentially limited due to the legal uncertainty; Limited private law liability in the absence of issuer details; Coverage and ranking in case of bankruptcy is unclear.
	Market integrity	<ul style="list-style-type: none"> Very high risk of fraud; Risks extend beyond issuance into the wider crypto-asset secondary markets; Trading platforms for tokens and crypto-exchanges for conversion of tokens to fiat lack normal disciplines in protecting investor assets
CORPORATE GOVERNANCE AND REGULATORY COMPLIANCE	Governance structure	<ul style="list-style-type: none"> Challenges of decentralized governance for SMEs issuing tokens; The lack of formal governance structures at issuer level and/or at network level creates is an extra source of risk for investors.
	KYC / AML	<ul style="list-style-type: none"> Know Your Customer (KYC) and Anti-Money Laundering (AML) checks on ICO offerings may be inadequate.
	Data protection and privacy	<ul style="list-style-type: none"> Data privacy and identity protection may be contrary to the inherent public nature of some DLTs. The "right to be forgotten", provided in some jurisdictions, may be difficult to be applied in immutable databases such as the blockchain.
OPERATIONAL AND BUSINESS RISKS	Difficulty in getting banked	<ul style="list-style-type: none"> Anecdotal evidence suggests difficulties for ICOs issuers in getting formal banking services.
	Technical skills requirements	<ul style="list-style-type: none"> Technical skillset required for both SMEs and token holders to maintain a network based on DLTs.
	Operational and inter-operability risks	<ul style="list-style-type: none"> Operational risks of DLT-based applications (such as scaling, network stability, coding errors, uncertainty of settlement finality); Concerns about interoperability of different DLT-based systems and networks among each other and relative to legacy infrastructure and systems.
	Cyber-risk	<ul style="list-style-type: none"> Token issuance and trading is exposed to cyber attacks (recorded incidents of hacking, cyber-attacks to wallets or exchanges), exposing SMEs and investors to losses and reducing the credibility of ICOs.

Additionally, ICOs mostly address seed and early stage financing needs of the SME's life cycle and are not equally suitable to address the most pressing SME financing gap found in some regions. In Europe, such financing gap is reported to be found in the follow-on or growth stage of the life cycle, which allows SMEs to accelerate to expand internationally and strengthen their position against global competitors (EIF, 2018).

The potential of ICOs as an inclusive financing vehicle

Depending on the conditions of issuance, ICOs are changing capital formation and inclusive financing in ways that we have not seen before. ICOs can be a more inclusive financing vehicle by allowing small retail investors to participate in the financing of small businesses and start-ups. ICOs can provide SMEs with direct access to an unlimited investor pool, offering near-immediate liquidity and the potential to create economic value that goes beyond the value of the company through the creation and monetisation of network effects. Depending on the structure, SME founders can raise early stage funding without giving away ownership, therefore addressing a major impediment to IPOs.

Despite this powerful potential, in the current stage and in their current form, uncertainty in the applicable regulatory framework for ICOs and crypto-asset markets, coupled with limitations in the structuring of ICOs and operational risks related to DLT-based networks, there are significant risks for investors participating in ICOs, while at the same time exposing SMEs to risks.

Clarity in the regulatory and supervisory framework applying to ICOs is arguably a stepping stone to the safer use of token issuance for financing purposes. Standardised disclosure requirements are indispensable so as to overcome information asymmetries that are already present in the financing of SME risk. Enhanced investor protection for retail investors, coupled with efforts for the financial education of retail investors, can safeguard their informed participation in such financing. AML/CFT requirements on all ICO issuances are equally important, especially given the wide range of relevant issues observed in the crypto-assets space.¹⁸

The pitfalls from the design and structure of ICOs, and issues related to authentication, disclosure, governance and misalignment of interests between founders and investors could be addressed as the financing mechanism matures. As market confidence in the underlying DLT technology grows, the potential to create a safer environment for such activity in the future is strong. In addition to regulation, best practices that are increasingly driven by the industry¹⁹ could also support a robust and safe ICO market.

When ICOs mature and develop, they have the potential to complement traditional bank and market-based lending, facilitating a better distribution of risk amongst market participants. A delicate balance will need to be achieved in the development or application of regulatory and supervisory requirements that will not deprive the ICO mechanism of its speed and cost benefits, particularly when it comes to smaller size offerings. Proportional application of regulatory requirements, as is the case in small public equity offerings in certain jurisdictions, could be considered as the way forward.

Given the global nature of ICOs issuing and trading across borders, cooperation at the international level would warrant a coordinated approach that will prevent regulatory arbitrage and allow ICOs to deliver their potential for the financing of blockchain-based SMEs, while also protecting investors.

Notes

¹ Initial Coin Offerings are also described as initial token offerings, crowdsales of coins or tokens, token or coin sales.

² DLTs and the blockchain are terms used interchangeably in this paper.

³ The quality of data on ICO offerings and crypto-assets varies and might not always be satisfactory, while market-related figures (prices, trading volumes, and volatility may be manipulated or may not necessarily fit all types of crypto-assets equally (FSB, 2018). Public data used should therefore be treated with caution.

⁴ Based on data from Coindesk as of Q3 2018.

⁵ In certain proof-of-stake systems, validators of new transactions must own tokens in order to be able to participate in the validation of new transactions. Validators of transactions in proof-of-stake transactions earn transaction fees by the transaction parties.

⁶ Based on a sample of 253 offerings occurred from 2014 to August 2017.

⁷ In a typical network, the addition of a new participant (or network node) increases the willingness to pay for network services by all participants and the benefits of the addition of an extra node exceed the private benefits accruing to the particular node.

⁸ Note that in theory tokens can also be traded over the counter, with the transfer of tokens from one wallet to another and the transfer of funds (fiat or other) from one person to another, without the need for a formalised listing on a secondary market.

⁹ Referring to the volatility of the venture payoffs.

¹⁰ Figure 2.8 at the end of the section provides a summary of the limitations.

¹¹ A theoretical solution to such issues involves the allocation of revenues to curators who only hand out funds once pre-defined milestones are achieved (Buterin, 2017).

¹² Based on the study of 222 cryptocurrencies above the USD 1 million cut-off out of 1 324 listed ones on coinmarketcap.com as of 23 November 2017 and for the period November 2015-17. Based on correlations with bitcoin returns at the daily and monthly frequencies, and through a principle component analysis.

¹³ News story by Gareth Jenkinson, 18 April 2018, available at <https://cointelegraph.com/news/unpacking-the-5-biggest-cryptocurrency-scams>.

¹⁴ In the sample used in the specific academic study, more than 67.1% of the issuers did not disclose valid postal contact details (Zetsche et al., 2018).

¹⁵ See the example of Ethereum and Ethereum Classic as a classic example of fork.

¹⁶ When tokens are used as medium of exchange for access to a product/service.

¹⁷ Some examples of non-network-based projects include Bananacoin, backed by environmental friendly bananas grown in Laos and the upcoming ICO of Intex Resources ASA, a Norwegian mining company, and a planned ICO of the Plaza Hotel in New York (Chod and Lyandres, 2018).

¹⁸ In response to AML/CFT concerns, the FATF has recently adopted changes to its Recommendations and Glossary in order to ensure that the providers of financial services for ICOs are subject to AML/CFT regulations (FATF, 2018b).

¹⁹ For example, see Best Practices of Token Sales issued by the Fintech association of Hong Kong (Fintech Association of Hong Kong, 2017), and the Roadmap for Blockchain standards in Australia to support the application of DLT standards (Standards Australia, 2017).

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Chapter 3. Financial well-being and inclusiveness

This chapter summarises current thinking around the definition and measurement of financial well-being, with a focus on adults. It then goes on to develop a potential framework to consider financial well-being globally, and discusses factors that may improve financial well-being and thus contribute to a more inclusive society. This will lay the foundation for developing a data collection tool, as well as exploratory analysis of potential associations between specific aspects of financial well-being and financial literacy scores

Introduction

Countries worldwide are developing national strategies to ensure comprehensive and sustained provision of financial education with a view to improving the financial well-being of their citizens.¹ This is accompanied by a growing interest in conceptualising and measuring financial well-being to enable monitoring of the outcomes of financial education initiatives and progress of national strategies. However, while the OECD definitions of financial education and financial literacy refer to financial well-being, no internationally agreed definition of the term or explanation of financial well-being currently exists. Until recently, policy makers lacked national definitions and micro-level data on financial well-being that could be used to inform their own financial education initiatives. This situation, however, is slowly changing. The United States, for example, recently developed a consumer driven definition of financial well-being, accompanied by a standardised set of questions to measure it.

This chapter summarises current thinking around the definition and measurement of financial well-being, with a focus on adults.² It then goes on to develop a potential framework to consider financial well-being globally, and discusses factors that may improve financial well-being and thus contribute to a more inclusive society. This will lay the foundation for developing a data collection tool, as well as exploratory analysis of potential associations between specific aspects of financial well-being and financial literacy scores.

Financial well-being

The definition of financial literacy developed by the OECD - and now widely recognised by the G20 leaders - states that financial literacy is "a combination of awareness, knowledge, skill, attitude and behaviour necessary to make sound financial decisions and ultimately achieve individual financial well-being" (Atkinson and Messy 2012). In addition, the definition of financial education makes it explicit that improved financial well-being is one of the intended outcomes of financial education policies:

"the process by which financial consumers/investors improve their understanding of financial products, concepts and risks and, through information, instruction and/or objective advice, develop the skills and confidence to become more aware of financial risks and opportunities, to make informed choices, to know where to go for help, and to take other effective actions to improve their financial well-being." (OECD, 2005).

Financial education is expected to improve financial well-being through a variety of ways. It could help young people to learn to delay gratification and develop positive attitudes towards long-term savings. It could also improve knowledge and skills and change behaviour across all target groups, including the most vulnerable. Financial education programmes could be designed to directly address issues such as low-levels of retirement savings or the use of inappropriate financial products, or may shape behaviours such as budgeting and planning ahead, which in turn can build financial resilience. Education may also aim to ensure that people have sufficient information to make informed decisions, and ensure that their knowledge is still relevant in a rapidly changing financial landscape. It also has a role to play in supporting financial consumer protection efforts, including through helping people to recognise and avoid scams and fraudulent activities.

As a component of well-being, financial well-being can be seen as an indicator of social progress, highlighting the health and sustainability of economies through the experiences of the population. Processes designed to increase financial well-being can therefore contribute towards inclusive societies.

With these factors in mind, various academics and public authorities have undertaken exploratory work on the concept of financial well-being. Some have developed measures designed to quantify levels of financial well-being in a way that can be used to study the impact of financial education programmes. Such measures can also be used to identify factors that may be associated with financial well-being and study the way in which it changes over time. A selection of such approaches is described below, with the aim of identifying both common and specific approaches that may be replicated more broadly.

Research on financial well-being and related concepts

Financial well-being has been discussed in academic circles for over 20 years. Indeed, a 1993 study to conceptualise and test financial well-being began with a valuable introduction to previous academic work on the topic (Porter and Garman, 1993). Rather than summarise all the relevant literature in, this paper highlights several developments and approaches that offer insights that can be drawn on to develop a global financial well-being framework.

The research by Porter and Garman differentiated between **three components, each of which were shown to add value to a composite financial well-being index** in the previous literature and in their model:

- Objective measures of well-being, such as income, that can be externally verified.
- Perceived attributes, such as satisfaction with savings, which are subjective.
- Evaluated attributes, where individuals compare themselves against a reference group or level.³

In 1996 Greninger *et al* created **benchmarks of financial well-being using objective data** at the level of the individual. Their study drew on the opinion of financial planners and educators to a) create a set of objective ratios that could be used to indicate well-being and b) recommend a minimum or maximum tolerance level for each. The final recommendation was for seven sets of ratios looking at liquidity, savings, asset allocation, inflation protection, tax burden, housing expense and insolvency/credit.

More recently, Bruggen *et al* (2017) have undertaken a study to **conceptualise financial well-being**, drawing on various previous definitions. Their definition, which is entirely subjective, refers to ‘the perception of being able to sustain current and anticipated desired living standards and financial freedom’. They note the importance of the time dimension (current and anticipated), something that they suggest is unusual in academic research, but is apparent in more recent academic studies and the policy approaches discussed below. They go on to develop a financial well-being framework that takes into account many external factors, and shows how a variety of interventions may be expected to change behaviour and influence financial well-being. Whilst the definition is subjective, the external factors include aspects such as income, accumulated savings and wealth and debts.

Kempson *et al* (2017) have developed a conceptual model of financial well-being and undertaken preliminary analysis of data from Norway, which also includes a summary of

recent definitions and a working definition for high- and middle-income countries. They use secondary analysis of focus group data and conclude that people think of well-being in primarily objective terms. In contrast with the Bruggen paper, they therefore conclude that ‘a scale of financial well-being should be based primarily on objective measures’, and define the concept as ‘the extent to which someone is able to meet all their current commitments and needs comfortably, and has the financial resilience to maintain this in the future’.

A number of studies **focus on students’ financial well-being**. These studies are typically interested in the role of parents and childhood experience:

- Falahati and Sabri (2015) focus on the financial well-being of students in Malaysia, building on previous studies that indicate that financial literacy leads to improved financial management and thus to financial well-being. Their work explores financial well-being, financial knowledge, childhood consumer experiences, secondary and primary socialization agents, money attitude, financial management and financial strain. As with Gerrans *et al* (2014, see below), the researchers analyse the data by gender. In particular, they find that financial knowledge has a strong, direct effect on financial well-being for female students, whilst for males socialisation agents and financial knowledge improve financial well-being through improved financial management.
- Schnusenberg *et al* (2013) research attitudes toward social health insurance among students in China, Germany and the US using five questions to capture financial well-being, related to bill payments, financial satisfaction, feeling constrained when buying things, being as well off as peers, and having more debt than peers.⁴
- Serido *et al* (2010) look at the role of parents in developing financial independence and well-being of first year university students. They find that the extent to which parents communicated with their children about financial matters is positively associated with well-being and negatively associated with financial stress. The research indicates that parents of a higher social status were less likely than other parents to discuss money with their children.
- Shim *et al* (2009), test a conceptual model to explore both the antecedents and consequences of financial well-being, using a data from students in a state university in the United States. Their analysis indicates that financial education at home and in school are important for financial literacy, and that in turn, along with parental expectation and perceived behaviour control these are related to financial well-being.

There are also a number of studies that look at concepts that are closely related to, or even synonymous with, financial well-being:

- An OECD working paper looks at the topic of **economic insecurity** (Osberg 2015). This paper noted that ‘Both private insurance and public social programs can offset significant parts of the financial risks of adverse events’, providing an important reminder that some (positive and negative) aspects of well-being are not within the control of the individual.
- Joo (1998) described **financial wellness** of an individual as including satisfaction with their financial situation, a feeling of financial stability and adequacy of financial resources and the objective amount of resources they have. Joo’s

concept was tested and refined in a 2014 study which included data collection and analysis (Gerrans et al 2014). The study uses an advanced statistical model to analyse responses to 34 questions covering personal well-being, financial well-being⁵, financial status, financial behaviour, financial attitudes and financial knowledge. It shows the role of financial knowledge in financial behaviour, and also shows that the financial satisfaction of women and men is driven by different factors: for men it is related to their level of financial knowledge, whilst for women it is related to their financial status (note that these findings contrast notably with those of Falahati and Sabri but any comparison should be made with caution as they apply to very different target populations).

- The Momentum Household **Financial Wellness** Index includes a range of micro and macro indicators.⁶ It is designed to reflect ‘wellness from the perspective of individual households’ material deprivation and hardship to their financial confidence and long term planning, and tangible macroeconomic influences from unemployment to GDP’. Analysis is used to describe people according to four categories: financially well, financially exposed, financially unstable and financially distressed.
- The Center for Financial Services Innovation in the United States has undertaken several research studies on **financial health**; most recently with a focus on developing countries. They argue that a consumer in such a country is ‘financially healthy when he or she:
 - balances income and expenses;
 - builds and maintains reserves;
 - manages existing debts and has access to potential resources;
 - plans and prioritises;
 - manages and recovers from financial shocks; and
 - uses an effective range of financial tools.’ (CFSI 2017).
- Genworth Financial has commissioned regular reports on Consumer **Financial Vulnerability** across up to 20 countries, indicating the financial fragility of individuals, or the likelihood of them falling into financial difficulties. The reports identify four groups of households: financially secure; circumspect; strivers and the financially vulnerable. These groups are based on the responses to two questions:
 - Thinking about the general financial position of your household, how often do you experience financial difficulties?
 - Looking ahead over the next 12 months, do you think the financial position of your household will improve, stay the same or get worse? (Genworth Financial, 2013).
- The National Australia Bank and Centre for Social Impact has developed work on **financial resilience**, defined as the ability to access and draw on internal capabilities and appropriate, acceptable and accessible external resources and supports in times of financial adversity.
- The Australian bank Me Bank (owned by Australian pension funds) has studied the **financial comfort** of households (Me Bank, 2012). Their report incorporates

measures of the respondents' comfort with their financial situation and changes over time, their confidence in their own ability to handle a financial emergency and their comfort with specific aspects of their personal financial situation, including level of saving and anticipated standard of living in retirement. The study also measures the extent to which people's subjective assessment of their situation matches their objective situation relative to others.

Selected policy approaches to measuring financial well-being

A number of countries have undertaken exploratory analysis to better understand the concept of financial well-being, and potentially seek to measure it through quantitative instruments. The purpose of such work is primarily to create an outcome measure for financial literacy, but the process can also be useful in identifying the key elements of people's financial lives that help or hinder their own financial well-being. The following examples are selected from information provided by members of the OECD/INFE.

Australia

Financial Literacy Australia, The Australian Securities and Investments Commission (ASIC) and the University of New South Wales have undertaken a joint project to better understand financial well-being. Their work focuses on defining financial well-being and understanding how it varies by age, and in different contexts. It also aims to identify those factors that are most important in achieving financial well-being.⁷ The report describes financial well-being in terms of three interrelated (objective and subjective) dimensions: being able to meet expenses with some money left over; being in control of finances; and feeling financially secure. The definition used is 'Financial well-being is when a person is able to meet expenses and has some money left over, is in control of their finances and feels financially secure, now and in the future'.

Indonesia

The Indonesian Financial Services Authority, OJK, believes that attitude and behaviour play important roles in achieving the ultimate goal of financial well-being, and the revised National Strategy for Indonesia (2017), states a vision of a highly financially literate population that takes advantage of suitable financial products and services to achieve sustainable financial well-being. The concept of financial well-being is being further developed to include 3 components that define financial well-being. These components are: the ability to manage finances well; the ability to develop assets; and having financial resilience.

The Netherlands

A model has been developed to measure relevant trends and the progress of the Dutch National Strategy which includes three 'social outcomes' for adults, based on the existing literature which shows their link with responsible financial behaviour. These are financial well-being, financial resilience and confidence in financial institutions. Indicators of financial well-being are included in financial literacy measurements in the Netherlands through the bi-yearly Financial Behavior Monitor.⁸ These cover issues such as the level of financial stress that people are experiencing, the degree of control they have over their finances, and how they feel when they think about their finances.

In addition, the Dutch Central Bureau for Statistics defines two components of subjective well-being that are related to financial situation: evaluation of current financial situation and worries about the future financial situation (Dutch Central Bureau for Statistics, 2015).

The United Kingdom

The United Kingdom Office of National Statistics looked at financial indicators as part of a measure of general well-being in 2012 (Seddon 2012). They considered 13 key points of relevance, including poverty, household expenditure, and household wealth. As a result, in 2014, the following subjective and objective economic indicators were included in the (macro level) Measures of National Well-being (Powell 2014)⁹:

- Finding it difficult/very difficult to get by financially.
- Somewhat/mostly/completely satisfied with the income of their household.
- Median household income.
- Median wealth per household, including pension wealth.
- Individuals in households with less than 60% of median income after housing costs.

The UK Money Advice Service (MAS – now part of the Single Financial Guidance Body) focused more directly on individual financial well-being as part of its review of the UK national strategy on financial capability.¹⁰ In 2015 MAS conducted its Financial Capability in the UK survey, and in 2016 it began to further develop analysis of the data using data reduction techniques and a categorisation model to define financial well-being as the outcome of financially capable behaviours. Financial well-being is defined as ‘current well-being’ and ‘longer-term financial security’.

The United States

The United States Consumer Financial Protection Bureau has undertaken a comprehensive research programme on financial well-being to understand the factors that contribute to it, and to identify approaches to measurement. Their research, based on open-ended interviews with consumers, has led to a definition of financial well-being that encompasses four elements, as shown in Table 3.1.

Table 3.1. US definition of financial well-being

	Present	Future
Security	Control over your day-to-day, month-to-month finances	Capacity to absorb a financial shock
Freedom of choice	Financial Freedom to make choices to enjoy life	On track to meet your financial goals

Source: CFPB, 2015a.

Based on this definition, the CFPB has developed and tested a 10-item scale to measure financial well-being. The CFPB used the scale in a nationally representative survey in 2016, and both the scale and the data are available for others to use.¹¹

Creating a framework for exploring financial well-being

The work undertaken by academics and policy makers to describe financial well-being and identify ways of measuring this concept across the population indicates a strong appetite for relevant tools that can be used to indicate that financial education has been successful in strengthening levels of financial well-being.

Several components are commonly incorporated into models of financial well-being, including actual level of assets or wealth (which may also indicate resilience); an indicator of financial control (managing finances; being on track to meet financial goals; using appropriate products) and an evaluation of current and future financial situation (which may also indicate financial freedom). These are described in Table 3.2..

The summary in Table 3.2 shows that both objective and subjective measures of financial well-being are widely used. The existing research also shows that various personal and economic factors are related to financial well-being in some way. **This paper therefore proposes the following simplified, operational international framework** for measuring financial-wellbeing which allows users to discuss financial well-being in a consistent way whilst maintaining flexibility at the national level:

3. Components of financial well-being

- a. *Objective factors* contributing to resilience, including
 - Disposable income
 - Personal wealth
 - Financial control
- b. Subjective evaluation of
 - day-to-day financial life
 - longer-term financial plans

4. Factors associated with, or supporting, financial well-being

- a. Knowledge and skills, including adaptability and self-control
- b. Physical and mental health and well-being
- c. Support of friends, family and the broader community
- d. Economic stability and growth

Table 3.2. Summary of commonly used concepts and indicators of well-being

Factor	Country/study covering this component to some extent
Personal wealth	<p>Indonesia identifies the ability to develop assets as relevant to financial well-being.</p> <p>Netherlands having a buffer to absorb a sudden outlay; being able to make ends meet; average disposable savings.</p> <p>The UK identifies active saving and building resilience (level of saving) as financial security as the highest level of financial well-being. Building resilience is the most important component of managing and preparing for life events. In the UK measures of over indebtedness are included in the assessment of current financial wellbeing.</p> <p>CFSI (2017) incorporates this aspect through 'builds and maintains reserves'.</p> <p>Me Bank (2012) considers financial resilience.</p> <p>Porter and Garman (1993) and Greninger (1996) included objective measures of income etc.</p>

Factor	Country/study covering this component to some extent
Credit use	The Netherlands, UK and CFSI (2017) suggests that indicators of having or tackling problem debt are relevant. Kempson et al (2017) include information about regular overdrafts and Shim et al (2009) use amount of debt.
Financial control	Indonesia identifies the ability to manage finances as relevant to financial well-being. The UK considers making ends meet to be a step towards financial well-being, and managing money well is a capable behaviour, this is made up of three components of managing credit use, active saving and keeping track. Working towards goals is a component of managing and preparing for life events. Questions include the capacity to pay an unexpected bill of 300GBP/Biggest unexpected bill could pay; Number of types of missed payments or incurred charges in last 6 months. The US includes <i>having control of day-to-day/month-to-month finances. I could handle a major unexpected expense; I have money left over at the end of the month; I am behind with my finances.</i> Schnusenberg et al (2013) Kempson et al (2017) include information on bill payments. CFSI (2017) and Kempson et al (2017) also include other aspects of control.
Satisfaction with current financial situation	Netherlands <i>How would you describe your financial situation in general?</i> US <i>I am just getting by financially; my finances control my life.</i> UK Satisfaction with financial circumstances; <i>thinking about my financial situation does not make me anxious</i> ; self-reported burden of bill/credit commitments/ keeping up with bills and commitments. Porter and Garman (1993); Schnusenberg et al (2013); Genworth financial (2013); Me Bank (2012) and Shim et al (2009) mention satisfaction.
Confidence in future financial situation	Netherlands <i>How often do you worry about your financial future?</i> New Zealand plans to include confidence. US <i>I am securing my financial future; Because of my money situation I feel like I will never have the things I want in life; I am concerned that the money I have or will save won't last.</i> Genworth financial (2013) and Me Bank (2012) mention confidence.
Freedom to make rewarding choices	US <i>I can enjoy life because of the way I'm managing my money; giving a gift... would put a strain on my finances for the month.</i> Schnusenberg et al (2013) looks at feeling constrained when buying things.

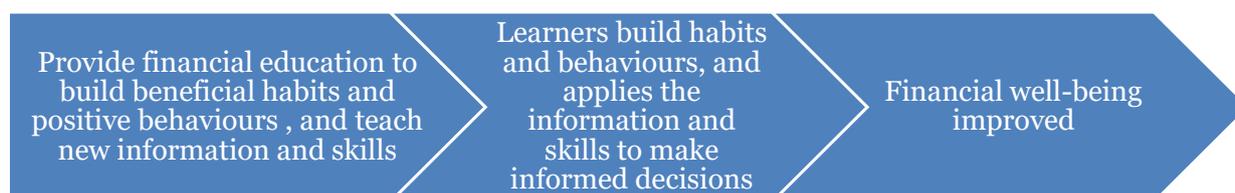
Notes: Mapping undertaken by the OECD and may therefore put questions in different categories from the original design of any of the studies discussed above. Text in *italics* reports actual question wording.

Improving financial well-being

The framework proposed above recognises financial well-being as a combination of objective and subjective components. The extent to which these can be changed through external efforts will depend on the approach used, and also on the factors associated with financial well-being, such as personal characteristics and the broader economic climate.

High-quality financial education is one tool that can be used to improve financial well-being. Programmes can be designed with the explicit intention of addressing elements of financial well-being, such as learning how to invest safely to build wealth. They may also provide knowledge and skills that can help to safeguard financial well-being in the face of adversity, such as managing an unexpected expense. Financial education can also provide the necessary guidance for people to be flexible and adaptable in the face of a changing financial landscape.

Applying the theory of change we might for example anticipate the following sequence of events:

Figure 3.1. Sequence of events

Such education may, in the short to medium term improve subjective financial well-being by helping individuals to:

- develop a sense of control over personal financial matters
- develop a balanced approach to spending that allows certain ‘wants’ as well as ‘needs’, within an overall budget
- make informed choices and find solutions to financial problems
- have the confidence to navigate new and unfamiliar financial landscape, using a combination of skills including digital and financial literacy
- know when to seek professional guidance
- improve understanding of how to become financially secure in the longer-term, and putting this into practice through a detailed saving and spending plan
- avoid scams and gain maximum benefit from the financial consumer protection framework in place.

In the medium to longer term, continued positive behaviours could also improve objective outcomes, by, for example:

- encouraging saving and investment in order to manage short-term income fluctuations, build wealth and provide income in old age
- facilitating financial preparation to pay foreseeable future expenses such as higher education, training or health care costs
- ensuring appropriate take-up of insurance to reduce the financial consequences of negative events
- ensuring considered use, or avoidance, of credit to minimise the likelihood of over-borrowing or falling behind with payments

The impact of financial education on financial well-being may not happen quickly. A programme that successfully encourages participants to save small amounts has the potential to improve resilience over time, but in the short-term the outcome will be too small to make a significant impact. There may also be a delay between learning more about financial matters and having the opportunity to apply the lessons learned, such as knowing how to seek redress in the event of poor service.

Whilst high-quality financial education may be expected to (eventually) lead to improvements in financial well-being, financial well-being may also be altered (or restrained) in various ways by a number of other factors. This is discussed in several of the research papers and policy documents described above.¹² Such factors may include

the role of parents in forming the habits, expectations and behaviours of young people.¹³ Predominant societal and cultural values towards behaviours such as borrowing and consumption may also be important.¹⁴ The influences of family, friends and community as well as intra-household dynamics should also be taken into account when considering changes to financial well-being, particularly if some adults have little or no control over their own financial situation.

Mental and physical health is likely to play an important role in financial well-being, and policy makers may wish to consider how health policies can influence, and be influenced by financial education policies.¹⁵ The good health of individuals and those in their care can make it easier for people to earn sufficient income, minimise associated costs and increase the likelihood that people have sufficient time and mental resources to make financial plans and stick to them. Causation may also run in both directions, as financial pressure can create stress, and potentially lead to physical and mental health problems such as high blood pressure and depression.

Various external factors are also expected to impact on consumers' levels of financial well-being, either directly or indirectly. Other things being equal, it is likely that financial well-being could be maintained or improved through policy measures designed to create or improve:

- A sound economy with predictable levels of inflation and interest rates
- A stable exchange rate
- An efficient financial protection framework
- Access to appropriate financial products
- Access to a dependable income (through some combination of work and social security networks)
- Affordable health and social care
- A supportive environment for new businesses and entrepreneurial activities

Other factors such as education level, housing and immigration status are also likely to impact on financial well-being for some groups, as is the availability of a support network of friends, family or wider community members.

Concluding remarks

Policies designed to improve financial well-being support inclusiveness and social progress, and there is a body of research and policy analysis aimed at defining and measuring the financial well-being of individuals. However, there is currently no globally recognised definition of financial well-being, and consequently, a lack of international measurement. As a result, whilst there are clear mechanisms by which financial education should improve financial well-being policy makers do not yet have data on this relationship, making it difficult to evaluate the outcomes of financial education against any specific benchmark.

The OECD will continue to develop and refine the framework described in this paper in order to develop a survey instrument to collect data and undertake tailored analyses in the future.

Notes

¹ Launched in 2002, the OECD project on financial education and financial literacy has significantly advanced international research and policy designed to improve the financial well-being of millions of people. Policy recognition of the importance of increasing consumers' levels of financial literacy as part of an overall strategy for inclusive growth is now widespread. One reflection of this is the support for financial education policies across influential international fora including the Group of Twenty (G20) and the Asia-Pacific Economic Cooperation (APEC). A growing number of countries, including more than 60 countries in the OECD International Network on Financial Education (OECD/INFE), have developed National Strategies for Financial Education to ensure the comprehensive and sustained provision of financial education.

² Some of the concepts may also be relevant for children and youth but there may be other aspects of financial well-being of relevance to younger generations that are not taken into account in this document.

³ The empirical study created a Peer Reference Group Index, using six questions asking about comparisons with colleagues, parents, people of the same age, friends and those with similar incomes. This Index was significant at the 10% level (0.058). The authors conclude that 'It is obvious that including peer financial reference groups is essential to the measurement.'

⁴ The researchers found no statistical relationship between financial well-being and attitudes to social health care. The questions are drawn from the Pew Political Polarization and Typology Survey, (the question about having enough money to make ends meet was not used) <http://www.people-press.org/files/2014/06/APPENDIX-4-Typology-Topline-for-Release.pdf>.

⁵ Here financial well-being is considered to cover financial stress, satisfaction with current financial situation, worrying about money, finding money for an emergency and living pay-slip-to-pay-slip.

⁶ See <http://www.bristol.ac.uk/geography/research/pfrc/themes/fincap/momentum-uk-index/> for the various reports relating to this index

⁷ http://www.csi.edu.au/media/Exploring_Financial_Wellbeing_in_the_Australian_Context_Final_Report.pdf

⁸ <https://www.wijzeringeldzaken.nl/bibliotheek/media/pdf/English/Powerpoint-Monitor-financial-behavior-Moneywise-august2017-ENG.ppsx>

⁹ It should be noted that some of these are negative indicators whilst others are positive

¹⁰ See <http://www.fincap.org.uk/> for the latest stages of this.

¹¹ <https://www.consumerfinance.gov/data-research/research-reports/financial-well-being-scale/>

¹² At the same time, it is plausible to assume that improvements in financial well-being may lead to improved financial literacy. For instance, as a person feels that their financial situation is less limiting than it once was, they may be encouraged to take more steps towards securing their financial future (i.e. change their behaviour), or start to take a longer-term perspective (changing their attitude to the long-term). Equally, as wealth grows, people may feel the need to become more knowledgeable about financial matters in order to properly manage their assets.

¹³ Shim et al, 2009 note that 'achieving positive financial well-being is a complex process involving a particularly important role played by parents'.

¹⁴ See for example, Garðarsdóttir and Dittmar, 2012, who find that materialism is related to a higher level of financial worry.

¹⁵ See Rijken and Groenewegen, 2008, for discussion on the role of money and resources for chronically ill patients.

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Chapter 4. Short-term consumer credit and inclusiveness

This chapter looks at short-term consumer credit highlighting its role in promoting financial inclusion, the detrimental effects on vulnerable groups, and the challenges linked to the use of short-term credit. The chapter then provides a toolkit to help policy makers and regulators in minimising the potential detrimental impact of short-term consumer credit on vulnerable groups. The toolkit includes measures on effective regulation, supervision and education.

Introduction

Financial inclusion is a major policy objective, and it is widely considered desirable that as many consumers as possible have access to a range of financial products and services to effectively manage their financial lives.¹ This may include basic transaction banking facilities as well as insurance, saving and credit products. However, credit products come with risks and there is evidence to suggest that some people do not know what the risks are or fully understand their implications, and others (perhaps erroneously) believe that they have the skills to effectively manage the risks.

Short-term consumer credit instruments in particular can pose particular risks to consumers, because of their higher cost compared to other forms of consumer credit, the presence of a variety of providers, from banks to specialised lenders, and the applicable regulatory framework.

Effective regulation and supervision, alongside effective education approaches are key for countries to ensure that financial markets meet short-term credit needs without negatively affecting vulnerable consumers by creating a cycle of debt, over-indebtedness or possible eventual financial exclusion.

This chapter looks first at short-term credit introducing definition and scope, including short-term high-cost credit, outlines the factors that drive consumer risk in this market, and define the type of consumers more at risk. Section two assesses the role of short-term credit in financial inclusion, highlighting as well its detrimental effects and the challenges linked to the use of short-term credit. Section three then suggests a toolkit of possible measures, that can be chosen individually or in combination to improve consumer outcomes for short-term credit users. The toolkit includes measures on effective regulation, supervision and education to assist policy makers in protecting users of short-term credit. The suggested actions are based in particular on the policy solutions already being implemented by the jurisdictions that have devised regulatory and supervisory regimes for specific subsets of short-term consumer credit (high-cost short-term consumer credit).

The OECD has investigated developments linked to short-term consumer credit through its programme of work and the programmes of work of the bodies it serves, such as FinCoNet. The examples of policy solutions are based on the responses provided to the joint survey undertaken in the preparation of the G20/OECD Task Force on Financial Consumer Protection, FinCoNet and the OECD International Network on Financial Education report “Short-Term Consumer Credit: provision, regulatory coverage and policy responses” (Box 1).

Box 4.1. Work of the OECD on short-term consumer credit

The OECD report on “Short-Term Consumer Credit: provision, regulatory coverage and policy responses” (OECD, 2019), prepared by the OECD Secretariat on behalf of the G20/OECD Task Force on Financial Consumer Protection, FinCoNet and the OECD International Network on Financial Education has benefited from work conducted by these three bodies:

- **G20/OECD Task Force on Financial Consumer Protection:** it has in particular contributed to the review of the Recommendation of the OECD Council

concerning consumer protection in the field of consumer credit (OECD, 2018).

- **FinCoNet:** it built on work conducted on Responsible Lending (2014), Sales Incentives (2015), and on the FinCoNet Report on the Digitalisation of Short-Term, High-Cost Consumer Credit² (FinCoNet, 2017) and on the FinCoNet Guidance to Supervisors on Digitalisation of Short-Term, High-Cost Consumer Credit (FinCoNet, 2019). It will feed into the two new work streams on product culture and governance and on financial advertising.
- **OECD/INFE:** it notably fed into work on digitalisation as well as into the review of the OECD instruments on financial education, which will lead to a single, comprehensive, global standard on financial education and literacy.

Short-term consumer credit

Short-term credit from a consumer-centric perspective

Consumers' short-term credit needs can be met by a variety of informal and formal credit providers. Informal credit includes borrowing from friends and family, taking goods on credit from shopkeepers, or asking for a loan from a savings and loan clubs. Informal sources also include illegal lenders, who operate in many jurisdictions posing a particular danger to vulnerable consumers.

The formal provision of short-term credit includes revolving credit products, such as credit cards, store cards and overdraft facilities; secured loans such as those offered through pawnbrokers, secured on a motor vehicle, or rent-to-own/hire-purchase contracts; and personal unsecured loans. Consumers can access unsecured, fixed-sum loans through traditional deposit-taking institutions, such as banks, and specialised lenders, or short-term high-cost loans offered exclusively by specialised lenders.

In a majority of jurisdiction, short-term consumer credit is treated similarly to all consumer credit products, with respect to the supervision of providers and product regulation (disclosure regimes, interest rate caps, etc.).

Some jurisdictions have however devised a specific regulatory framework for certain category of short-term credit products, identified according to their shorter duration or higher cost. The policy options identified in this chapter will draw in particular from these special regulatory regimes that cover short-term high-cost credit products and providers, with a view to providing suggested measures that can be applicable to short-term consumer credit of any nature.

Short-term high-cost credit

Short-term high-cost credit has been described by FinCoNet (FinCoNet, 2017) as the practice of lending to consumers:

- amounts of money that are small relative to other forms of credit in the market,
- for short periods of time (most commonly for durations of under 12 months),
- at a rate that is considered to be high compared with other credit products available to consumers in their jurisdiction.

This description captures most of the short-term high-cost credit products available to consumers in emerging and mature financial markets alike and that some jurisdictions have

defined based on financial market regulation (Australia, Canada, Denmark, Ireland, the Netherlands, South Africa, the United Kingdom and the United States among others).

These products are referred to in different ways: short-term high-cost credit, high-cost short-term credit, payday loans, home-collected credit, small amount credit contracts (SACCs), short-term small-dollar credit (STSDC) or moneylending agreements. Their duration can vary from a few days and up to the following payday (payday loans), to a few months and up to a year repayable through instalments.

Short-term credit and financial inclusion

Effective financial inclusion is supported by access to a range of financial products and services that can help consumers to effectively manage their financial lives. This may include basic transaction banking facilities as well as insurance, savings, investments, credit and short-term credit.

The presence of a short-term consumer credit market can have beneficial effects, when this is properly regulated and consumers are aware of its risks. However, it can also lead to unmanageable levels of debt, and be detrimental to the effective financial inclusion of consumers, notably the most vulnerable.

Supporting financial inclusion

The presence of short-term credit products, if effectively supervised and regulated, can have positive consequences on consumers' financial well-being and support financial inclusion. It can prevent the financially excluded or the most vulnerable consumers from turning to illegal lenders when in need to access to short-term credit to cover unexpected expenses or make ends meet when facing a temporary income shortfall.

This is especially relevant for those on irregular incomes, such as working poor or those on irregular short-term contracts. Research conducted on the financial lives of consumers on very low incomes (Collins et al., 2009) indicates that economic inequalities are a consequence of differences in income, wealth but also in the reliability and predictability of personal finances. The presence of an effectively regulated short-term credit market can provide the financial tools needed to cope with unsteady incomes and expenses.

Short-term credits support financial inclusion when certain life events occur. Short-term credit can provide essential funds to individuals facing negative life events, such as accidents, ill health or a relationship breakdown, or other costs that were not budgeted for, such as school trips, parking fines.

Detrimental effects on financial well-being and inclusion

The use of short-term credit can also have negative consequences. Several risk factors can contribute to the emergence of consumer detriment in the short-term credit market, with negative consequences on the financial inclusion of vulnerable consumers. These risks should be taken into account when studying this market, and can be the object of specific investigations.

- Low and irregular or unpredictable levels of disposable income. Consumers on low or variable incomes and without (liquid) savings, as well as those left without alternative viable choices due to their lack of a credit score or poor credit history, are more likely to access short-term loans. Surveys of payday lending users in Canada indicate that 45% used it for necessary but unexpected expenses, and that

41% for necessary but expected expenses, suggesting insufficient income, a lack of a savings buffer or a need to address an unexpected income shortfall.

- Behavioural biases: especially those supporting behaviours that are not in the best financial interest of individuals, can play a role irrespective of the financial situation of consumers (Lefevre and Chapman, 2017). Consumers might make use of short-term credit to finance a lifestyle that is beyond their financial means, whilst simultaneously over-estimating their ability to repay. By the bias defined as anchoring, they can also tend to weight one piece of information too heavily when making a decision and focus only on the instalments, rather than on the total cost of credit.
- Low levels of financial literacy: these can contribute to consumers not shopping around for the products that might better suit their needs and for more competitive offers, not understanding terms and conditions, or the prices and fees associated to short-term credit products (OECD, 2016a; OECD, 2017),
- Market conduct of credit providers: the institutions responding to the joint survey reported several examples of specialised lenders that have breached responsible lending obligations and disregarded proper assessments of creditworthiness, including affordability (i.e. ability to repay without a significant adverse impact on the borrower's financial situation) before granting loans. Some also expressed concerns about poor treatment of borrowers in arrears or default, including inadequate forbearance. In addition, the marketing strategies of short-term credit providers can be more aggressive when compared to those associated to other financial products and services.

Exclusion from mainstream financial providers

The presence of a market for short-term consumer credit can also have negative consequences on the financial inclusion levels of the most vulnerable consumers. The use of short-term credit provided by specialised lenders can in fact exclude them from using mainstream financial services, either because it negatively affects credit scores thus preventing them from using alternatives, or because it makes them believe that traditional deposit-taking institutions would not serve them.

As suggested by the evidence collected by the institutions responding to the joint G20 OECD Task Force, FinCoNet and OECD/INFE survey, consumers using short-term credit can more easily fall into arrears (because they are in marginal financial circumstances, with low or variable income and fluctuating expenditure needs, and as such more susceptible to small changes in their financial situation). This can impair their credit score, resulting in higher costs in the future and even exclusion from traditional credit providers. In some countries and depending on the career path, this might also impede job search, ability to rent a property, and have far-reaching consequences on individuals' well-being.

Vulnerable consumers and those with low levels of financial literacy in particular can also "self-exclude" and decide not to seek access to possible lower-cost credit solutions such as those offered by deposit-taking institutions. This can be reinforced when people in a similar socio-economic background and financial situation are seen to use these products, leading to the unverified assumption that other financial providers would not serve them.

Over-indebtedness

The use of short-term credit instruments can also contribute to over-indebtedness, with important negative consequences on individuals' financial well-being and their capacity to use and benefit from mainstream credit products. The repeated use of short-term credit in particular can face consumers with the risk of getting into arrears on a structural basis, with insufficient resources to meet financial commitments. Spiralling debt problems can occur when consumers borrow from future earnings or do not repay previous borrowing quickly enough or at all, as the repayments reduce their disposable income in future months. This can create a situation where consumers repeatedly seek short-term credit solutions to address shortfalls. In time, such consumers may become chronically over-committed and be unable to cover basic living costs; and may even fall prey to informal or illegal lenders.

Higher cost incurred: the poverty premium

Short-term high-cost credit users in particular may incur higher than necessary costs, due the lack of cheaper alternatives, or because they are not aware that they could access short-term credit from alternative sources (traditional deposit-taking institutions, or social and not-for-profit lending where this exists). Research conducted by the Financial Consumer Agency of Canada indicates that consumers accessing payday loans are not aware of cheaper credit alternatives available, and that consumer detriment and lower levels of financial well-being are mainly due to the higher cost incurred by unaware consumers.

The higher price that low-income households pay for essential goods and services is "poverty risk premium" (Davies et al., 2016). This premium arises from demand and supply-side factors. Demand-side factors relate broadly to the needs and preferences of low-income consumers. Supply-side factors reflect how markets shape the choices available to consumers and impose additional costs on them. Additionally, there are also compounding factors such as financial and digital exclusion and geography (Box 2).

Vulnerable groups

Finally, there are several categories of consumers more at risk when using short-term consumer credit. These vulnerable groups can be defined by their income levels and predictability, financial literacy, and age.³

- Consumers on low or unpredictable incomes, as they are more likely to use short-term credit to pay for necessary living expenses (Canada), make a repeated use of short-term loans (Latvia), take out loans to repay existing debt obligations (Estonia), and to face difficulties borrowing from traditional deposit-taking institutions (Hong Kong, China).
- Consumers with lower levels of financial literacy, who are more at risk of not fully understanding the terms and conditions of loans (Canada), and are less likely to shop around when needing credit.
- Young people, because they are on lower incomes compared to the general population and display lower financial literacy than adults (OECD, 2016a; OECD, 2017). They can also be more exposed to short-term credit marketing strategies, given their familiarity with digital technologies and the additional time

spent online compared with the general population. As such, they are exposed to marketing messages that promote borrowing to satisfy present needs.

- The elderly population, especially those living on limited fixed incomes. Elderly people can also fall victim to off-premises selling of short-term credit products, such as doorstep lending (United Kingdom), in which the market conduct of providers is more difficult to supervise, as indicated by Estonia.

Policy makers should therefore pay particular attention to these categories of the population when studying the short-term credit market and its users, and devising policy responses.

Box 4.2. The impact of digitalisation on the short-term consumer credit market

The provision of short-term consumer credit increasingly takes place digitally, in emerging and mature markets alike, bringing both advantages and risks to consumers. On the one hand, it can lower costs, thanks to the increased competition and the automatised of the lending process (FinCoNet, 2017). It also can substantially increase the number of consumers that have access to short-term credit instruments, therefore facilitating financial inclusion especially in emerging economies. On the other hand, it can also lead to poor lending practices, inadequate disclosure and confusing dispute resolution processes, while at the same time increasing the negative effects of behavioural biases and exacerbating some of the risks faced by consumers (FinCoNet, 2017; OECD, 2019).

In emerging markets, there are several examples of digital provision that takes place through partnerships between mobile operators and financial institutions, within existing mobile money ecosystems. This can bring substantial benefits such as, lower transaction costs, immediate access without the need for in-person verification, and the possibility of using non-traditional data (such as mobile money and airtime usage) to develop alternative credit scores making it possible to extend credit to sectors of the population without collateral or traditional scores (Eilin, 2017). However, evidence suggests that poor transparency in the lending process can also have detrimental effects on unaware consumers. Studies conducted on short-term credit digital borrowers in Tanzania show that around a third of digital borrowers have defaulted and more than half have repaid late (Kaffenberger, 2018).

These developments and the evidence collected have brought organisations such as the Consultative Group to Assist the Poors (CGAP) to suggest a market slowdown and to call for a greater focus on consumer protection, to ensure digital credit markets develop in a way that improves the lives of low-income consumers.

In OECD and high-income economies, supervisors and regulators should pay particular attention to new FinTechs offering digital short-term credit. These credit providers make use of digital technologies and innovations to interact fully (or largely) with customers online. Unlike traditional banks that may operate online, these entities are not generally covered by the prudential regulatory (and reporting) perimeter applying to banks (Bank for International Settlements, 2018).

This poses several challenges to policy makers. They need to effectively monitor these providers (FinCoNet, 2019), and make sure that the financial consumer protection provisions applying to consumer credit are implemented. It might also call for specific financial education and awareness initiatives so that consumers are aware of the use made of their data as well as the consequences of the automated decision-making process (G20 OECD/INFE, 2018).

A policy toolkit to protect short-term credit users spanning supervision, regulation and education

Policy makers could consider a range of policy options to minimise the possible negative consequences that can be incurred by consumers using short-term credit products. This section introduces these options in the form of a policy toolkit to assist policy makers in avoiding consumer detriment in this market.

These options, spanning supervision, regulation and education, can make the short-term credit market work better for consumers and contribute to an effective financial inclusion in which consumers enjoy a sound financial consumer protection framework, while understanding the financial choices they make and how they affect their financial lives.

Evidence

Ensure effective market monitoring

Policy makers should first understand the provision of short-term credit in their jurisdiction, and its effects on consumers, in order to inform, if needed, a dedicated public policy response. In a majority of jurisdictions this market is not the object of specific monitoring, and in some cases certain short-term credit products might fall outside of the supervisory perimeter of the financial regulator. The need for additional evidence on how this market operates is confirmed by limited amount of data that the jurisdictions responding to the joint G20 Task Force, FinCoNet, OECD/INFE survey were in a position to provide, pointing to a possible lack of granularity.

However, notwithstanding the number of short-term credit users - ranging from a few percentage points up to ten percentage points in the economies that could provide specific data - the consequences on the financial lives of these consumers can be far-reaching. It is therefore key to detect and understand the possible presence of consumer detriment at an early stage to inform, if necessary, the appropriate public policy response.

Market monitoring should be comprehensive, and take into account the provision of short-term credit by new entrants in the market, such as new digital providers (Box 4.2).

Study consumer behaviour

Policy makers should also investigate consumer uptake of short-term credit products, how and why consumers access short-term credit, and its effects on their financial well-being, notably among the most vulnerable (e.g. low income, young and/or senior people). This assessment should be conducted in a holistic way, covering all credit products used by consumers and taking into account overall debt and savings levels.

This can be done thanks to existing monitoring techniques. These techniques include the analysis of information gathered via consumer complaints, mystery shopping, or through secondary analysis of financial literacy or households' financial assets and liabilities surveys. In the presence of a short-term credit market, policy makers could consider also the use of specific tools designed to investigate solely the short-term credit market and its users, such as surveys of short-term consumer credit users, focus groups, and short-term credit industry reviews (Central Bank of Ireland, 2013; Financial Consumer Agency of Canada, 2016; Financial Conduct Authority UK, 2017).

Policy makers should focus in particular on those consumers more at risk from the use of short-term credit instruments, as identified early on in the chapter.

Assessing regulatory and supervisory coverage

Based on the evidence collected on the market, financial regulators should assess whether the supervisory and regulatory coverage of the short-term credit market is fit to protect consumers in this space.

The provision of short-term credit by specialised lenders can in some jurisdictions fall outside of the regulatory coverage applicable to other forms of consumer credit. This is the case when the amounts borrowed through short-term credit are below a certain amount, or when the existing financial consumer protection framework only applies to credit offered to consumers by traditional deposit-taking institutions and not specialised or fringe lenders. In these cases, specialised lenders can be regulated and/or supervised by a national consumer authority or a ministry.

This can deprive consumers of this specific form of credit of the financial consumer protection they would enjoy when using different forms of consumer credit. Indeed, in some jurisdictions, such as Australia and Lithuania, financial regulators have taken over from non-financial authorities the regulation and supervision of the short-term credit market offered by specialised lenders because of the presence of widespread consumer detriment.

Introducing regulatory and supervisory provisions

In the presence of consumer detriment in the short-term credit market, policy makers could consider the introduction of specific financial consumer protection provisions to this market, and evaluate the effects of their introduction. Provision include monitoring beyond disclosure, caps, specific lending provisions.

Move beyond disclosure

Consumers should be aware of the special features of a short-term loan, in particular of forms of short-term high-cost credit such as payday lending.

In most jurisdictions the disclosure requirements, the obligations on use of standardised terms and conditions, and the advertising regulations that generally apply to consumer credit also apply to short-term credit. However, and especially if consumer detriment has emerged from the collection of evidence, policy makers could consider measures that go beyond simple disclosure of terms and conditions.

These can include the presence of legislated warnings redirecting to the financial education website of the responsible financial authority, or a requirement on lenders to provide sufficient pre-contractual explanations and not simply information, which can be an effective tool in raising awareness and make consumers think twice on their needs and capacity to repay.

Several jurisdictions have moved beyond the disclosure requirements applicable to other forms of consumer credit.

In **Armenia**, short-term credit providers must add a legislated warning to their disclosure material, informing customers on the high cost of the credit and inviting them to shop around and compare offers.

Similarly in **Australia**, a warning statement was introduced in 2013 that any payday lender must display at their premises, online or over the phone. The statement contains a warning that borrowing small amounts of money can be expensive, and suggest alternatives to taking out a SACC and provides contact details for free debt help and

alternatives from financial counsellors, Australia's social security agency and ASIC's MoneySmart (financial education) website.

In **Hong Kong, China** the Money Lenders Ordinance requires that a money lender must provide a copy of the terms of the agreement to the borrower and, since December 2016, as part of the additional licensing conditions for money lenders, all money lenders must keep written or video or audio record which shows that they have explained to the borrower all the terms and conditions of the loan agreement before entering into such agreement.

In **Ireland**, the Consumer Protection Code for Licensed Moneylenders (Central Bank of Ireland, 2009) also requires that moneylenders must ensure any warnings required by the Code are prominent. They are also required to prominently indicate the high-cost nature of the loan on all loan documentation where the APR is 23% or higher.

In the **United Kingdom**, high-cost short-term credit (but not other forms of high-cost short-term credit as intended by UK regulations) must also carry a risk warning which needs to be made prominent and that redirects consumers to the website of the authority in charge of debt advice in the country, the Money Advice Service. Moreover, payday lenders must follow additional requirements in the field of advertising, which do not apply to more traditional forms of credit (Committee on Advertising Practice, 2015 and 2015a). These require payday lenders to avoid trivialising the advertising of these products, by suggesting that these loans are a viable means of addressing ongoing financial concerns or explicitly encouraging non-essential spending.

These measures, by slowing down the consumer journey, can be effective in helping consumers to better assess their needs and financial decision. The **European Commission** has conducted a behavioural study on the digitalisation of the marketing and distance selling of retail financial products (European Commission, 2019). The study focused on "one-click credit" (e.g. short-term loans that can be obtained very quickly) as well as the impact of information disclosure at both the advertising and pre-contractual stages. The results of the study indicate that adding an intermediate steps does help consumers in opting for the best offer available. The study also confirms that well-designed information disclosure (e.g. few information, presented in table format and prominently to the consumers) also supports a more effective decision-making journey, either by encouraging them to compare offers or by facilitating their understanding of the products' characteristics.

Consider caps on the cost of short-term credit

Policy makers could consider the introduction of caps on the cost of consumer credit. Caps on cost of short-term credit can be effective in reducing costs for consumers, if they do not exclude the most vulnerable from the formal short-term credit market and measures are taken to avoid regulatory arbitrage. Currently, around 40% of economies globally display an interest rate cap (Maimbo et al., 2014).

The cap can be on the interest rate, i.e. a legislated maximum interest rate applicable to all or certain credit products, on the associated fees, on the APR (combining both interest rates and mandatory fees) or on the total cost of credit. Some countries (e.g. United Kingdom) have caps that also include an element in relation to default charges. In other jurisdictions these are controlled separately. Within the jurisdictions that report the presence of a cap on cost, interest rate caps are the most common tool.

These caps usually apply to credit of all duration, even when they have been devised with the short-term consumer credit market in mind (Table 4.1). In a few cases, a different cap applies to short-term high-cost credit: this is the case in Australia, South Africa and the United Kingdom (Table 4.2). In the Slovak Republic, only loans with maturities under three months are subject to a cap.

Table 4.1. The use of caps on all forms of consumer credit in selected jurisdictions (also applying to short-term high-cost credit unless otherwise specified)

Country/economy	Features of the applicable cap
Armenia	The nominal interest rate cannot exceed twice the central bank reference rate (currently 24%). There is not a cap on APR.
Canada	Federal cap at 60% APR - excludes payday loans that are regulated at the Provincial (State) level.
Chile	As of 2013, a law introduced a cap on nominal interest rate, which gradually reduced the rate from above 50% to around 35%.
Estonia	APR cannot exceed three times the average of APR of consumer loans granted to private individuals by credit institutions, which is disclosed on the central bank website. If the figure is higher, the contract is void.
Georgia	The APR cannot exceed 100%, in addition to a cap on all sanctions set at 150% of the outstanding balance of the loan (to be calculated daily)
Germany	In general, consumer credit contracts can be declared usurious by the courts if the interest rate is greater than double the average interest rate of comparable consumer loans plus a handling fee of currently 2.5%. The same is true if there is a difference in interest rates of 12 percentage points.
Hong Kong, China	60% per annum as stipulated in the Money Lenders Ordinance. Banks are exempt from the Money Lenders Ordinance; however, according to the Code of Banking Practice they should not charge customers extortionate interest rates. If the APR exceeds the level which is presumed to be extortionate under the Money Lenders Ordinance (currently 48%), they should be able to justify why such high interest is not unreasonable or unfair. Unless justified by exceptional monetary conditions, the APRs thus calculated should not exceed the legal limit (currently 60%) as stated in the Money Lenders Ordinance.
Italy	Usury caps apply to all credit facilities: it cannot exceed by 25% the average APR applied over the previous quarter, with an additional 4% margin. The difference between the cap and the average APR cannot exceed 8 percentage points. Currently, the cap on personal loans stands at 16,4%
Japan	Cap on nominal interest rate set at 20%.
Latvia	Interest "price ladder" applicable to the term-credits up to 30 days: 0.55% for the first 7 days, 0.25% for next 7 days and 0.2% from 15th to 30th day. In contracts, according to which the credit must be repaid upon request or in which the time period for the use of credit maturity exceeds 30 days, total credit costs to a consumer shall be considered not conforming to the requirements referred the costs of a consumer credit contract, which exceed 0.25 per cent per day from the credit sum.
Lithuania	Cap of 75% on annual interest rate, and cap of 0,04% of the total cost of the credit on other costs
The Netherlands	The total cost cap set at 14% APR (this includes all fees, charges and interest).
Portugal	Caps are based on the market APRs and are revised every quarter. Caps on APR are defined according to the different types of consumer credit agreements for credit agreements between EUR 200 and EUR 75.000 (excluding mortgage). Under the APRs cap regime, credit institutions are prohibited from granting credit whose APR is more than 25% of the average APR of the credit agreements concluded in the previous calendar quarter, for each type of credit. It is also prohibited charging an APR 50% above the average APR established in all credit agreements concluded in the previous calendar quarter. Bank of Portugal oversees the implementation of these rules through the information reported by credit institutions, on-site and off-site inspections and complaints handling. When a credit agreement is concluded with an APR exceeding the cap, the APR is automatically reduced to half of the cap value. Bank of Portugal imposes sanctions when credit institutions fail to comply with the APR cap framework.
Singapore	Unsecured credit facilities extended by the licensed moneylenders are subject to interest rate cap of 4% per month. Late fees for such facilities are capped at SGD 60 per month, admin fees are capped at 10% of the principal of the loan, and the overall interest and fees charged over the life of the loan is 100% of the principal.
Slovak Republic	Cap on APR for consumer credit (which involves also credits with duration up to 3 months) set at 30 % p.a. at maximum.

Source: OECD, 2019

Table 4.2. The use of caps on short-term high-cost consumer credit in selected jurisdictions

Country/economy	Features of the applicable cap
Australia	Small Amounts Credit Contracts (SACCs) and larger loans are capped differently. SACCs: no interest may be charged, but regulation imposes a cap on fees: these cannot exceed an establishment fee of 20% of the loan amount, with a monthly fee of 4% of the loan amount for the duration of the loan. In total the amount the consumer is required to repay under a loan, including default fees, cannot exceed twice the loan amount. For Medium Amount Credit Contracts (MACCs), fees are set at a maximum of a one off fee of AUS 400 and a maximum annual interest rate of 48% including all other fees and charges. This does not include default fees.
Slovak Republic	Credit for up to three months are subject to a cap on cost, which includes interest rate, fees and any other associated cost, of 30 % p.a.
South Africa	Staggered reduced caps on short-term loans: cap is 5% per month on the first loan in a calendar year and 3% for all subsequent loans in the same calendar year.
United Kingdom	Price cap on HCSTC (payday) loans. Consists of three elements: <ul style="list-style-type: none"> a) interest rate and fees charged must not exceed 0.8% per day of the amount borrowed (e.g., GBP 100 borrowed for 30 days cannot cost more than GBP 24) b) GBP 15 cap on default fees c) (c) total cost cap for all fees, charges and interest of 100% of the amount borrowed. (e.g., if you borrow GBP 100 you will never repay more than GBP 200)

Note: Figures based on the definition of short-term high-cost consumer credit in each jurisdiction

Source: OECD, 2019

Dedicated investigations of the impact of these caps suggest that they are successful in reducing costs. Result of studies in Chile (SBIF Chile, 2017) and in the United Kingdom (FCA UK, 2017; Critical Research, 2017) demonstrate that the introduction of caps can be successful in reducing the cost incurred by consumers in need of short-term loans and the number of consumers in default, mitigating against exploitation and unsustainable over-indebtedness. The assessments conducted by other economies also indicate that it is important to watch for and take steps against unintended consequences, excluding riskier consumers from access to formal credit, or giving rise to regulatory arbitrage on the part of specialised lenders (e.g. Australia and the Netherlands).

Introduce specific responsible lending provisions

Policy makers should assess the opportunity of introducing tailored responsible lending provisions on short-term credit providers (for example suitability and affordability), ranging from a limit on rollovers (refinancing) to a limit on the number of concurrent short-term loans.

Indeed, while a majority of jurisdictions indicate that the same responsible lending obligations apply for short-term credit as for other forms of consumer credit, some jurisdictions have decided to further to regulate short-term credit with a view to protecting consumers.

In **Australia**, provisions for short-term credit were introduced in 2013 (Australian Securities and Investments Commission, 2015). These include a presumption of unsuitability if either the consumer is in default under another short-term high-cost loan, SACC, or the consumer has had two or more other SACCs in the previous 90 days. In addition, in taking reasonable steps to verify the financial situation of the consumer, payday lenders are also required to obtain and consider 90 days of bank statements for account(s) into which the consumer's income is paid. Further, for consumers who receive

at least 50% of their income in government benefits, not more than 20% of their gross income can be used for the purposes of repayments under small amount credit contracts.

In **Ireland**, the 1995 Consumer Credit Act (Government of Ireland, 1995) contains an obligation on moneylenders to assess creditworthiness of the consumer. In addition, the Consumer Protection Code for Licensed Moneylenders (Central Bank of Ireland, 2009) also requires that moneylenders ensure that where a consumer refuses to provide information sought in compliance with the Code that this refusal is noted on the consumer's records, and that a moneylender must maintain a list of its consumers who are subject to the Code.

In **Lithuania**, since the Bank of Lithuania took over the regulation and supervision of the short-term credit market following widespread consumer detriment, amendments were made in 2016 to the Law on Consumer Credit, introducing a stricter creditworthiness assessment. Consumer credit providers must now collect detailed information on clients' income and financial liabilities, proving access to this information directly from clients or databases.

Some jurisdictions also limit rollovers on short-term credit, i.e. the possibility for the consumer of paying an additional fee to delay paying back the loan.

In **Australia**, no establishment fee can be charged if any of the credit is to refinance another small amount credit contract. In **Lithuania**, a limit on rollover has been effectively in place since changes to the Law on Consumer Credit have limited the total amount repayable by consumers. In **South Africa**, the introduction of staggered caps in a calendar year for short-term loans was also intended to address abuses relating to rollovers. In the **United Kingdom**, the FCA introduced a limit to two rollovers for payday lending, with a view to making it more difficult for firms to base their business model on unaffordable borrowing, causing a reduction of the incentives to lend to borrowers who cannot afford the loans.

Financial education

Financial education and awareness policies and programmes can contribute to support consumers throughout their experience with short-term credit. These initiatives can help consumers to understand the implications of using short-term credit, and give them the skills to consider whether it is an appropriate and cost effective option, by developing specific core competencies (OECD, 2015; OECD, 2016b).

Financial education can be provided at teachable moments, i.e. when consumers are in the process of researching short-term credit or are about to enter into a short-term credit contract, as suggested by the previous examples of legislated warnings for short-term high-cost credit products.

Financial education initiatives can in particular help policy makers aiming at long-term behavioural change among the target population and at the development of budgeting and saving habits, to support a considerate use of credit, ensure repayment and avoid over-indebtedness. Particular programmes may be required to address the needs of the most vulnerable populations, which, depending on national circumstances may include those on low and variable incomes, the young and/or elderly people.

Financial education initiatives can in particular:

- Support young people and adults in the development of positive behaviours, such as consistently using a budget, and promoting positive attitudes such as planning

ahead; young people should be targeted at an early age (OECD, 2005), as this offers a chance to build positive attitudes, habits and behaviours, and to help to overcome behavioural biases before they have negative consequences.

- Promote savings habits as a way of avoiding borrowing to cover expenditure or income shocks, or to smooth uneven income and expenditure flows.
- Help consumers understand how to build a credit score (where this exists) to improve access to lower cost forms of borrowing.
- Improve knowledge on credit, its different features, limitations and beneficial use, and awareness of alternatives (e.g. lower cost alternative sources of credit or alternatives to borrowing such as drawing on personal savings).
- Encourage consumers to shop around, to compare products and make informed choices, e.g. by supporting the creation of reliable digital platforms or comparison tools.
- Address consumers' behavioural biases; for example by harnessing the opportunities for improved decision-making and behavioural change provided by digital tools.
- Be part of debt advice solutions for consumers in financial distress.

Concluding remarks

The presence of a market for short-term consumer credit can contribute to effective financial inclusion. But while it meets a demand and contributes to consumers' short-term financing needs, it can also give rise to forms of consumer detriment, which can be experienced in particular by the most vulnerable groups of consumers.

Policy makers should therefore pay specific attention to short-term consumer credit provision and understand how consumers access and use short-term credit instruments. They should also assess whether the regulatory and supervisory coverage is fit to protect consumers in this space. Based on this analysis, policy makers could consider the introduction of specific regulatory and supervisory provisions, as well as the inclusion of financial education for short-term credit within existing financial education initiatives.

The policy toolkit suggested in this chapter, based on existing examples of regulatory, supervisory, and educational approaches, includes specific policy tools that have proven to be effective in protecting and empowering consumers. These good practices can be useful to policy makers worldwide in their regulatory, supervisory and educational approaches to the short-term credit market.

Notes

¹ Financial inclusion refers to the process of promoting affordable, timely and adequate access to a wide range of regulated financial products and services and broadening their use by all segments of society through the implementation of tailored existing and innovative approaches including financial awareness and education with a view to promoting financial well-being as well as economic and social inclusion (Atkinson and Messy, 2013)

² This article adopts the terminology used by FinCoNet: “short-term high-cost credit”. The terminology “high-cost short-term credit” is used when describing the regulatory framework in the United Kingdom.

³ Several jurisdictions responding to the joint survey have identified the categories of consumers that are more at risk when using short-term consumer credit products.

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