Effects of fund switches for Chilean pension members and their macroeconomic/financial impact

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Part I. Limits and barriers to transferring investments in DC pensions and the regulation of financial advice for retirement

1. Members in individual defined contribution (DC) pension arrangements have significant flexibility in deciding how to invest their retirement savings. They also can, under certain conditions, change their decision over time and transfer their accumulated balances to finance retirement to different investment strategies or different pension funds. Unfortunately, many members may lack the knowledge and expertise to make investment decisions that will optimise their pension outcomes.

2. Frequent investment transfers can have negative implications for individual retirement savings, financial markets, and the overall economy. Frequent investment changes make it more difficult for individuals to be in a long-term investment strategy and reduce the potential gains stemming from long-term investing. Individuals end up with lower returns overall than they would have received by remaining invested in a single fund. Pension funds need more liquidity and thus hold more liquid assets to be able to meet transfer requests, reducing the duration of their investment strategy and the potential returns from long-term and patient investing. Finally, large transfer volumes threaten market stability due to the impact on asset prices and potentially exchange rates.

3. Moreover, the negative implication of transfers between investment strategies and pension funds on individual retirement savings, financial markets and the economy as a whole can be worse when driven primarily by recommendations to 'time the market' and short-term reactions to market downturns. These strategies emphasise the short-term and ignore the long-term nature of saving for retirement, and imply higher risks for the participants.

4. Most countries seem to impose limits or barriers to frequent transfers between investment funds or pension providers. The goal is to ensure that the investment of assets for retirement achieves its main objective of optimising the financial outcomes for individuals in retirement. In addition, regulation tries to ensure that any financial advice provided for pension investments leads to positive outcomes for members.

5. This report first provides an overview of the limits and barriers to transferring investments in DC pension arrangements in selected jurisdictions. It includes both limits and barriers to transfers between investment strategies within a given provider as well as between different pension providers. The report then describes the approaches for the regulation of financial advice for retirement and provides examples in selected jurisdictions.

Limits and barriers to transferring investments in DC pension arrangements

6. Explicit limits or implicit barriers to frequent transfers between investment funds or pension providers are quite common in jurisdictions having widespread DC pension arrangements. The most common explicit limits are limits on the frequency of transfers, but explicit limits can also be put in place regarding which investment strategies certain individuals can switch to. Certain types of funds may be restricted to specific age groups, for example, with individuals nearing and in retirement are not allowed to invest in the most aggressive strategies.

7. Implicit barriers that can deter frequent transfers without prohibiting them include administrative procedures, processing times, and additional fees that pension providers can charge.

8. Limits and barriers can apply to transfers between funds within a given pension provider and/or transfers between different providers. Limits often apply to only certain types of plans, for example those for mandatory contributions or plans offered through an employer. The following sections summarise the different types of limits in place in 30 selected jurisdictions.[1]

Limits on transfers between funds within a given provider

9. Providers of DC pension arrangements generally have a range of investment options of varying risk profiles available for members to choose from, and often allow members to transfer between the different options available. Many jurisdictions also regulate the types of investment funds that each provider can offer. The regulatory framework often imposes explicit limits on the frequency of transfers and the types of investment strategies that can be transferred into. Administrative procedures, slow processing times, and fees are also potential barriers to frequent fund transfers within a provider, though to a lesser extent than for transferring between providers.

10. Table 1 summarises the explicit limits and barriers in place to transfer between funds in the selected jurisdictions. The second column ("Pension type") indicates to which type of pension arrangement, within the jurisdiction, the limits apply. The third column ("Funds offered") shows the fund types that regulation allows or requires the providers to offer.[2] The remaining columns describe limits and barriers to changing investment strategies within a given provider. "Frequency" indicates any limit as to how often the individual can transfer funds. "Investment strategies" indicates any limit with respect to certain types of investment strategies into which individuals can transfer. "Administrative procedures" detail any time-consuming steps required for funds to be transferred. "Processing time" indicates any delay in fully executing the transfer. Finally, "fees" indicates whether providers can charge members for the transfer of funds.

Table 1. Limits on transfers between investment strategies within a given pension provider

Jurisdiction	Pension type	Funds offered	Frequency	Investment strategy	Administrative procedure	Processing time	Fees
Australia	Mandatory superannuation	Unlimited					

[1] Australia, Canada, Chile, Colombia, Costa Rica, Czech Republic, Denmark, Estonia, European Union, Hong Kong (China), Ireland, Israel, Italy, Japan, Korea, Latvia, Lithuania, Mexico, New Zealand, Peru, Poland, Romania, Singapore, Slovak Republic, Slovenia, Spain, Sweden, Turkey, United Kingdom, United States

[2] Unlimited means that there are no explicit limits on the number or investment profile of funds that each provider can offer, but that is not to say that general investment limits and guidelines do not apply.

Jurisdiction	Pension type	Funds offered	Frequency	Investment strategy	Administrative procedure	Processing time	Fees
Canada	Voluntary Employer	Unlimited, and providers are not required to have more than one option	Provider may impose limits				Commonly imposed if switching within a minimum holding period
Chile	Mandatory	5 funds of different risk profiles		Cannot invest in the most aggressive fund from 10 years before retirement; cannot invest in the two most aggressive funds in retirement		Trades executed 4 days after request based on the price two days after; daily volume limits of 5% invested assets for the system as a whole; if requests exceed this limit trades are delayed to the following day	
Colombia	Mandatory	3 funds of different risk profiles	every 6 months			Up to 10 days	Up to 1% of the last base monthly salary subject to a maximum of 4x the monthly minimum salary
Costa Rica	Mandatory	1 fund per provider		No other option unless changing provider			
Czech Republic	Voluntary participating funds	At least a conservative fund					Charge up to CZK 500 if transfer more than 1/year
Denmark	Mandatory Employer	Unlimited, but many offer only one option					
Estonia	Mandatory	Unlimited				3 days	Limited to 0.1% and not allowed for those older than 5 years less than the retirement age, but in practice no exit fees are charged
Europe	Voluntary Personal (PEPP)	TBD	After 5 years, or less if the provider allows				
Hong Kong (China)	Mandatory (Provident Fund)	Unlimited				Up to several days; fund valuation once per day	Not allowed

Jurisdiction	Pension type	Funds offered	Frequency	Investment strategy	Administrative procedure	Processing time	Fees
Ireland	Voluntary Employer	Unlimited					
Ireland	Voluntary Personal	Unlimited			Minimum balance may be required		Allowed, but providers typically offer a maximum number of free switches
Israel	Mandatory	Providers must offer at least 3 lifecycle funds plus one for beneficiaries as a default; in addition they may offer up to 10 other specialised funds			Employers must approve change for employer contributions (severance)	Up to 3 days	
Italy	Voluntary employer	Unlimited					
Japan	Voluntary Employer	Unlimited	Providers must allow switching at least once every 3 months				
Japan	Voluntary Personal (iDeCo)	Unlimited					
Korea	Mandatory employer	Unlimited	Once every half-year				
Korea	Voluntary Personal (IRP)	Unlimited					
Latvia	Mandatory	Unlimited	2/ per year				Exit fees not allowed
Lithuania	Quasi-mandatory	Lifecycle funds			Request in writing; risk warning		Costs incurred if transfers more than once per year
Mexico (After January 2020)	Mandatory	Target-date funds	After 3 years		Request form and final confirmation	5 days	
Mexico (Before January 2020)	Mandatory	Age-appropriate funds of varying risk profiles	After 3 years	Automatically transferred to age appropriate funds on birthdays unless the individual opts out	Request form and final confirmation	5 days	
New Zealand	Voluntary Personal (Kiwisaver)	Unlimited					
Peru	Mandatory	4 funds of different risk profiles		Over 60 cannot invest in growth fund			

Jurisdiction	Pension type	Funds offered	Frequency	Investment strategy	Administrative procedure	Processing time	Fees
Poland	Voluntary Personal (IKE, IKZE)	Unlimited					Depends on product type; may have exit charges
Romania	Mandatory	1 fund per provider		No other option unless changing provider			
Singapore	Mandatory (Provident Fund)	Unlimited for savings in excess of 20k in Ordinary Account and 40k in Special Account; funds up to these thresholds are invested in an interest-bearing account		Maximum investment limits in equities (35%) and gold (10%) for Ordinary Account	Investment knowledge questionnaire	Up to 7 days depending on type of investment vehicle	Subject to caps depending on the type of product
Slovak Republic	Mandatory	At least two different risk profiles (equity fund and guaranteed bond fund)		Can save in two different funds, but one must be a guaranteed bond fund, and after the age of 52 10% must be allocated to the guaranteed fund, increasing by another 10% each year until the age of 61, but individuals can reduce this allocation by half			
Slovak Republic	Voluntary Personal					Up to 5 days	
Slovenia	Voluntary supplementary	3 funds of different risk profiles	1/year	Cannot invest in a fund targeted at a younger cohort.			
Spain	Voluntary Personal	Unlimited					
Sweden	Mandatory Premium Pension	Unlimited					
Sweden	Quasi-mandatory occupational pensions	Unlimited		Collective agreements can impose restrictions.			
Turkey	Voluntary Employer (EPS)	Unlimited					
Turkey	Voluntary Personal (IPS)	Unlimited	6/year after two months				
United Kingdom	Quasi-mandatory Employer	Unlimited					
United States	Voluntary Employer	Unlimited					

11. Explicit limits to transfer between investment strategies are more common in jurisdictions where regulation limits the types of investment options that providers can

offer. Seven out of eight jurisdictions that regulate the allowable investment options also have explicit limits on transfers between funds.[3] Three of these, limit the frequency of transfers (Colombia, Mexico, Slovenia) and five have restrictions around which funds can be transferred to (Chile, Peru, Singapore, Slovak Republic, Slovenia). Only one jurisdiction regulating the allowable investment options has no explicit limits on switching between funds (Lithuania).

12. Similarly, mandatory pension arrangements tend to impose limits on transfers slightly more often than voluntary arrangements. Of the 17 jurisdictions with mandatory contributions, four have limits for the frequency of transfers and four have limits with respect to the investment strategy. This compares to three jurisdictions with frequency limits and one with limits on the investment strategy among the 17 jurisdictions with voluntary arrangements.

13. Jurisdictions where providers have more freedom to decide the profiles of their investment options also tend to freely allow individuals to switch between these options, though minor administrative hurdles and exit fees can still apply. Sixteen out of twenty jurisdictions that have no restrictions on the investment options offered do not have explicit limits on switching between options. Two jurisdictions only allow for one investment strategy per provider, so members are not able to change strategies without changing providers (Costa Rica, Romania). Only three jurisdictions (occupational plans in Korea and Turkey, Latvia) impose explicit limits on the frequency of switching between investment strategies despite not having any regulatory limits on options offered. However, in both Korea and Turkey no limits are imposed for personal plans.

14. The most common explicit limit to switching between funds is the frequency with which this can be done. Seven jurisdictions impose maximum limits on frequency, ranging from six times per year (Turkey) to after five years on the same fund (PEPP in Europe), though this latter limit is imposed as a maximum, and individual providers can allow more frequent transfers. The limits can be on the number of transfers within a calendar year, or alternatively the minimum holding period after switching before the member can switch again. In Latvia, individuals cannot transfer between investment strategies more than twice per year, whereas transfers are allowed every half year for occupational plans in Korea and after 6 months in Colombia. In Slovenia, transfers can only be made once per year. In Mexico individuals are required to remain invested in the recommended fund for at least 3 years. Japan stands out as the only jurisdiction where a minimum limit is imposed, and employers must allow members to switch investment strategies at least once every three months.

15. Limits on certain types of investment strategies, namely those of a more risky profile, are imposed in six jurisdictions. These types of limits commonly apply to individuals near or in retirement, as in Chile where those up to 10 years before the retirement age are forbidden from investing in the most risky funds. Mexico previously transferred automatically members aged 60 and over to the most conservative fund. In Peru those aged 60 and over are not allowed to invest in the most aggressive fund at all. Similarly in Slovenia, individuals cannot invest in a fund targeted at a younger cohorts. In the Slovak Republic, individuals are gradually transitioned to the conservative fund, though they may opt to retain some equity exposure if desired. Singapore imposes quantitative limits on

[3] The Czech Republic and Israel are not counted here as restricting the allowable investment options, as while they are required to have a specific minimum fund offering they can offer additional funds without limits.

investment in equities and gold. While Sweden does not impose any limits for occupational plans, the collective agreements made with the social partners may impose such limits.

16. Indirect barriers can also slow the process of transferring, but these barriers are not normally significant. Processing times to transfer funds remain under a week in all jurisdictions except Columbia, where transfers can take up to ten days. Lithuania and Mexico both require request to transfer funds in writing, and Mexico requires an additional confirmation from the member that they agree for the transfer to be executed. Singapore requires members who want to transfer funds out of the centralised provider's fund to take a questionnaire assessing their financial knowledge to ensure that they are aware of the risks they will be taking. Israel requires employer approval to transfer employer contributions such as those relating to severance.

17. Exit fees may also deter frequent switching. In Canada, for example, exit fees are commonly imposed if individuals switch within a minimum holding period. Other jurisdictions charge fees if the number of transfers exceeds a certain frequency (Czech Republic, Ireland, Lithuania). Some jurisdictions impose limits on the level of fees that can be charged (Colombia, Czech Republic, Estonia, Singapore).

Limits on transfers between providers

18. Limits are also commonly imposed on how often members can transfer their pension between different providers. It is sometimes argued that the ability to switch between providers can promote competition. However, frequent switching can also be a barrier to implementing long-term investment strategies and result in aggressive marketing and sales tactics that can result in worse investment outcomes.

19. Limits on the frequency of transfers between providers is common. Table 2 shows that nine jurisdictions out of 30 impose such limits (excluding plans linked to an employer when members can only change providers when changing employment). These limits range from changing once per month (Romania, and Costa Rica after one month with a provider) to after five years (PEPP in Europe), though this latter limit is imposed as a maximum and providers can allow more frequent switching. Colombia and Latvia both limit changes to once per year, and Estonia allows three times per year but transfers are only processed in January, May and September. Members having personal plans in Italy can change after two years with their provider. Both Mexico (before the recent change to target date funds) and Peru allow members to change providers before the minimum waiting periods of one and two years, respectively, if returns have been exceptionally poor. In Hong Kong, limits apply to employee contributions only, which can only be transferred once per year. The majority of jurisdictions with such limits (7 out of 9) have mandatory pension arrangements.

Table 2. Limits on transfers between providers

Jurisdiction	Pension type	Frequency	Administrative procedure	Processing time	Fees
Australia	Mandatory superannuation				Exit fees banned
Canada	Voluntary Employer	Changing employment or plan termination			

Jurisdiction	Pension type	Frequency	Administrative procedure	Processing time	Fees
Chile	Mandatory			Transfer effective the first day of the following month	
Colombia	Mandatory	Within the private system, once per year; between the public and private systems every 5 years up to 10 years before retirement		Up to 30 days	Up to 1% of the last base monthly salary subject to a maximum of 4x the monthly minimum salary
Costa Rica	Mandatory	After 1 month			
Czech Republic	Voluntary participating funds				Charge of up to CZK 800 if switch within 5 years
Denmark	Mandatory Employer	Changing employment, unless changing to employer under same collective agreement		No more than 5 days	Pots under 20 000 DKK can be transferred free of charge up to 3 years after employment terminates. Otherwise fees are normally 1500-1900, but the receiving entity usually covers these fees.
Estonia	Mandatory	3/year, in January, May and September	2 different applications for moving existing funds and future contributions		Application fee of 1-2 EUR, normally paid by the acquiring provider
Europe	Voluntary Personal (PEPP)	After 5 years, or less if the provider allows			
Hong Kong (China)	Mandatory (Provident Fund)	For employer contributions, when changing employment; for employee contributions, once per year; if personal, anytime		Within 30 days	Not allowed
Ireland	Voluntary Employer	Changing employment			
Ireland	Voluntary Personal				Exit fees not allowed
Israel	Mandatory	There may be a vesting period in some cases, particularly relating to insurance coverage		Transfer only takes place after individual has contributed to new provider	

Jurisdiction	Pension type	Frequency	Administrative procedure	Processing time	Fees
Italy	Voluntary employer	After 2 years or for collectively agreed plans when changing employer		Up to 6 months	Limited to the administrative cost of processing the switch; If arrangement is collectively agreed, future employer contributions could be lost.
Japan	Voluntary Employer	Changing employer			
Japan	Voluntary Personal (iDeCo)			Up to a few months	Contributions made during processing time are held in cash
Korea	Mandatory employer				
Korea	Voluntary Personal (IRP)				
Latvia	Mandatory	1/ year			Exit fees not allowed
Lithuania	Quasi-mandatory				Transfer costs
Mexico (After January 2020)	Mandatory	after 1 year; a second change within the year if poor returns			
Mexico (Before January 2020)	Mandatory	after 1 year; a second change within the year if poor returns			
New Zealand	Voluntary Personal (Kiwisaver)		Application with new provider, with proof of address and bank account		Potential exit fee from existing provider
Peru	Mandatory	after 24 months; 180 days if poor returns		2 months	
Poland	Voluntary Personal (IKE, IKZE)			Up to 14 days	Changing provider before 12 months can incur additional fees
Romania	Mandatory		Written request with validated application to another fund	Transfers take place once per month	Can be charged if transferring within 2 years up to 5% of value
Singapore	Mandatory (Provident Fund)	Not possible - a single, centralised provider			
Slovak Republic	Mandatory	Cannot switch during the period following the application for a pension benefit until the offer is no longer binding,	The individual must have a signed agreement with the new provider, but then must apply in person for the Acceptance Certificate from the Social Insurance Agency, which is issued in printed form. Employees must also inform their employer.		If less than one year has elapsed since the individual last switched from one provider to another, the individual shall pay the Social Insurance Agency (that is responsible for issuance the acceptance certificate) a fee of € 16 doe the issuance of the acceptance certificate.

Jurisdiction	Pension type	Frequency	Administrative procedure	Processing time	Fees
Slovak Republic	Voluntary Personal	Cannot switch during pay-out period or after the date on which the individuals conclude a pension insurance contract or scheduled pension payment agreement.	The individual must have a signed agreement with the new provider, and apply for the change in writing	Up to 30 days to process application	Up to 5% if changing the during the first year; not allowed thereafter
Slovenia	Voluntary supplementary	Changing employment (collective); no limit (individual)	Written request	Up to 3 months	Administrative cost up to 15 EUR
Spain	Voluntary Personal		Written request	Up to 5 days to order transfer	Not allowed except in relation to the valuation of transferred assets
Sweden	Mandatory Premium Pension				
Sweden	Quasi-mandatory occupational pensions	For collective plans, can change to another provider in the same collective agreement. In non-collective agreements, it depends on the type of plan.			There is a current proposal to limit transfer fees for plans under a collective agreement.
Turkey	Voluntary Employer (EPS)	Changing employment			
Turkey	Voluntary Personal (IPS)				Entrance fees are typically charged, up to a total of 8.5% of the gross minimum monthly wage during the first five years.
United Kingdom	Quasi-mandatory Employer		Financial advice required for pots >30k with a guarantee		Exit fees allowed
United States	Voluntary Employer	Changing employment			

20. Long processing times can serve as indirect limits on the frequency of transfers, and processing times for changing providers tend to be longer than those to change funds within a provider. Transfers can take up to several months in Italy, Japan, Peru, and Slovenia and over a week in Chile, Colombia, Hong Kong, Poland, Romania, and the Slovak Republic. In Israel, the transfer only takes place after the individual has made contributions to the new provider.

21. Other administrative procedures requiring individuals to make more effort or spend more time, can slow the transfer process and act as a deterrent for frequent transfers. In the United Kingdom, members are required to receive financial advice when transferring an account over 30 000 GBP that offers a guarantee. Romania, Slovenia, and Spain require that transfer requests be submitted in writing and the Slovak Republic requires an

application in person for the mandatory arrangement Estonia requires two separate applications for transferring future contributions and transferring existing assets.

22. Additional costs or fees can also make transfers less appealing. Providers in numerous jurisdictions can charge exit fees for transferring providers. Some jurisdictions have imposed caps on how much can be charged (Colombia, Czech Republic, Italy, Romania, Slovenia, Turkey). Additionally, jurisdictions may impose certain conditions for exit fees to be charged (Czech Republic, Denmark, Estonia, Poland, Romania, Slovak Republic, Turkey). While in principle, individuals in collectively agreed plans in Italy can switch freely after two years, they would lose future employer contributions if leaving their industry's pension scheme. Some jurisdictions have banned exit fees altogether (Australia, Hong Kong, Ireland, Latvia).

Regulation of financial advice for retirement

23. The regulatory framework for financial advice in many jurisdictions includes tools that regulators and supervisors can use to ensure that financial advice is appropriate and not harmful to consumers. Mass recommendations from unregulated financial advisors for individuals to change investment funds can be harmful as they can result in significant transfer volumes that are having a material impact on asset prices and exchange rates, with implications for market stability. "Financial advisors" advertising themselves as experts whose advice will help pension savers to time the market and take advantage of price fluctuations by switching between conservative and aggressive funds can be particularly harmful, as timing the market is generally not possible. Such recommendations can also have a negative impact in people's long-term retirement saving because they emphasise a short-term view of investment and ignore the savers long-term investment horizon. Moreover, conflicts of interest that advisors face need to be regulated regardless of the channel used to provide the retirement investment advice, including subscription services through mobile phone applications.

24. The regulation of financial advice needs to address several aspects of the provision of financial advice. First, it needs to define to which type of advice the regulations apply. Afterward, it can specify qualification requirements for individuals to be able to provide financial advice, the type of information financial advisors need to disclose, duty of care standards, and how financial advisors can be remunerated. Many jurisdictions are also looking at how to ensure that requirements for advice provided via different distribution channels are covered by the regulatory framework.

What type of financial advice is regulated?

25. The types of advice differ in the extent to which they are tailored to specific individuals. The most basic type of financial advice is guidance, which provides only objective factual information without any specific recommendation. General advice goes further by providing a recommendation, but with no consideration of personal circumstances. Personalised advice is tailored to the specific characteristics of the individual, including their demographic profile, family situation, financial situation, risk tolerance and financial knowledge. Personalised advice can distinguish between simplified (or scaled) advice, and comprehensive advice. Simplified advice provides advice for a specific financial question without necessarily considering an individual's full financial situation. This could be the case, for example, in considering how to invest one's pension contributions. Comprehensive advice goes further by considering an individual's entire situation, and could include, for example, how much additional pension contributions are

needed to be comfortable in retirement given other income sources and expected expenses. Different regulations can apply to different types of advice, with personalised advice generally subject to more strict regulation than guidance.

26. The clarity of the definitions of different types of advice matters, because different regulations can apply to different types of advice. In the UK, regulation applies to any type of advice where a recommendation is given, regardless of whether it is personalised, though stricter standards can apply to personalised and comprehensive advice. In Australia and the European Union, only personalised advice is considered to be in scope. In Australia, advice about switching a pension provider or to divert future contributions to another provider is always considered to be personal, regardless of the format of how this advice is provided.

27. The purpose of the advice may also determine the applicable regulation. In the United States, for example, advice related to retirement is subject to a separate legal provision and regulation than financial advice for other objectives. As such, advisors providing financial advice for certain retirement plans are subject to different requirements (e.g. fiduciary standards) than broker/dealers or financial advisors that provide advice for other purposes.

28. The regulatory perimeter of advice is a subject of debate in several jurisdictions. First, the line between guidance and general advice has proven to be a concern in Canada, the United Kingdom and the United States. Employers in these jurisdictions have been reluctant to provide guidance or information to their employees related to their pensions for fear of not complying with the stricter regulatory requirements for general advice. As a result, authorities in these jurisdictions have had to clarify the boundary between guidance and general advice and what information the employer can safely provide. In other jurisdictions, there has also been a reluctance by financial advisors providing personalised advice to provide simplified advice with limited scope due to fears of regulatory liability. Both New Zealand and the United Kingdom have had to clarify the boundary between simplified and comprehensive advice in order to provide comfort to advisors that they are complying with the necessary regulations.

29. Where doubt remains about the regulatory perimeter, many jurisdictions prioritise the likely perception of the client, regardless of any disclaimers that may be offered suggesting that the advice is not within the regulatory perimeter. This is the case in Australia, where any disclaimer cannot diminish legal compliance with the rules, and the substance of the recommendation will override any disclaimer. Avoiding regulatory liability through disclaimers has been an issue in particular for advice offered through digital platforms. European regulators have likewise responded by considering how consumers are likely to perceive the recommendations in their application of regulatory requirements.

30. Regulation can address many facets of the provision of financial advice. The first question the regulatory framework should address is who can provide advice and what requirements they need to meet to do so. Secondly, the information the advisor is required to disclose to consumers should be defined. Third, regulation should determine how much care advisors need to put into the advice they provide. Finally, there may be limitations regarding how advisors can be remunerated for providing financial advice to avoid conflicts of interest.

Who is allowed to provide financial advice?

31. Financial advisors that provide recommendations are generally required to be registered with the supervisory or regulatory body to obtain a license to operate. In Australia, for example, even advisors giving general advice are required to obtain a license.

32. Requirements to obtain a license can include minimum levels of education, completion of exams or other requirements, fit and proper requirements, or ongoing education to maintain skills and knowledge.

33. Many jurisdictions have moved to increase the minimum qualification requirements for financial advisors. Efforts to do so have been carried out in Australia, Canada, the European Union, New Zealand and the United Kingdom.

34. Continued professional development requirements are also becoming more common, with requirements introduced in several of these jurisdictions. Additional requirements may be imposed for certain types of products. Not all financial advisors may be allowed to recommend certain complex products such as derivatives (e.g. New Zealand).

35. There tend to be fewer requirements around those providing only guidance. In several jurisdictions, such as Australia and the United Kingdom, low-cost government agencies have been set up to ensure that the public has access to accurate information regarding financial and retirement planning. Pension funds also commonly provide general guidance on their websites in the form of calculators and other tools that can help individuals determine the expected outcomes from different savings and investment strategies.

36. However, it can sometimes be complicated to determine whether some information sources should or do provide guidance or general advice, particularly when there is a commercial interest behind the suggestions made. There is a fine line, for example, between these types of advice and commercial marketing. Several jurisdictions have moved to limit marketing materials in response to specific consumer protection concerns that have arisen. In Lithuania, any advertisement relating to pension accumulation may only contain factual information that are included in the official periodic reports issued, while Poland has completely banned pension-related marketing. In Romania, agents are not allowed to interfere in the process of a member switching a pension provider. In France, the Sapin II law forbids any marketing of forex products to retail consumers due to their risky and complex nature.

What information do financial advisors need to disclose?

37. Disclosure requirements are important to further the transparency of the content and nature of the advice provided, the cost of this advice and any potential conflicts of interest that the financial advisor faces. Clearly defining the type of advice provided – whether it is independent, or personalised – clarifies the regulation that should be applicable. Disclosure of all applicable fees is important for the consumer to understand how much they will be paying for the advice. Disclosure of any conflicts of interest, including any commissions that the advisor will receive from the sale of a financial product, may encourage advisors to avoid conflicts of interest and help consumers to understand the incentives of the advisor to recommend certain products. More jurisdictions (e.g. United Kingdom) are also requiring that the advisor provide a suitability report explaining why the recommendation is appropriate for the client.

38. Regulators and supervisors are increasingly recognising the limitations of disclosure. Most jurisdictions have historically relied primarily on disclosure to address the issue of conflicts of interest in financial advice. Jurisdictions are now trying to simplify disclosures and make them more understandable (e.g. Canada, European Union, New Zealand, United States). Some jurisdictions are also increasing the disclosure about ongoing advice and assessment of suitability (e.g. Australia, European Union). They are also trying to address challenges related to the conflicts of interest in financial advice through other mechanisms such as requirements for a written policy to manage conflicts of interest and restrictions around how advisors are compensated for their services.

What is the duty of care for the financial advisor?

39. Duty of care standards require financial advisors to act ethically when providing recommendations to consumers. The requirements as to the extent of care that the advisor must take can vary depending on the type of advice being provided. However, an advisor making any recommendation, regardless of whether it is personalised, normally cannot mislead or deceive the client and must act with care, skill and diligence. For example, in Lithuania, pension funds cannot publish anything incorrect, unclear or misleading, and any advisory service is required to base communications on a pension calculator that is correct and transparent about its assumptions.

40. On top of providing clear and correct information, advisors providing personalised advice are required to understand the client's profile and financial situation in order to determine whether the recommendation provided is appropriate. Factors to take into account include age, family situation, financial situation, financial knowledge, investment experience and objectives as well as risk appetite.

41. Given an assessment of these factors, regulation generally requires that the financial advisor provide advice that is either suitable for the client or in their best interest. A suitable recommendation is one that is reasonable given the client's needs. One that is in their best interest requires that the advice is free from bias and that advisor to put the interests of the client above their own interest. As such, it expressly forbids advisors to make a recommendation because they themselves would benefit more (through commissions or otherwise). Written conflicts of interest policies may also be required to ensure that any potential bias is either managed or eliminated (e.g. Canada, European Union, United States).

42. Jurisdictions vary as to whether and how they apply requirements for advice to be either suitable or in the best interest of the client. Australia, for example, requires that pension advice be in the best interest of clients, whereas Mexico requires only suitability. Numerous jurisdictions have struggled with a uniform application of duty of care standards to different types of advisors. In the United States, only independent advisors are currently held to a best interest standard. A proposed measure to apply this standard also to advisors providing financial advice for retirement was rescinded, and is now being replaced with a broader measure known as "Regulation Best Interest". This will apply to all financial advisors and broker/dealers, and requires that they act in the client's best interest, but does not require the typical interpretation of best interest that they follow a fiduciary standard of 'undivided loyalty and good faith'. Rather, it only requires a reasonable justification for the appropriateness of the advice.

43. The US and Europe present two case studies relating to the application of duty of care that could be relevant to the current situation of unregulated advisors in Chile. The first is the practice of 'scalping' in the US, which was deemed to be fraudulent. The second

is the emergence of social trading, which was not typically regulated under the existing regulatory frameworks.

44. In the United States there was a certain financial advisor practice referred to as ‘scalping’, where the advisor would purchase a large amount of a certain stock that he would then recommend to all of his clients. After the price rose due to the increased demand, he would sell the stock and benefit from the increase. The courts found that this practice violated the anti-fraud provision in the law that prohibited advisors from any actions that could deceive his client. This conclusion was justified based on the client-advisor relationship and the fiduciary duty of advisors, as the advisor was clearly putting his own interests above those of the clients.

45. More recently, electronic trading platforms have emerged that allow subscribers to copy, or mirror, the trading strategies of other ‘expert’ traders. Such platforms often fall through the cracks of existing regulatory frameworks, and are classified as simple brokers executing the desired trades. However, under new EU regulation (MIFID II), platforms on which trades are performed automatically are now classified as asset managers. This places additional regulatory requirements on these platforms not only with respect to disclosure but also with respect to due diligence. Investors are now required to fill out a profiling questionnaire to determine their financial knowledge and risk tolerance in order to establish a minimum level of suitability of the investment strategy that they will copy. Furthermore, the traders that investors are allowed to copy must meet some minimum criteria relating to trading experience and having reasonable trading strategies.

46. Platforms that require the individual to confirm execution of each trade rather than automating the process are classified as providing simplified advice under MIFID II. As such, they are subject to the relevant due diligence and suitability requirements, and it must be clear that determining suitability is the responsibility of the platform and not of the client.

How can financial advisors be remunerated?

47. Some jurisdictions have imposed limits as to how financial advisors are allowed to be remunerated for their services in order to eliminate some of the conflicts of interest that they face. Australia, the Netherland and the United Kingdom have completely banned all conflicted remuneration for advisors, including commissions as well as volume targets and kickbacks. Denmark and Finland have banned commissions for independent insurance brokers only. Other commissions that regulation has specifically targeted due to their opacity are trailing commissions. Canada has banned these types of commissions, and Australia has imposed a cap. Mexico has introduced a claw back of the commission that agents receive to switch pension providers, reducing the total compensation if the client does not remain with the new provider for at least 30 months, providing a disincentive for advisors to recommend frequent switching. Financial advisors in Mexico are also forbidden from receiving kickbacks from the advice they provide.

Part II. Drivers and implications of investment fund switches for retirement savings

48. Members of individual defined contribution (DC) retirement savings accounts in some countries can switch between different funds or investment strategies. The ability for savers to make their own investment decisions intends to allow individuals to invest in a manner consistent with their own risk tolerance and investment horizon. However, in reality, individuals have low levels of financial literacy and may not be necessarily well equipped to make these types of investment decisions on their own. As such, they may look to external advice or assistance to make investment decisions for them.

49. The ability to switch investments could affect retirement income levels, the investment strategies of pension funds and the economy as a whole. Moreover, certain factors could lead retirement savers to switch more frequently, and in large volumes. Therefore, it is important to balance allowing flexibility to switch pension funds or investment strategies and ensuring that the likelihood of any potential negative effects is minimised.

50. This report provides an overview of the main drivers that can lead individuals to transfer their assets from one investment strategy to another and the implications that these transfers can have for the pension system. The first section looks at the factors that can lead individuals to switch investment strategies in a way and manner that may not be conduce to better outcomes. The discussion looks at the investment context, individual demographic profiles, behavioural biases, and the inclination to follow financial advice. The second section then considers the implications that these switches can have at the individual level, for the pension funds' investment, and for the financial system as a whole.

Potential factors for switching investment strategies

51. There are numerous factors that can lead individuals to change investment strategies. Contextual elements matter, and savers demonstrate different trading behaviour in different investment settings. Certain demographics may be more prone to switching investments than others. Various behavioural biases can also lead to trading strategies that may not be optimal, and past trading experience may influence an individual's tendency to trade in the future. These factors can also contribute to the influence that financial advisors have in their recommendations to switch investments.

Investment context

52. Individuals tend to trade less with pension savings compared to other types of investment accounts. Indeed, those having a discount brokerage account in the United States traded over five times more than individuals traded within their 401(k) DC pension savings account (Agnew et al., 2003). Lower levels of trading for retirement accounts are expected, as people with brokerage accounts are self-selected and are not likely to be representative of the larger investment population (BILIAS et al., 2010). Retirement savings accounts cover a broader proportion of the population, particularly where this savings is mandatory.

53. The majority of individuals do not regularly switch investments within their DC pension savings accounts. Over a four-year period in the late 1990s, 87% of the individuals

in a sample of 401(k) participants made no trades, and only 7% traded more than once. On average, the sample traded once every 3.85 years with an average annual turnover of 19% (Agnew et al., 2003). This tendency was confirmed with a later study on 401(k) participants, showing that 80% of participants made no trades and only 9% traded more than once over a period of two years (Mitchell et al., 2011). Another study showed that nearly three-quarters of the participants in the TIAA-CREFF plan for academics made no changes to asset allocation over a longer period of ten years (Ameriks & Zeldes, 2000).

54. The existence of a default investment strategy within DC pension arrangements may reinforce individuals' tendency towards inertia and to not actively choose a different strategy. The extent to which individuals remain invested in the default investment strategy varies significantly from one jurisdiction to the next, though in all cases the proportion that do remain in the default is significant. In Peru, 92% of pension savers are invested in the default fund for their age (Superintendencia de Banca, 2019). Similarly, in Sweden, 91.6% of new enrolees to the Premium Pension do not actively chose their investment strategy (Cronqvist & Thaler, 2004). Other jurisdictions demonstrate a lower but still significant proportion of savings that stays in the default investment strategy. In Singapore, 70% of non-housing savings stays in the default fund (Fong, 2020). In the US, investment in the default exceeds 60% in some cases, though other studes have shown lower levels of around 30% (Madrian & Shea, 2001) (Beshears et al., 2006). In Latvia, 25% of participants remain fully invested in the conservative default fund (OECD, 2018).

55. The experience of Chile fits this international evidence. However, there is a worrying trend. Most pension savers in Chile invest in the default strategy, although the proportion of pension savers invested in the default has decreased significantly over the last decades. In 2002, 84% of participants remained invested in the default option, but by 2006 this proportion had fallen to 66% (Tapia & Yermo, 2007).

56. Similarly, earlier percentages of Chilean participants that actively traded their pension accounts were in line with international observations. Over a period of ten years from 2007-2016, 6.6% of participants made active changes to their pension investment (Villatoro et al., 2019).

57. However, more recently the trading levels observed in Chile are significantly higher than those generally observed for pension accounts elsewhere. The proportion of participants actively trading has increased from 6.3% in 2014 to a high of 18.7% in 2018, decreasing slightly to 17.7% in 2019. The volume of transfers has correspondingly increased, reaching 28.5% of total assets invested in 2019, and daily switching requests in the same direction have represented up to 20% of a fund's value. In addition, 59% of individuals transferring during this period have done so more than once (Superintendencia de Pensiones, 2020). This increase in trading volumes and frequency could be linked to the appearance of unregulated financial advisors targeting retirement savers.

Demographics

58. Certain demographic groups are more prone to active trading than others. In particular, active traders tend to be men with higher incomes. Higher income males demonstrate more active trading behaviour within their 401(k) investments and brokerage accounts in the United States (Mitchell et al., 2011) (Agnew et al., 2003) (Barber & Odean, 2001). Active traders also tend to be older and married (Agnew et al., 2003). Higher income men in Singapore also tend to more actively trade their pension savings, however in contrast to the United States, they are more often young and single (Fong, 2020).

59. While men have a tendency to more actively trade, they are not necessarily more inclined on average to actively choose an alternative investment strategy to the default. Younger women in Sweden are more likely to actively choose their pension investment (Cronqvist & Thaler, 2004). Women in Chile are more likely to not be in the default investment fund (Kristjanpoller & Olson, 2015). Nevertheless, in Peru a higher proportion of women than men remain invested in the default fund (Superintendencia de Banca, 2019).

60. The demographic profile of those following the recent unregulated financial advisors trying to time the market are in line with demographics that tend to actively trade elsewhere. That is, the active traders in Chile tend to be young men with more wealth and education (Villatoro et al., 2019)(Da et al., 2017). Two-thirds of those switching their investment strategies have been men, and the average age is around 42 (Superintendencia de Pensiones, 2020).

Investor biases

61. There are numerous biases that can lead individuals to overtrade, and potentially be more susceptible to following recommendations to time the market or reallocating their investments during large market movements. Biases include overconfidence, anchoring, and herding. Individuals' past trading experience can also affect their propensity to continue to trade in the future. However, while the prevalence of behavioural biases on investment decisions is well-documented, most studies have taken place in the context of brokerage accounts.[4] Finally, some biases may be more acute with certain demographics, such as wealthier men, which can contribute to their propensity to actively trade.

Overconfidence

62. Overconfidence is an overestimation of one's skills and knowledge, and is a widely documented bias among retail investors, particularly those with brokerage accounts (Odean, 1999). Overconfidence typically leads to excessive trading and increased market volatility (Odean, 1999). This bias can manifest itself through the over extrapolation of past returns, leading individuals to react slowly to recent relevant information and resulting in positive feedback trading to buy past winners and sell past losers (Kim & Nofsinger, 2007). Investors tend to demonstrate more overconfidence in bull markets, and exhibit higher frequency of trades following gains (Chuang & Susmel, 2011).

63. There is some evidence that overconfidence may be contributing to increased trading volumes in Chile. Trading behaviour has tended to follow short-term observed trends and to demonstrate a strategy independent from market fundamentals (Da et al., 2017). Investors attempting to time the market following the unregulated financial advice trade more often, in line with the observations that overconfidence in trading abilities (and ability to beat the market) contribute to excessive trading (Villatoro et al., 2019).

Anchoring

64. Anchoring is the tendency to rely primarily upon recent or salient information in one's assessment of a situation, regardless of its relevance to the problem at hand. In an investment context, this can lead investors to place too much importance on recent prices

[4] It is important to highlight that trading in the context of the Chilean pension system presents a key difference from this context in that the investment possibilities are limited to the five managed funds and does not allow for trading in individual stocks.

in making their investment decisions. It may also lead investors to overreact to dramatic news events or salient pieces of information, and overweight the event in their trading decision (De Bondt & Thaler, 1985). Indeed, investors tend to buy more stocks that are featured in the news than those that are not (Barber & Odean, 2007).

65. Anchoring may also be playing a role in the higher frequency of trading observed in Chile. The success of some of the unregulated financial advisors in attracting a large following can be in part attributed to the profitability of one of their first recommendations, which happened to precede a large decline in the stock market (Da et al., 2016). Investors may therefore be using this success as a reference for the likelihood of profitability of subsequent recommendations, thereby overestimating this likelihood, which in reality seems largely due to chance. Investors may also anchor on negative media coverage, in particular coverage on crisis events resulting in negative returns for pension funds. Indeed, following a large drop in equities in October 2008, there was a substantial transfer of funds from the aggressive Fund A to the conservative Fund E (Berstein et al., 2011).

Herding

66. Herding is the tendency for individuals to follow and trust others' actions and judgement, leading to collective movement in the same direction. It can be either rational or irrational. Informational herding can be rational, and results from people following others whom they believe to be more informed than themselves. Non-rational herding includes investors copying others blindly in spite of the any information that they themselves have. Herding driven by imitation can impact prices and lead to increased volatility (Ouarda et al., 2013). There is also evidence that herding can increase the bid-ask spread and negatively impact liquidity in the market (Dewan & Dharni, 2019). Extreme markets can exacerbate people's tendency to herd. During crises, this can lead to collective selling and pro-cyclical investment that could aggravate market downturns (Mobarek et al., 2014). During the financial crisis, one study of 401(k) investors in the United States found that there was an initial move away from equity, in line with following a herd mentality. However, the strategy later seemed to change as investors adopted a contrarian strategy, investing again in more equities (Tang et al., 2011).

67. There is some evidence of herd effects in the Chilean pension system during the financial crisis. Similar to observations in the United States, during the peak of the financial crisis, Chilean investors moved away from equities. Following a 20% drop in the most aggressive Fund A in October 2008, 3% of participants in Fund A transferred their assets into the most conservative fund E. However, once equities started to recover, 7.3% of those in Fund E transferred their assets to Fund A (Berstein et al., 2011).

68. There is also evidence that the trading volumes following the recommendations of the unregulated financial advisors in Chile are at least partially a result of herding behavior, rather than investors simply following informed financial advice. Switching requests tend to remain high several days following recommendations made by one such advisor (Da et al., 2017). This implies that those making later requests may be imitating the trading of friends and family. Consistent with irrational imitation herding, this behavior should be against their better judgement given the daily volume limits on trading that are in place. If requested trades exceed 5% of total assets under management, the remaining trades are executed over the following days, and would therefore benefit less from any change in prices.

Demographics and bias

69. Certain demographics may be more prone than others to demonstrating certain biases. In particular, it is widely documented that men exhibit higher levels of overconfidence than women. This tendency extends itself in the context of investment (Barber & Odean, 2001). Indeed, two-thirds of Chileans switching their pension investment at least once since 2014 have been men, indicating that overconfidence may be playing a role in trading activities (Superintendencia de Pensiones, 2020). Interestingly, however, financial education does not seem to be linked to the extent to which biases interfere with investment behavior, and some studies have shown financial education to be an independent variable (Novianggie & Asandimitra, 2019). Indeed, in Chile, those who trade most tend to have more education (Villatoro et al., 2019).

Experience and bias

70. Trading experience over time may also serve to reinforce or contradict existing biases, in particular that of overconfidence. There is some evidence that turnover reduces with experience, indicating that as individuals become more familiar with investing their overconfidence is somewhat mitigated (Meyer et al., 2012). However, other studies indicate that experience may reinforce overconfidence, as confident investors rely on naïve indicators to learn, in particular the over extrapolation of past returns (Hoffmann & Post, 2016). Nevertheless it does seem that if individuals conclude with experience that they are not successful at trading, they are more likely to stop (Barber et al., 2017)(Seru et al., 2009).

71. The observation that experience reinforces overconfidence is consistent with what is observed in Chile. Participants who believed that they were successful on past trades tended to trade more, and were also more likely to be men. This effect was stronger if success was measured with a naïve rule of thumb that the trade resulted in a positive return, indicating that this learning reinforced the overconfidence bias. However, over time most participants following the recommended trades from one unregulated financial advisor did not continue to follow the advice, with less than 0.5% of those trading following the recommendations for at least half of their trades (Villatoro et al., 2019). This could indicate that individuals learned that this strategy was not profitable and adapted.

The influence of financial communication and advice

72. Financial advice can have a significant influence on the investment decisions of individuals. The extent of this influence depends in part on the way the advice is marketed and how the messages are conveyed. Certain target groups may be more prone to following financial advice. The investor biases discussed in the previous section can also play into individuals' inclinations to follow the advice.

73. Marketing and communication campaigns can have a significant influence on the financial decisions that individuals make. Such campaigns are likely to be perceived by consumers as a form of generic financial advice, even though following the advice does not necessarily lead to better outcomes, nor is it necessarily intended to. Incentivised sales in particular can lead to negative consumer outcomes. In Mexico, sales agents for the pension funds operating in the mandatory DC pension system convinced pension participants to change providers even if it was not in their best interest to do so. Over the period from 2011 to 2014, over half of the annual transfers were to a pension fund offering a lower net return (OECD, 2016).

74. But even well-intentioned communication campaigns can lead people to choose less optimal strategies. When the Premium Pension in Sweden was introduced, a communication campaign encouraged participants to make active decisions as to their investment strategy rather than to stay invested in the default strategy. As a result of this campaign, combined with the advertisements by pension funds, over two-thirds of new participants actively chose an alternative investment strategy, compared to less than 10% actively choosing once the campaign ended. However, compared to the default investment, these individuals tended to choose strategies that invested more in equities, had more active management, higher fees, and more home bias. Existing biases, such as the over extrapolation of recent returns, contributed to these choices (Cronqvist & Thaler, 2004).

75. The evidence of the influence of marketing and communication can also be observed through a lack of action. One study demonstrated that minorities tended to trade less frequently and attributed this to the fact that these groups tend to be less targeted by the financial sector that would encourage them to trade more (BILIAS et al., 2010).

76. Other factors may play a role in the extent to which individuals choose to follow financial advice or not. One informative study looks at which individuals are inclined to follow standardised financial advice in a setting where potential conflicts of interest have been mitigated. The study found that two-thirds of advice recipients ignored the advice completely, and that individuals with higher financial literacy were less likely to follow the advice. Nevertheless, the advice was much more likely to be followed when it was perceived to be solicited by the individual (Stolper, 2018). This latter observation may partially explain the high volume of Chilean pension savers that follow the recommendations of unregulated financial advisors. One advisor provides recommendations at the annual subscription cost of $20, which may make the subscribers more inclined to follow the advice because they have paid for it.

77. The investor biases discussed in the previous section likely also contribute to the tendency for individuals to follow the recommendations of unregulated financial advisors in Chile. Indeed, the business model that these advisors follow seems to well designed to exploit such biases. First, the advertised intention of the recommendations to time the market caters to individuals' tendencies to be overconfident and their belief that it is possible for them to beat the market on average. Second, advertising that focuses on their most successful recommendation creates an anchor for individuals to overestimate the likelihood that future recommendations will also be profitable. Finally, marketing campaigns on social media and their reliance on word of mouth advertising plays into people's tendency toward herding behaviour and imitating the observed strategies of others.

Implications of frequently switching investment strategies in large volumes

78. The impact that frequent switching between investment strategies in large volumes can have on the pension system are wide ranging. At an individual level, frequent switching will likely result in worse net investment performance, reducing the level of pension that savers can ultimately receive. At the pension fund level, the need to sell large volumes of assets in a fund will reduce the expected duration and investment horizon of the strategy that they are able to employ. At the level of the financial markets and macro economy, large transfer volumes can move asset prices and create excess volatility in the markets, which may not reflect fundamentals.

Impact on expected pension levels due to changing strategies

79. Frequent trading generally tends to result in inferior net returns for individual investors compared to staying invested for the long-term. Active traders in households with discount brokerage accounts in the United States earned a full 6.5 points less in annual returns compared to the market return (Barber & Odean, 2000). A recent report from the Swedish Pensions Agency showed no value creation from switching investment funds (Pensions Myndigheten, 2020). Gender differences in returns have also been attributed to overtrading, with men earning lower returns than women because they trade more to their detriment (Barber & Odean, 2001).

80. More specifically, active investment management strategies, particularly those having a riskier profile or trying to time the market, generally underperform passive strategies for retail investors. For a large sample of brokerage accounts in the United States, profit-seeking trading resulted in underperformance compared to not trading (Odean, 1999). Investors in 401(k) DC plans in the United States that reacted to market changes were not able to time the market (Agnew et al., 2003). In Taiwan, individuals placing aggressive orders in the Taiwan stock market to buy stocks with high prices and sell them with low prices earned 20 basis points less over six months than they would have earned holding on to the stock they sold (Barber et al., 2009). Another study tests the ability of a technical trading algorithm to outperform the market, and finds that it does not result in better performance and that even small transaction costs make investors worse off (Bajgrowicz & Scaillet, 2012).

81. More specifically still, lifecycle default strategies typically employed for pension savings are more effective at protecting the retirement incomes of individuals than more risky strategies. One study shows that most individuals would be worse of relative to a target retirement income when given the choice of portfolio allocation between equities and bonds, and would be worse off still if also given a choice regarding which equity investments to make (Ahmed et al., 2016). Lifecycle default strategies generally perform better than more risky strategies, in particular following a financial crisis. Riskier strategies only perform substantially better if the crisis occurs within the first years of pension saving, and regardless, riskier strategies result in significantly more volatility and risk of shortfall than lifecycle strategies (Berstein et al., 2011). Where the state guarantees a certain minimum pension in retirement, part of the higher risk of shortfall from more volatile and risky strategies would be borne by the state rather than fully borne by individuals (Berstein et al., 2013). This could in addition create moral hazard issues within the pension system.

82. Frequent trading is shown to negatively impact the investment performance of pension savers in Chile. Over the ten year period from 2007 to 2016, there is a negative correlation between the frequency of transfers and investment performance, with each additional trade implying a reduction in performance of 62 basis points (Villatoro et al., 2019). Since 2014, 25.3% of individuals switching their investments have experienced lower returns than they would have had remaining in the original fund that they were invested in, with an average cumulative loss of 5.6% over the observation period. Younger members switching tended to do worse (Superintendencia de Pensiones, 2020).

83. Profitable switching to time the market has been largely due to chance. As such, market timing strategies in Chile have not resulted in better investment performance for pension members. The recommendations by unregulated financial advisors whose recommendations claim to be able to time the market only outperform the contrarian strategy around half of the time (Da et al., 2017).

84. Switching behaviour has also led to worse investment performance in Chile compared to investing in the lifecycle default strategy. Since 2014, 72.6% of those switching investment strategies would have been better off if they had remained invested in the default strategy, having earned on average 4.4% less in cumulative returns. Those switching more frequently were relatively worse off, as were younger individuals (Superintendencia de Pensiones, 2020).

Impact on investment strategies of pension funds

85. The objective of the investment strategy of a pension fund should be to grow the assets to provide an income in retirement, and as such it normally has a very long investment horizon. Investing in assets with a longer average duration can provide superior returns, as investment strategies can benefit from term and illiquidity premiums. An appropriately calibrated long-term strategy can also protect from losses due to market downturns as assets would not need to be sold when prices fall, thereby avoiding locking in and thus materialising any short-term losses.

86. The allocation to short-term assets seems to be related to the volume of flows between funds in the pension system, though not everywhere. Over the observation period 2005-2015, the correlation of annual allocations to short-term assets and volume of transfers between providers exceeded 0.5 for transfers between providers in Chile, Colombia and Mexico. The correlation with respect to the volume of transfers between funds was lower in all countries, except for Chile, where the correlation was 0.58 (Pedraza et al., 2017).

87. Frequent and large trades require that pension funds hold more liquidity or that they sell assets more frequently. Holding more liquidity or liquid assets means that they lose the potential higher returns of more illiquid long-term assets. Selling assets more frequently and in larger volumes materialises short-term losses, preventing any benefit from a recovery in prices. This can lead pension funds to act pro-cyclically, selling in downturns and buying in upturns, potentially exacerbating market downturns.

88. More recently, the large transfer volumes driven by recommendations in Chile to time the market have impacted the investment strategies and asset allocations of pension funds. Since 2012, the riskiest Fund A has experienced a shift from equities to more liquid ETFs. In addition, the two funds the most impacted by these recommendations, A and E, have experienced an increase in cash holdings. For the pension fund Modelo, who on average have the youngest participants in the pension system and also the largest transfer volumes, the increase in cash is twice as large as that for other pension funds. However, the allocation to cash for the other funds B, C, and D have decreased. As such, pension funds' overall allocation to cash has not been significantly impacted (Da et al., 2017). This implies that the returns for members remaining invested in the default investment strategy should not be significantly impacted by the changes in asset allocations for the extreme funds.

Impact on the macro economy

89. The implications of frequent and large volumes of switching may affect not only financial market variables but may also have spillover effects in the macro economy. Frequent trading tends to increase volatility in financial markets, and large volumes of trading in the same direction can move markets and impact prices well beyond fundamentals. These impacts may then have knock-on effects to market stability, exchange rates, and other macroeconomic variables.

90. Large trading volumes in the same direction can move asset prices due to the supply and demand dynamics of the market. The potential impact on price can be significant when the concentration of assets within the pension system is high. In Chile, around 30% of equities and government bonds are held by pension funds. In addition, the largest ten stocks account for half or the domestic equity portfolio (Da et al., 2016). Thereby, large volumes of trading within the pension system will also represent a large volume of trading for particular assets, so can have a greater price impact. Indeed, large volumes of switches between funds A and E coinciding with the recommendations of unregulated financial advisors, have impacted equity market prices by 1% in the first three days following the recommendation. However, this price impact indicates a lower elasticity than has been observed in the US market. In addition, the impact on bond prices is not statistically significant, likely due to the larger cash holdings of Fund E (Da et al., 2017).

91. Following the initial price impact, herding tends to result in return reversion or even lower future returns, implying that price changes are not related to fundamentals and that the herding behaviour can be destabilizing in the long term. Indeed, this is consistent with the observations in Chile. The 1% price impact largely disappears within five days, and prices revert completely within ten days, indicating that the fund switches are largely noise trading and not trading on fundamentals (Da et al., 2017). While sell herds can be particularly destabilizing, this does not seem to be the case in Chile where the sell recommendations affect prices more gradually (Kremer & Nautz, 2013) (Da et al., 2017).

92. Large trading volumes may not have had a destabilising impact on the market in all cases. During the downturn of the financial crisis in 2008 and 2009, investment in Chile was largely pro-cyclical with respect to equities, with more being sold than bought. Nevertheless, Chile was a net purchaser of private bonds during this period, which may have helped to stabilise the bond market (Han et al., 2018).

93. The impact that large trading volumes and price movements can have on the exchange rate will largely be a function of supply and demand dynamics driven by the allocation between domestic and foreign assets held by the pension funds. While strong equity markets can be linked to increased foreign investment, this is not likely to be a mechanism of transmission given that the price movements are brief and temporary. Furthermore, conclusions are mixed as to the relationship between exchange rates and equity prices, with some evidence indicating that the two are independent (Suriani & Kumar M., 2015).

94. Large switches to assets denominated in foreign currencies could lead to a depreciation of the domestic currency. If this depreciation does not revert over time, it could potentially lead to an increase in import values and a reduction in nominal GDP growth. Alternatively, it could lead to adjustments in the medium term of imports directed for consumption, but increase the cost of producing domestically when some of the inputs needed come from abroad.

95. The increased volatility of prices as a result of frequent trading could potentially have other spillover effects on the macro economy. Increased uncertainty may lead to reduced consumption and could negatively impact hiring by firms. It could also potentially lead to a decline in output, with a 1% increase in uncertainty associated with a slightly larger than 1% decline in output (Claessens & Kose, 2017). Evidence is mixed, however, with respect to the impact that volatility has on investment.

Part III. Policy options to address frequent fund switching for retirement savings

96. International evidence shows that frequent trading typically results in worse investment outcomes. The vast majority of those switching retirement savings investments would have had better investment returns either staying invested in their original fund, or investing in the default investment option. Switching frequently in large volumes leads to pension funds holding more liquidity or liquid investments, which may prevent them from taking a long-term view of their investment strategy and lead them to forego earning higher potential term and liquidity premiums. Finally, the frequency and volume of trades can destabilise the market by affecting asset prices over the short term and increasing market volatility.

97. There is ample evidence that the frequent switching of investment funds by participants in the Chilean individual account pension system is problematic and detrimental to retirement savers. Chilean retirement savers trade significantly more than retirement savers in other jurisdictions in terms of both the frequency and volume of trades. Recently, the proportion of retirement savers in Chile switching investment funds has surpassed 18%, with nearly 60% of these trading more than once. Annual trading volumes have reached nearly 30%, with daily requests representing up to 20% of a fund's value.

98. Consistent with international evidence, these frequent and large trades within the Chilean pension system are negatively affecting retirement savers. Most of those switching in Chile would have had better investment returns either staying invested in their original fund, or investing in the default investment option. In addition, the pension funds are increasing the allocation of cash within the two most affected funds, the growth Fund A and conservative Fund E, in order to more easily accommodate the trade requests. Consequently, pension funds in Chile do not optimise the ability to take a long-term view of investment and earn the higher potential term and liquidity premiums.

99. Policy interventions are therefore needed given that these current trends are expected to result in lower pensions for participants and decreased stability in the financial markets, potentially increasing uncertainty in the macro economy. Nevertheless, the drivers behind the frequent switching of investment strategies have to be identified in order to choose the most effective policy measures to address the problem at hand.

100. The currently observed levels of switching seem to be mainly in response to the recommendations made by certain unregulated financial advising firms to try to time the market. The success of these recommendations is also likely due to their exploitation of behavioural biases that investors commonly demonstrate. The promise to time the market and follow short-term trends caters to people's tendency towards overconfidence. Indeed, the most affected demographic – higher income men with more education – is that most prone towards overconfidence and the tendency towards overtrading. In addition, the widely advertised success of an early recommendation of one of those unregulated financial advising firms leads individuals to overestimate the probability that any given recommendation will be profitable. Furthermore, a strong social media presence and the diffusion of the recommendations through word-of-mouth push individuals towards herding behaviour, leading to large volumes of switches at the same time. Finally, the annual subscription fee makes it more likely that individuals will follow the recommendations, because they have asked and paid for them.

101. This report discusses some policy options available to address the problem of frequent switching of retirement savings investments. The discussion considers their potential effectiveness given the drivers at play.

Policy options

102. Authorities could approach the problem of frequent switching of investment from three different angles. First, they could direct policy interventions at individuals so that they themselves have an incentive to trade less frequently. Secondly, they could introduce policies to adjust the design of the retirement savings system itself to limit or prevent inappropriate switching. Thirdly, authorities could direct policy interventions at the external influences that recommendations to switch are having. Several different interventions could potentially be implemented to ensure the best outcomes for retirement savers, though some interventions are likely to be more effective than others given the drivers identified.

Policy options that target individuals

103. Policy options that target individuals aim to get retirement savers themselves to reduce the frequency with which they switch their retirement investments. International evidence suggest that such interventions could influence people implicitly by imposing barriers that make it harder or less interesting to trade frequently, or explicitly by trying to convince individuals that frequent trading is not in their best interest.

Impose implicit barriers to switching

104. Implicit barriers that increase the effort that individuals have to put into switching or decrease the potential benefit from doing so can be effective in discouraging switching behaviour, especially when it is likely to be against their best interest. Such barriers could involve making the administrative procedure to follow more complicated, increasing the delays to process and execute the trade request, or imposing fees that would make switching less attractive financially.

105. Introducing more demanding administrative procedures for switching from any position are likely to reduce impulsive switching because of the additional effort required to change. Switching influenced from the tendency towards herd behaviour and copying others' investment decisions is likely to be impulsive. Measures to increase administrative burdens to deter this are typically related to the paperwork required. There are several examples of jurisdictions that require the request to switch to be sent in writing or done in person. Estonia requires multiple applications depending on whether past or future contributions are being transferred.

106. Additional requirements for switching requests that could be considered more risky not only reduce impulsive switching, they may also encourage individuals to question whether their intention to switch is the right decision. The United Kingdom requires an additional step of acquiring financial advice when switching from a likely beneficial position – being in a sizable pension fund offering a guarantee – to a more risky position of not having a guarantee. Singapore requires individuals to complete a questionnaire to assess their financial knowledge before engaging in more risky or speculative investment.

107. Delays to process and execute trade requests may be effective in deterring switching from individuals trying to time the market by reducing the expected benefit of doing so. Processing times tend to be longer for switching providers and can last up to

several months, but several jurisdictions impose delays for switching investment funds of up to a week.

108. Fees to switch would increase the cost of switching thereby reducing potential short-term gains, helping to deter frequent switches following short-term strategies. Nevertheless, fees are likely to be less effective as overconfident investors would expect that switching would make up for this loss and not be deterred from switching. Several jurisdictions allow exit fees, potentially under certain conditions such as exceeding a certain number of switches, though many jurisdictions also impose a cap on the maximum fee that can be charged.

Communicate to individuals the potential negative impact of switching

109. Communicating to individuals about the likely negative impact of switching may help them to realise that it may not be in their best interest to do so. Such communication could be directed specifically at individuals requesting to switch, or take the form of a broader communication campaign.

110. Individualised communication regarding the increased risk related to a request to switch investment funds could encourage people to reconsider their decision and remain invested for the long-term. For example, for a request to switch from the default investment option to Fund A could highlight the lower bad-case scenario of projected income at retirement compared to the default strategy. Mexico takes a comparable approach for individuals requesting to switch pension providers by requiring individuals to sign a form showing the differences in the investment returns of the providers. To be effective, such communication should be designed to simply and effectively convey the risk so that the individual can easily understand and process the information. For example, using a single risk indicator will limit potential confusion, and visual aids such as colour codes can also facilitate understanding the information provided.

111. General communication campaigns can also be effective at encouraging specific investment behaviours for pensions. Such campaigns could promote the benefit of the default investment strategy and warn against the risks of frequent switching. Sweden effectively encouraged the majority of new enrolees into the Premium Pension to actively choose their investment strategy through a public communication campaign. Nevertheless, the effectiveness of such communication also depends on the public's trust in the source of information and the institutions of the retirement savings system. Trust in Sweden's public institutions is very high.

Policy options that target the design of the retirement savings system

112. Policy options that target the design of the retirement savings system would change the rules or design of the retirement investment framework to limit or prevent inappropriate speculation with retirement savings. Such options include imposing explicit limits that would prevent certain individuals from switching, or reframing the design of the investment options available.

Impose explicit barriers to switching

113. Explicit barriers to switching involve limits that prevent individuals from switching in a way that is unsuitable for the retirement objective. Such barriers often take the form of limits to the frequency of switching or limits to certain strategies that involve more risk than is appropriate given the objective of the pension system. These types of

limits are very common in jurisdictions that also explicitly regulate the types of investment funds that can be offered for retirement savings pension system (*e.g. Mexico, Slovenia*). Such policies are coherent as this level of regulation indicates an objective around the retirement income that the system should deliver. Investment strategies within the retirement savings system should therefore be in line with that objective.

114. Limits on the frequency with which individuals switch their retirement investments will prevent overtrading while still allowing individuals some discretion if they really want to switch. Frequency limits can either take the form of a maximum number of switches in a given time period, or a minimum holding period before another switch can be made. While the former type is more common and may prevent overtrading, the latter is more in line with the objective to prevent speculation and encourage a long-term investment strategy by ensuring that the assets remain invested for a minimum period of time.

115. Limits relating to the investment strategy prevent certain types of switching that are considered to be inappropriate given the objective of the retirement savings system to provide a target level of income in retirement. Strategies that would unduly increase the probability that this objective would not be achieved are therefore not allowed. The most common restriction of this type is age limits for investment in equities that limit the level of equities in which individuals approaching retirement can invest. However, given that speculative investing would also increase the probability that the retirement income would not be met, limits preventing switches between non-adjacent funds could also be appropriate. Furthermore, drastic changes in investment risk profiles is not in line with the lifecycle approach that gradually reduces investment risk as retirement approaches. Preventing switches to non-adjacent funds would therefore be coherent with the design and objectives of the Chilean pension system.

Reframe the design of investment options

116. Reframing the design of the investment options available in retirement savings systems would present the options in a way that is more in line with the objective to promote taking a long-term lifecycle investment strategy. For example, moving from multi-fund arrangements to target date funds would reframe the investment choice to focus on the objective of retirement income in the long run rather than the level of risk being taken in the immediate future. Mexico is one jurisdiction that has recently moved from a multi-fund system to target date funds. Such a framework is less conducive to switching investments to time the market.

Policy options that target external influences

117. Policy options to target the sources of influence to switch that is external to the retirement savings system aim to prevent such influence from harming retirement savers. External influence can take the form of information, marketing or financial advice. Financial advice is generally subject to the highest standards. However, the definition of what qualifies as financial advice needs to be clear. For other types of communication on financial issues, requirements still need to be in place to ensure that the information provided does not harm consumers.

Establish standards and requirements for financial advisors

118. Individuals providing financial advice to consumers are generally held to certain standards to ensure that the advice they provide is not harmful for consumers. These standards include qualification and registration requirements, the management of any

conflicts of interest, and necessary due diligence to demonstrate the appropriateness of any advice or recommendations provided.

119. Any individual providing financial advice should be required to be registered with the relevant authority. This is the case in several OECD countries (*e.g.* Australia, United Kingdom). Registration allows the supervisor to monitor the conduct of the advisor over time and sanction instances of misconduct resulting in harm to consumers. It also allows consumers to be able to verify that the person advising them is appropriately qualified and that the relevant consumer protections will be legally enforceable.

120. Financial advisors should be required to achieve a certain level of qualification to demonstrate that they have the adequate knowledge to provide financial advice, and this should be a basic requirement for them to become registered. Qualification requirements will set a higher standard for individuals who are allowed to provide financial advice, and discourage those without sufficient capabilities from entering the field. Following an increase in qualification standards in the United Kingdom, the professionalism of the financial advice industry also increased.

121. Financial advisors should also be required to manage any potential conflicts of interest that would lead them to provide certain recommendations over others. The most common requirement for managing conflicts is to disclose them. While disclosure is not necessarily effective in deterring individuals from following the advice, there is some evidence that disclosure requirements can encourage advisors to avoid any conflicts. Other requirements may include conflicts of interest policies that detail how any conflicts are mitigated. Where these types of requirements have not been effective, some jurisdictions have gone further to eliminate conflicts of interest, for example by banning the payment of sales commissions on financial products. Firms providing financial advice can have a significant conflict of interest to the extent that they are pre-empting their own recommendations and benefiting from the movement in asset prices following the large trading volumes following their recommendations (*e.g.* the practice of scalping). This may be considered fraudulent as it violates the nature of the advisor-client relationship and deceives the client.

122. Any advice or recommendation that financial advisors give to individuals should be required to be appropriate. The advisor should do adequate due diligence to determine whether the recommendation is suitable given the profile of the individual. Many jurisdictions require advisors to issue suitability reports for personalised advice to the client to explain why the recommendation is appropriate for their particular situation. Suitability requirements are in place even the case for social trading platforms in Europe, where individuals copy the investment strategies of other traders.

Set the regulatory boundaries for financial advice to ensure adequate protection for consumers

123. Regulation needs to clearly define what type of financial advice is included. The requirements imposed on financial advisors discussed above generally apply to personalised advice targeted at specific individuals, as opposed to generic advice, which is factual guidance. Distinguishing characteristics include the nature of the recommendation made, the perception of the client, and/or the financial purpose that the advice pertains to.

124. A key distinction between different types of financial advice is that between generic and personal advice, because financial advisors are typically held to higher due diligence standards and disclosure requirements for personalised recommendations.

Generic advice is considered factual, and can be advice that is considered objectively suitable for a certain category of individuals. Personal advice takes into account the profile and needs of a specific individual.

125. The application of regulatory requirements for personalised advice should take into account the likely perception of the client. If the person could reasonably feel that the advice is specific to their situation, it should be regulated as personalised advice. This is the approach taken in Europe. The way that the advice is communicated can influence perception, for example if it is provided in a personalised email. The fact that the client paid for the advice may also have implications to whether it could be considered to be personal.

126. The financial purpose of the advice, such as whether the advice pertains to investing for retirement, may also justify stricter regulatory requirements. For example, in Australia, all advice relating to changing pension providers is considered to be personal. In the United States, advice provided to occupational pension arrangements is held to a higher fiduciary duty standard and must be in the best interest of the client.

Regulate harmful communication outside of the regulatory boundaries for financial advice

127. While stricter requirements may pertain to advice falling within the regulatory boundaries for financial advice, regulation must still ensure that other financial advice and communication does not harm consumers and those saving for retirement. These other types of communication could take the form of generic financial advice or even marketing.

128. Regulation should prohibit for any communication, regardless of whether it is regulated as financial advice, from misleading or deceiving clients. Generic communication around retirement savings and investment should remain factual. Any advice involving judgement should also provide reasons and justification for the recommendation being made. In Lithuania, for example, any communication relating to retirement savings accumulation may only contain factual information that are included in the official periodic reports issued.

129. Regulators should take a stronger stance where communication is deemed to be particularly harmful to those saving for retirement, and prohibit those types of communication. For example, Poland has completely banned pension-related marketing, and agents are not allowed to interfere in the process of a member switching a pension provider in Romania.

Summary of policy options for Chile

Policy options that target individuals

- Burdensome administrative procedures for switching, such as additional paperwork, are likely to significantly reduce impulsive switching because of the additional effort required to change.
- For switching requests that could be considered more risky, additional requirements such as a consultation with an advisor or a knowledge assessment would not only reduce impulsive switching, but may also encourage individuals to question whether their intention to switch is the right decision.

- Delays to process and execute trade requests may be effective in deterring switching from individuals trying to time the market by reducing the expected benefit of doing so.
- Fees to switch would increase the cost of switching thereby reducing potential short-term gains, but they are likely to be less effective, as overconfident investors would expect that switching would make up for this loss and not be deterred.
- Individualised communication regarding the increased risk related to a request to switch investment funds could encourage people to reconsider their decision and remain invested for the long-term.
- General communication campaigns can discourage switching behaviours, but may be less effective to the extent that there is a lack of trust in public institutions.

Policy options that target the design of the retirement savings framework

- Limits on the frequency with which individuals switch their pension investments would prevent overtrading while still allowing individuals some discretion if they really want to switch. Minimum holding periods would be in line with the objective to prevent speculation and encourage a long-term investment strategy by ensuring that the assets remain invested for a minimum period of time.
- Limits preventing switches to non-adjacent funds would be coherent with the design and objectives of the pension system to provide a target level of income in retirement, as drastic changes in investment risk profiles is not in line with the lifecycle approach that gradually reduces investment risk as retirement approaches.
- Reframing the design of the investment options available, for example moving to target date funds, would reframe the investment choice to focus on the objective of retirement income in the long run rather than the level of risk being taken in the immediate future, and would be less conducive to switching investments to time the market.

Policy options that target external influences

- To ensure recipients of financial advice are legally protected, financial advice regulation should include registration and qualification requirements, requirements to disclose, manage and mitigate any potential conflicts of interest, and requirements to perform adequate due diligence to assess the suitability of personalised advice.
- Higher regulatory standards for financial advice should apply where consumers perceive the advice as personal.
- Advice pertaining to investing for retirement could justify stricter regulatory requirements compared to other types of financial advice.
- Regulation should prohibit for any communication, regardless of whether it is regulated as financial advice, from misleading or deceiving clients.
- Regulators should take a stronger stance where communication or marketing material is deemed to be particularly harmful to those saving for retirement, and prohibit those types of communication.

References

Agnew, J., Balduzzi, P., & Sundén, A. (2003). Portfolio choice and trading in a large 401 (k) plan. *American Economic Review*, *93*(1), 193–215. https://doi.org/10.1257/000282803321455223

Ahmed, J., Barber, B. M., & Odean, T. (2016). Made poorer by choice: Worker outcomes in social security vs. private retirement accounts. *Journal of Banking and Finance*, *10*, 1–12. https://doi.org/10.1016/j.jbankfin.2016.08.003

Bajgrowicz, P., & Scaillet, O. (2012). Technical trading revisited: False discoveries, persistence tests, and transaction costs. *Journal of Financial Economics*, *106*(3), 473–491. https://doi.org/10.1016/j.jfineco.2012.06.001

Barber, B. M., Lee, Y.-T., Liu, Y.-J., & Odean, T. (2009). Just How Much Do Individual Investors Lose by Trading? *The Review of Financial Studies*, *22*(2). https://doi.org/10.1093/rfs/hhn046

Barber, B. M., Lee, Y.-T., Liu, Y.-J., Odean, T., & Zhang, K. (2017). *Do Day Traders Rationally Learn About Their Ability?*

Barber, B. M., & Odean, T. (2000). Trading is Hazardous to Your Wealth: The Common Stock Investment Performance of Individual Investors. https://doi.org/10.2139/ssrn.219228

Barber, B. M., & Odean, T. (2001). BOYS WILL BE BOYS: GENDER, OVERCONFIDENCE, AND COMMON STOCK INVESTMENT. *Quarterly Journal of Economics*.

Barber, B. M., & Odean, T. (2007). All That Glitters: The Effect of Attention and News on the Buying Behavior of Individual and Institutional Investors. https://doi.org/10.1093/rfs/hhm079

Berstein, S., Fuentes, O., & Torrealba, N. (2011). LA IMPORTANCIA DE LA OPCIÓN POR OMISIÓN EN SISTEMAS DE PENSIONES DE CUENTAS INDIVIDUALES: ESTRATEGIAS DE INVERSIÓN DE CICLO DE VIDA. www.spensiones.cl

Berstein, S., Fuentes, O., & Villatoro, F. (2013). Default investment strategies in a defined contribution pension system: A pension risk model application for the chilean case. *Journal of Pension Economics and Finance*, *12*(4), 379–414. https://doi.org/10.1017/S1474747213000073

Chuang, W. I., & Susmel, R. (2011). Who is the more overconfident trader? Individual vs. institutional investors. *Journal of Banking and Finance*, *35*(7), 1626–1644. https://doi.org/10.1016/j.jbankfin.2010.11.013

Claessens, S., & Kose, M. A. (2017). *Asset prices and macroeconomic outcomes: a survey*. www.bis.org

Cronqvist, H., & Thaler, R. H. (2004). Design choices in privatized social-security systems: Learning from the Swedish experience. *American Economic Review*, *94*(2), 424–428. https://doi.org/10.1257/0002828041301632

Da, Z., Larrain, B., Sialm, C., & Tessada, J. (2016). *COORDINATED NOISE TRADING: EVIDENCE FROM PENSION FUND REALLOCATIONS*. http://www.nber.org/papers/w22161

Da, Z., Larrain, B., Sialm, C., & Tessada, J. (2017). Destabilizing Financial Advice: Evidence from Pension Fund Reallocations.

De Bondt, W. F. M., & Thaler, R. (1985). Does the Stock Market Overreact? *The Journal of Finance*, *40*(3), 793–805. https://doi.org/10.1111/j.1540-6261.1985.tb05004.x

Dewan, P., & Dharni, K. (2019). Herding Behavior in Investment Decision Making: A Review. *Journal of Economics, Management and Trade*, *24*(2), 1–12. https://doi.org/10.9734/JEMT/2019/v24i230160

Fong, J. H. (2020). Taking control: Active investment choice in Singapore's national defined contribution scheme. *Journal of the Economics of Ageing*, *17*, 100249. https://doi.org/10.1016/j.jeoa.2020.100249

Han, T., Park, K. G., & Stańko, D. (2018). ARE PENSION FUNDS A STABILISING FACTOR IN FINANCIAL MARKETS? EVIDENCE FROM FOUR COUNTRIES. www.iopsweb.org

Hoffmann, A. O. I., & Post, T. (2016). How does investor confidence lead to trading? Linking investor return experiences, confidence, and investment beliefs. *Journal of Behavioral and Experimental Finance*. https://doi.org/10.1016/j.jbef.2016.09.003

Kim, K. A., & Nofsinger, J. R. (2007). The Behavior of Japanese Individual Investors During Bull and Bear Markets. *Journal of Behavioral Finance*, *8*(3), 138–153. https://doi.org/10.1080/15427560701545598

Kremer, S., & Nautz, D. (2013). Causes and consequences of short-term institutional herding. *Journal of Banking and Finance*, *37*(5), 1676–1686. https://doi.org/10.1016/j.jbankfin.2012.12.006

Kristjanpoller, W. D., & Olson, J. E. (2015). The effect of financial knowledge and demographic variables on passive and active investment in Chile's pension plan. *Journal of Pension Economics and Finance*, *14*(3), 293–314. https://doi.org/10.1017/S1474747214000213

Madrian, B. C., & Shea, D. F. (2001). THE POWER OF SUGGESTION: INERTIA IN 401(k) PARTICIPATION AND SAVINGS BEHAVIOR. *The Quarterly Journal of Economics*, *CXVI*(4).

Meyer, S., Koestner, M., Loos, B., & Hackethal, A. (2012). Do Individual Investors Learn from Their Mistakes? *SSRN Electronic Journal*. https://doi.org/10.2139/ssrn.2122652

Mitchell, O. S., Mottola, G. R., Utkus, S. P., & Yamaguchi, T. (2011). The Inattentive Participant: Portfolio Trading Behavior in 401(K) Plans. In *SSRN Electronic Journal* (No. 2006–115). Elsevier BV. https://doi.org/10.2139/ssrn.1094834

Mobarek, A., Mollah, S., & Keasey, K. (2014). A cross-country analysis of herd behavior in Europe | Elsevier Enhanced Reader. *International Financial Markets, Institutions and Money*, *32*, 107–127.

Novianggie, V., & Asandimitra, N. (2019). The Influence of Behavioral Bias, Cognitive Bias, and Emotional Bias on Investment Decision for College Students with Financial Literacy as the Moderating Variable. *International Journal of Academic Research in Accounting, Finance and Management Sciences*, *9*(2), 92–107.

Odean, T. (1999). Do Investors Trade Too Much? *The American Economic Review*. http://www.nyse.com/public/

OECD. (2016). *OECD Reviews of pension systems: Mexico*. OECD Publishing. https://doi.org/10.1787/9789264245938-en

Ouarda, M., el Bouri, A., & Bernard, O. (2013). Herding Behavior Under Markets Condition: Empirical Evidence on the European Financial Markets | Ouarda | International Journal of Economics and Financial Issues. *International Journal of Economic and Financial Issues*, *3*(1). https://www.econjournals.com/index.php/ijefi/article/view/229

Pedraza, A., Fuentes, O., Searle, P., & Stewart, F. (2017). *Pension Funds and the Impact of Switching Regulation on Long-term Investment*. http://econ.worldbank.org.

Seru, A., Shumway, T., & Stoffman, N. (2009). *Learning By Trading*. Elsevier BV. https://doi.org/10.2139/ssrn.891694

Stolper, O. (2018). It takes two to Ta   ngo: Households' response to financial advice and the role of financial literacy. *Journal of Banking and Finance*, *92*, 295–310. https://doi.org/10.1016/j.jbankfin.2017.04.014

Superintendencia de Banca, S. y A. (2019, December). *Boletín Estadístico de AFP (Mensual)*. https://www.sbs.gob.pe/app/stats_net/stats/EstadisticaBoletinEstadistico.aspx?p=31#

Superintendencia de Pensiones. (2020). Nota Técnica N° 6 Evolución y desempeño de los cambios de fondos Mayo 2020.

Suriani, S., & Kumar M., D. (2015). Impact of Exchange Rate on Stock Market. *International Review of Economics & Finance, 5*. https://www.researchgate.net/publication/282815700_Impact_of_Exchange_Rate_on_Stock_Market

Tang, N., Mitchell, O., & Utkus, S. (2011). Trading in 401(k) Plans during the Financial Crisis. In *Wharton Pension Research Council Working Papers* (No. WP2011-11). https://repository.upenn.edu/prc_papers/175

Tapia, W., & Yermo, J. (2007). *Implications of Behavioural Economics for Mandatory Individual Account Pension Systems* (No. 11; OECD Working Papers on Insurance and Private Pensions). https://doi.org/10.1787/103002825851

Villatoro, F., Fuentes, O., Riutort, J., & Searle, P. (2019). *Mislearning and (Poor) Performance of Individual Investors*.