PENSION NOTES

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Pension Fund Investment in alternative assets: Chile and Mexico

EXECUTIVE SUMMARY

The sufficiency of funds for financing pensions on reaching retirement age is one of the most pressing issues for pension systems worldwide. Pension fund managers are therefore continuously searching for investment vehicles that offer attractive returns. Alternative assets are one of those vehicles.

Some examples of alternative assets are real estate, private equity, private debt and infrastructure. These assets constitute a more tangible type of investment for people: it is about investing money in a business and, according to the agreement between the parties and how the business goes, receiving returns. Investments in these types of instruments provide pension fund investment portfolios with long-term assets in accordance with the investment horizon of pension savings, in addition to contributing to diversification and providing sources of income that can exceed those of traditional assets.

Mexican regulations have allowed fund managers to invest in alternative assets since 2007. They can currently invest in alternative assets through Development Capital Certificates (CKD), Investment Project Certificates (CERPI), Real Estate Investment Trusts (FIBRAS) and Infrastructure Investment Trusts (FIBRA-E). The Pension Fund Managers (AFORES) have participated in infrastructure, energy, real estate and forestry projects through these instruments, as well as investment of private equity in companies, among others. The AFOREs have invested $ 23,000 million in CKD and CERPI to date, equivalent to 8% of the total portfolio. Investments in such assets are expected to carry on growing in future.

The performance of CKD and CERPI alternative assets have varied in Mexico, depending on the sector. Infrastructure is the alternative asset that has yielded the best returns in the last 10 years, Although the FIBRAS have a higher degree of volatility and lower yield than the CKDs and CERPIs, experience has shown that they provide stable returns that complement the AFORE portfolios.

In Chile, the regulations authorized direct investment in alternative assets in October 2016, but the law that effectively allows the AFPs to invest in these assets was only promulgated in October 2017. The majority of the local AFPs formed teams to start investing in these instruments in the first half of 2018. By June 2018, 2.7% of the funds (approximately USD 5,512 million) had been invested in alternative assets. If they abide by the limits imposed by the Central Bank, the fund managers can invest a maximum of US$ 13,305 million in these assets, i.e. 6.6% of the total pension funds. It has been estimated that if the pension funds invest 10% in alternative assets in the long term, and if such investments yield on average 4% more than the traditional assets they replace, pensions could increase by 10%.

As previously mentioned, real estate assets are an example of alternative assets. One of the vehicles used for investing in these assets are the so-called "Real Estate Investment Trusts" (REITS), which do not mature because their duration is indefinite. They focus on generating income, net asset value and increasing dividends. Evidence has shown that these vehicles have a decisive role in improving returns on investments, and also help to reduce risk. Mexico currently uses a structure very similar to the REITS (FIBRAS).

The AFOREs have years of experience with alternative assets in Mexico. One of the challenges they face is to advance in the process of internalization of certain types of alternative investments. In Chile, where investment in such instruments is only just beginning, much strategic planning is required, depending on the capabilities of the team involved. The latter must be multidisciplinary (investments, risk, legal and operations) and have outstanding capabilities. The composition of alternative instrument portfolios in Chile is expected to be even more diversified over time, with the respective challenges and opportunities that entails.

INTRODUCTION

Pensions systems worldwide are facing major challenges for providing adequate pensions to workers in the passive stage. One of the challenges concerns demographics, since, on the one hand, life expectancy has grown significantly, and will continue to do so in future, and on the other hand, birth rates have fallen very significantly. This situation is aggravated by the levels of informality, since pension systems have to finance retirements for a long periods of time for workers who have contributed for a very brief period of their lives (sometimes less than a year).

Another factor that affects pension amounts is the ongoing reduction of interest rates, whereby savings are converted into pensions.

The phenomena described above negatively impact pension amounts. This scenario therefore makes it necessary to find mechanisms for increasing the returns of the pension funds, such as investment in alternative assets.

This Pensions Note presents some of the main conclusions of the FIAP Investment Seminar "A View to the Future," held on October 17, 2018, in Santiago, Chile, in which the investment of the pension funds in alternative assets was discussed. The note is organized as follows. The first section discusses the experience, lessons, and challenges of investing in alternative assets in Mexico. The second section does the same for Chile. Finally, the third section examines the contribution of real estate assets to investment portfolios.

I. Mexico

Mexican financial regulations have allowed the AFOREs to invest in alternative assets since 2007.[1]. They can currently invest in alternative assets through the CKDs, CERPIs, FIBRAS and FIBRA-Es. The AFORES have participated in infrastructure, energy, real estate development and forestry projects through these instruments, as well as the investment of private equity in companies, financing and hybrid debt.[2]. Table 1 shows the details of these investment vehicles and the type of exposure they have.

According to Octavio Ballinas, the former Investment and Risks Manager of AMAFORE, the AFOREs have a very conservative investment regime compared to the global standard of exposure to domestic equity for pension funds (maximum 34% of the total funds) as well as strict restrictions on investing funds in international markets (maximum 20% of the total funds). The combination of these two factors has led to a scenario in which the funds are highly concentrated in government debt, and have low exposure to stocks. These circumstances have made alternative assets an attractive investment option, since it is politically justifiable to have high investment limits in this asset class (see Graph 1) and they also contribute to increasing expected returns and the diversification of the funds. Even so, the limits on investing in international securities are still a brake on greater exposure to risky investments, including alternative assets.

According to Ballinas, another limiting factor is that all AFORE instruments have to be publicly offered securities. Due to this restriction, the exposure of the AFOREs to alternative assets occurs through four public vehicles managed by a private administrator (General Partner, GP) and placed by an underwriter (Bank).

Characteristics of the CKDs and CERPIs

CKDs are investment trusts that issue securities for obtaining resources destined to financing one or more projects, or for the acquisition of one or more companies. The securities grant their holders the right to participate in a part of the results generated, or the rights that are part of the equity.[3]. A seat is provided in the technical or investment committees for every 10% held. I.e. the AFORE investment experts can sit on these CKD investment committees and decide whether or not to invest in a potential project.

The CERPIs emerged in 2016 as a complement to the CKDs. The difference is that the CERPIs do not require the approval of the Technical Committee or the Certificate Holders' Meeting to make investments. This gives the GP greater flexibility, whereby the instrument operates in a manner more similar to international standards.

The CKDs and CERPIS meet high corporate governance standards. This has been a very important factor for the local authorities.

The big difference between the CKDs and CERPIs is the purposes they are used for. CKDs are used when investing in a first-time fund because they provide more control to institutional investors, allowing then to participate in investment decisions. CERPIs, on the other hand, are used in cases in which a GP with whom they have already invested and with whom they perhaps achieved good results is involved, with a degree of trust that enables full delegation of the responsibilities of choosing the most appropriate investments.

[1] CONSAR (2018).

[2] Financing that provides the option of paying part of the principal and interest through company shares.

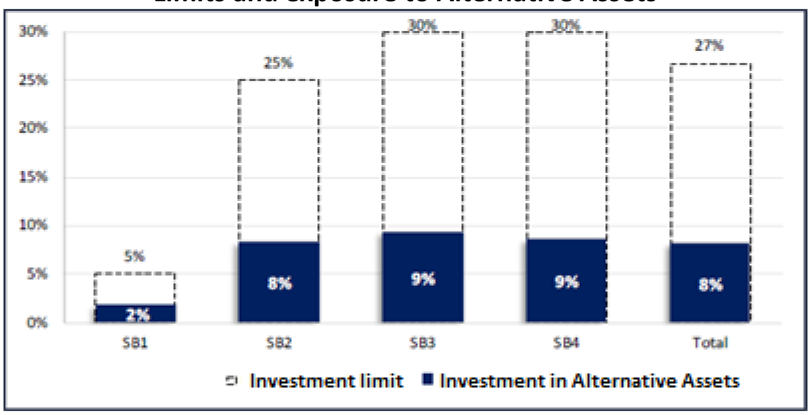
[3] CONSAR (2018).

Table 1
Evolution of alternative asset investment vehicles in Mexico

	Development Capital Certificates (CKDs)	(FIBRAS) Real Estate Investment Trusts	Investment Project Certificates (CERPIs)	Infrastructure Investment Trusts (FIBRA-E)
Started in:	2008	2013	2016	2016
Exposure to:	Financing of companies, real estate and infrastructure	Stable real estate (REIT type vehicle[4])	Financing of companies, real estate and infrastructure	Infrastructure assets in early and mature stages (MLP type vehicles).

Source: Ballinas (2018).

Graph 1
Limits and exposure to Alternative Assets



Source: Ballinas (2018).

[4] REIT, Real Estate Investment Trust. Investment companies that own real estate assets and whose incomes derives mainly from their rental, are known as Real Estate Investment Trusts. They are listed on the stock exchange and have to distribute dividends yearly.

Evolution

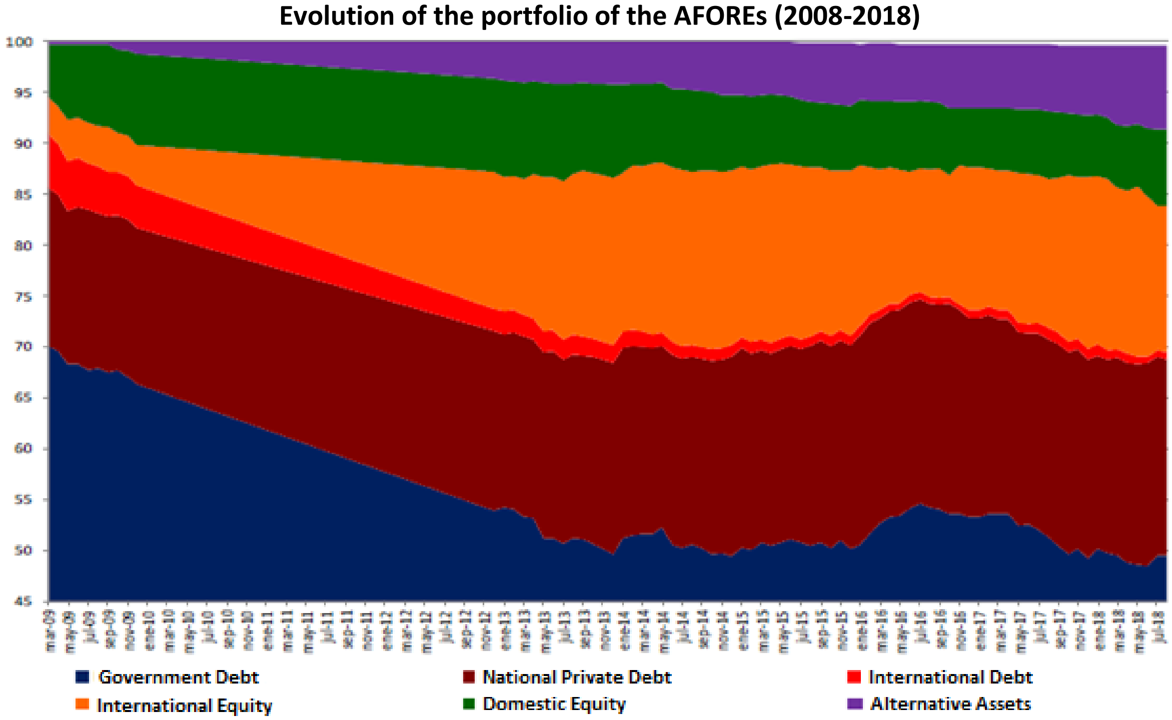
The CKDs and CERPIs have been in existence for 10 years. Today, the AFOREs have significant amounts invested in these vehicles: some USD 23,000 million in investment commitments, equivalent to 8% of the portfolio of the AFOREs.

The CKDs and CERPIs have made placements basically in three sectors: infrastructure, corporate financing (private equity) and real estate. These instruments have been in approximately 33% of each one of the sectors, on average.

Real estate FIBRAS have strongly invaded the market. In Mexico there are doubts as to whether this vehicle has generated a real estate price bubble. The truth is that many analysts already predicted problems in this regard. Hence, the dynamics of this market have changed and today they are strongly engaged in infrastructure investment projects, such as the airport or the financing of the State power generation company.

This set of factors has managed to rapidly and dramatically lower the exposure of the AFOREs to government debt, while alternative assets have become very important (see Graph 2). Applying the regulatory threshold, up to 27% of assets could now be invested in alternatives (CKDs, CERPIs and FIBRAS), whereas the effective investment in them is only 8.5%. Thus, one could say that the regulations in themselves are not the problem, but rather that the problem is the speed of the generation of projects versus the growth of assets.

Graph 2
Evolution of the portfolio of the AFOREs (2008-2018)

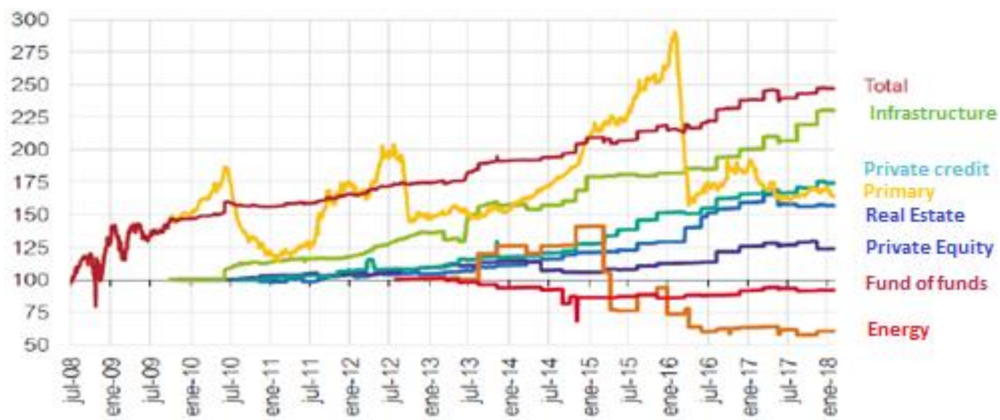


Source: Ballinas (2018).

Performance

The performance of the CKDs and the CERPIs has been variable. Graph 3 shows the sectoral indices by types of vehicles placed. Infrastructure is the alternative asset that has yielded the best returns in the last 10 years, whereas the "energy" alternative asset class has been negatively impacted by the drop in the oil price.

Graph 3
Mexico: Return on alternative assets: CKD and CERPI sectoral indices
(from date of issue to August 31, 2018)



Source: Ballinas (2018).

On observing the internal return rates (IRT) of the CKDs and CERPIs, in sectoral as well as total terms, it can be inferred that the thesis that these vehicles would provide returns over and above the public market has been confirmed (see Table 2).

Table 2
IRR by sectors and total (CKD and CERPI)
(from date of issue to August 31, 2018)

	Real Estate	Private Equity	Private Credit	Energy	Fund of funds	Infrastructure	Primary	Total
IRT	7.5%	2.7%	7.7%	-5.9%	3.6%	11.9%	4.3%	7.4%
No. of CKDs and CERPIs	35	25	9	11	5	14	2	101
Negative IRT	17 (19%)	13 (52%)	3 (33%)	5 (45%)	0 (0%)	1 (7%)	1 (50%)	40 (40%)
IRT above average	13 (33%)	9 (36%)	3 (33%)	10 (91%)	3 (60%)	3 (21%)	1 (50%)	26 (26%)
Max IRT	40.6%	8.8%	10.3%	16.1%	4.3%	21.5%	4.4%	40.6%

Source: Ballinas (2018).

It has also been observed that the FIBRAS are sources of stable resources that complement the portfolios of the AFOREs, although with a higher level of volatility and lower yield than the CKDs and CERPIs (see Graph 4).

Graph 4
Returns of alternative assets: FIBRAS index "S&P/BMV FIBRAS Index TR"
(from date of issue to October 10, 2018)

Source: Ballinas (2018).

The AFORES' investment teams

The AFOREs, on average, are still in the process of internalizing the handling of investments in alternative instruments. The AFORE investment teams have increased and have become more sophisticated:

(i) Incorporating new domestic certification for the personnel performing the analysis of alternative instruments:
   - A specialized certification has been created that has made the analysis and validation processes of such instruments more robust.
   - The domestic certification is valid for 3 years, after which it must be renewed or validated with the CFA (Chartered Financial Analyst) or CAIA (Chartered Alternative Investment Analyst) international certifications.

(ii) Obtaining certifications with international bodies, due to the expertise required. Personnel with international certifications have increased more than 200 percent in the last five years.

Lessons Learned

Among the main lessons learned from the Mexican experience regarding alternative investments, are the following:

(i) The regulatory bias for domestic investment has inhibited the growth of exposure to alternative instruments. In this regard, it is worth mentioning that the AFOREs can invest in alternative assets outside of Mexico as of 2018.

(ii) There is a shortage of fund managers (GPs) with proven track records.

(iii) The rigidity of public offer vehicles has complicated the interaction with large international GPs.

(iv) A system must be found that better synchronizes the investment strategy with the maturity term of alternative assets: a transition to the Target Date Funds (TDFs) model is sought.

(v) Progress must be made in the process of internalizing certain types of investments.

II. Chile

The Productivity Law was promulgated on October 25, 2016, giving the AFPs the go-ahead to directly invest in alternative assets.[5]. Subsequently, in October 2017, the Pensions Commission issued regulations that finally allowed the AFPs to invest in these kinds of instruments. Thus, this reform represents the most important legal change in the investment system of the AFPs since the creation of the Multifunds in 2002.

Four local AFPs trained their teams in the analysis of alternative assets and their investment policies in the first half of 2018, so they are ready to start operating in such instruments.

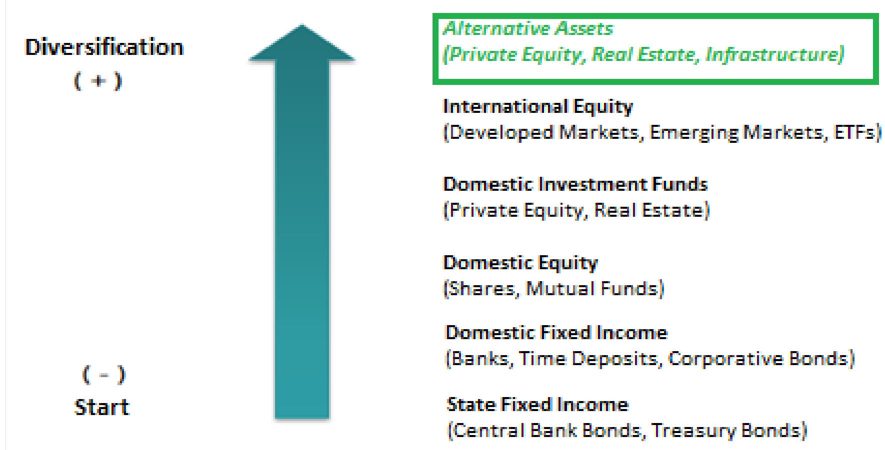
Why are alternative assets so important? According to Francisco Guzmán, AFP Capital's Investment Manager, it is because returns are one of the most significant factors involved in achieving good pensions. At the end of September 2018, the total value of the pension funds was USD 205,417 million. 72% of the accumulated pension fund is explained by returns on investments, and 28% by contributions. Hence, most accumulated funds were generated by returns. The real average annual return of the C Fund was 7.9% between 1981 and 2017, a truly remarkable and extremely high figure.

Moreover, according to Osvaldo Macías, the Chilean Superintendent of Pensions, if the pension funds invest 10% in alternative assets in the long term, and such investments supposedly produce, on average, 4% more returns than the traditional assets they replace, long-term returns could increase by about 0.4%. Since it is estimated that 1% greater returns throughout the working life of a member can increase the pension amount by about 25%, then with the new system of investment in alternative assets, long-term pensions could increase by 10%, a very important impact. This is why so much importance should be assigned to the opportunity of investing in alternative assets.

The Chilean pension funds strongly diversified their investments between 1981 and 2017, as can be seen in Figure 1 and Graph 5. During the 1980s, portfolio composition naturally began with fixed income instruments. This strategy obviously generated high returns at the outset, because interest rate levels were very attractive at the time. This was followed by an institutional and regulatory change that has allowed the pension funds to diversify their investments.

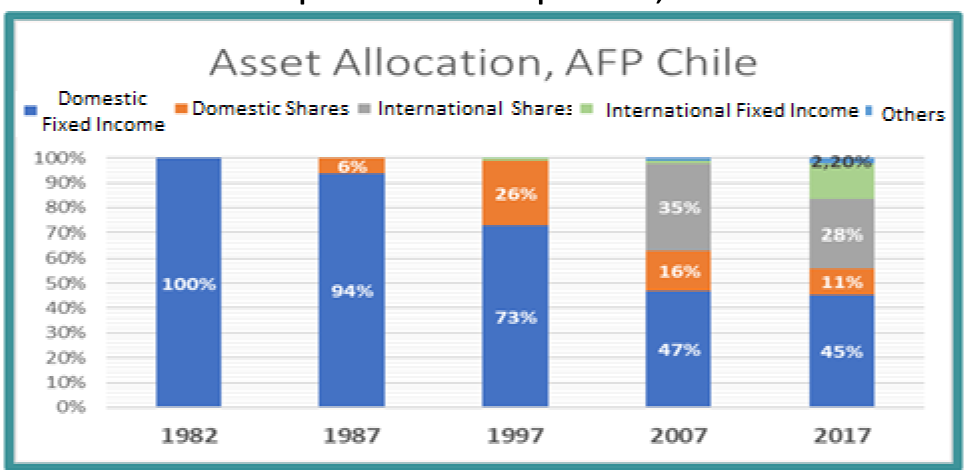
[5] Prior to this legal change, the AFPs were already indirectly investing the pension funds in alternative assets, via investment funds.

Figure 1
Chile: evolution of the diversification of the portfolio of the pension funds



Source: Guzman (2018).

Graph 5
Chile: Composition of the AFP portfolios, 1982-2017



Source: Chilean Pensions Commission.

The aforementioned evolution occurred in a natural sequence, very favorable for the pension funds in terms of the possibility of accessing new instruments with better returns. The bad news is that the real returns of the C Fund have been decreasing over time. According to Osvaldo Macias, the real returns of Fund C were 12.04% in the 1980s; 9.93% in the 1990's; 5.72% in the 2000s and 4.32% in the last 10 years. As previously mentioned, a 1% increase in returns has a very large impact on pensions. The current situation therefore entails a significant challenge: the asset allocation of the AFPs in 2017 is much more diversified that in 1997, but returns, nonetheless, have not exceeded 5%.

Investments in alternative assets have already been made. The investment limits allowed today are listed in Table 3. As can be appreciated in the same Table, effective investment by the pension funds is still far from the authorized limit. 2.7% of the total funds (approximately USD 5,512 billion) had been invested in alternative assets by June 2018.

On the other hand, the maximum investment in alternative assets by the pension funds, if they invested to the maximum limit imposed by the Central Bank, would be $ 13,305 million, or 6.6% of the pension funds.[6].

[6] Exchange rate used: CLP 647.95 per USD.

However, if the Central Bank were to expand investment margins to the limits laid down in the law (15%), investment in alternative assets could reach USD 30,454 million.

Primary and secondary investments in alternative assets to date have been mainly in private equity, through different vehicles, but not so much in other alternatives (such as infrastructure and/or real estate) (see Graph 6).

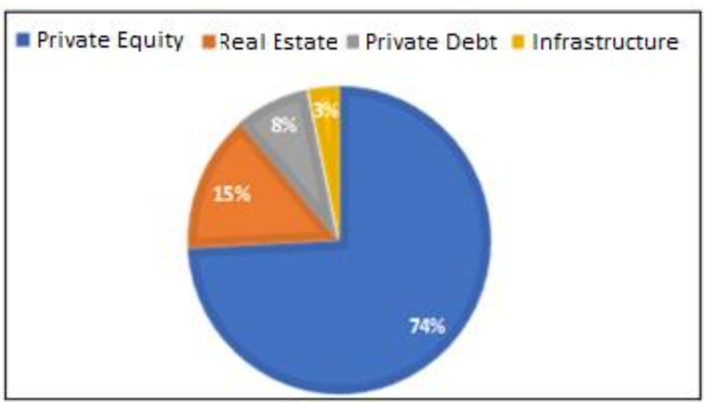
As a precautionary note, it must be pointed out that the highest returns on investments in alternative assets are achieved with greater risk exposure. As can be seen in Graph 7, for obtaining an expected return of 7.5% in 1995, one could have a portfolio 100% concentrated in bonds, with a low volatility of 6%, whereas in order to achieve that same 7.5% of expected returns today, one would have to have greater diversification into alternative assets, with the consequent higher degree of risk. This greater risk is also less evident, because valuation is not continuous, as in public markets, although it does provide certain advantages for long-term investors.

Table 3
Chile: Investment of the pension funds in alternative assets by category - June 2018

Asset Category	Fund Type				
oooo	Fund A	Fund B	Fund C	Fund D	Total
Private Equity	922	877	1,775	514	4,088
Real Estate	85	208	467	46	806
Private Debt	66	74	199	97	437
Infrastructure	29	42	101	8	180
Total	**1,103**	**1,202**	**2,542**	**665**	**5,512**
Fund %	**3.6%**	**3.6%**	**3.4%**	**2.0%**	**2.7%**
Investment Limit	**10%**	**8%**	**6%**	**5%**	**5%**

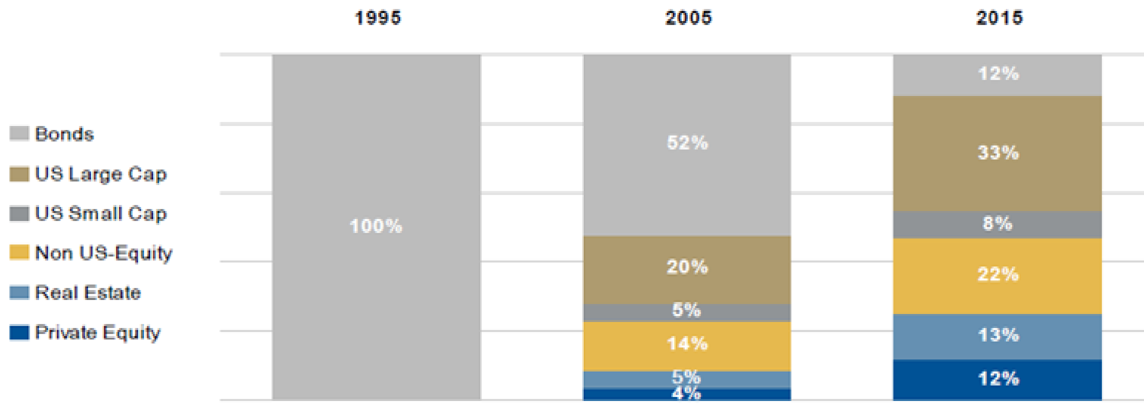
Source: Chilean Pensions Commission.

Graph 6
Chile: Diversification of investment in alternative assets



Source: Chilean Pensions Commission.

Graph 7
Estimated Asset Allocation for achieving a return of 7.5% per year



	1995	2005	2015
Expected Return	7.5%	7.5%	7.5%
Standard Deviation[1]	6.0%	8.9%	17.2%

Source: Guzmán (2018).

Observed effects of the legal change

According to Osvaldo Macias, the effects that have been observed as a result of the reform that allowed investment in alternative assets, have been positive. For example, the AFPs have made a significant effort to prepare to invest, and we are seeing the first direct investments in alternative assets. The investment teams of the AFPs are also more robust, and compliance and integration of investment processes has been strengthened. Risk control and portfolio assessment systems have also been strengthened. All of the above has given rise to a scenario in which the entire investment management process has been strengthened, improving the portfolio.

Challenges

The major challenges that must still be faced are as follows:

1. It must be clearly understood that the return factor is very relevant for pensions, because only a 1% increase in returns can translate into a pension estimated at 25% higher.
2. Chile is in a highly challenging context, where future returns will be lower than those obtained in the first 30 years of operation of the AFP system.
3. Alternative assets must be taken very seriously and with great responsibility, because they are a very viable way of generating better returns in future, but with higher expected risk. This task requires much strategic work, which the team involved must be capable of. The formation and training of multidisciplinary teams (investment, risk, legal and operations) is a key element in achieving the defined objectives.
4. The AFP teams did not comprise more than two people at the outset. There are teams of more than 10 people in the AFPs today, addressing the international issue. There has been very positive evolution in terms of the knowledge obtained. It is believed that the path will be very similar in the case of alternative assets.
5. Diversification between alternative assets is also a key element. There was very intense diversification in terms of primary and secondary private equity until mid-2018. The composition of the portfolio in alternative instruments is expected to be even more diversified as time goes by.
6. Another issue being analyzed is direct versus indirect investment in the funds, as each one of these investment options arises.

III. The contribution of real estate assets to investment portfolios

Types of real estate investment

According to Fernando Sánchez, Chairman of the Independencia Rentas Inmobiliarias Investment Fund, there are different types of real estate investment, and the best way of identifying them is by their risk/return status. On the left-hand side of Table 4 are the lower-risk properties with good associated returns, which are stable rental properties that no longer have any associated construction risk. These are usually offices, shopping malls or distribution centers. They are known as "Core" properties, because they are stable and have quite predictable contracts.

Secondly, there is the "Build to Suit," or custom-built type of investment. This is the typical case of a tenant or user seeking an entity that can create and build a custom-built investment. The completion or construction risks are already effectively incorporated in this type of investment, and will certainly have to be assumed by the investor.

Then there are the value-added projects, which are the same types of assets as the above, except that they have much longer maturities or high vacancy rates, for market or real estate obsolescence reasons.

On the right-hand side of Table 4 are the "distressed" types of real estate, due to their financial situation or deterioration, which require higher levels of business and property management capabilities to be able to convert them into good sources of income.

Finally, there is property development, which is denominated venture capital in the real estate business. One has to start by looking for a suitable site, and sometimes even the necessary certificates, and assume all commercial and financial risks to be able to transform the property and recover the money.

Table 4
Types of real estate investment

INCOME | MANAGEMENT OF CAPITAL GAIN

CORE PROPERTIES	BUILD TO SUIT	VALUE ADDED	DISTRESSED	DEVELOPMENT
80% - 100% Occupancy First level tenants Properties Class A, B, Office, Local, Center of distribution, Residential	To Order for rent Term 10-20 years Properties Class A, B, Office, Local, Center of distribution	50% - 75% Occupancy Tenants with and without qualification Properties Class A, B, Office, Local, Center of distribution, Residential	Real Estate Assets with High Vacancy (> 50%) Offices, Residential	Building at market risk Land for Office, Local, Center of distribution, Residential

\- RISK RETURN +

Source: Sánchez (2018).

Real estate investment vehicles

There are basically two types of real estate investment vehicles:

(i) **Private Equity / Investment Fund.** These are mostly structures that do not include a business plan of more than 5 to 10 years. The focus is much more on the growth of the net asset value. From the administrator's standpoint, they often lack the reinvestment option. Hence, their main focus is on the generation of capital gain.

(ii) **Real Estate Investment Trusts (REITS).** These are structures that do not have maturities because they are of indefinite duration. Their focus is on generating income through the net asset value and increasing the dividend. They usually have lower debt levels than those that use private real estate equity vehicles.

The REITS are types of corporations or companies that were introduced in the United States in the 1960s. They are basically agencies specializing in real estate investments, and were created specifically for using individual and institutional savings in the real estate rental sector.

The REITS are conditioned to have benefit distribution levels, low indebtedness and specialization in their use. They have grown considerably in the last few years, especially after the 2008 crisis. Interestingly, there used to be many REITS in Chile, but that is no longer the case. They existed in the 1990s in the form of real estate companies that were created precisely for the pension funds, which then disappeared basically due to a series of changes in the capital market and tax regulations, and they were basically replaced by the investment funds.

Allocation and performance of the REITS in a portfolio

Figure 8 shows the results of a study on the allocation of REITS in a pension portfolio with different horizons. One can see that for a person who is 40 years from retirement, the optimal allocation to REITS is almost 15% (the rest is exposure to shares), and that as retirement approaches, the optimal allocation to REITS and shares gradually decreases to just over 7% for an investor close to retirement age (while exposure to fixed income increases). The REITs allocation decreases along with shares throughout retirement, but remains at a little over 3% for an investor retired for 15 years.

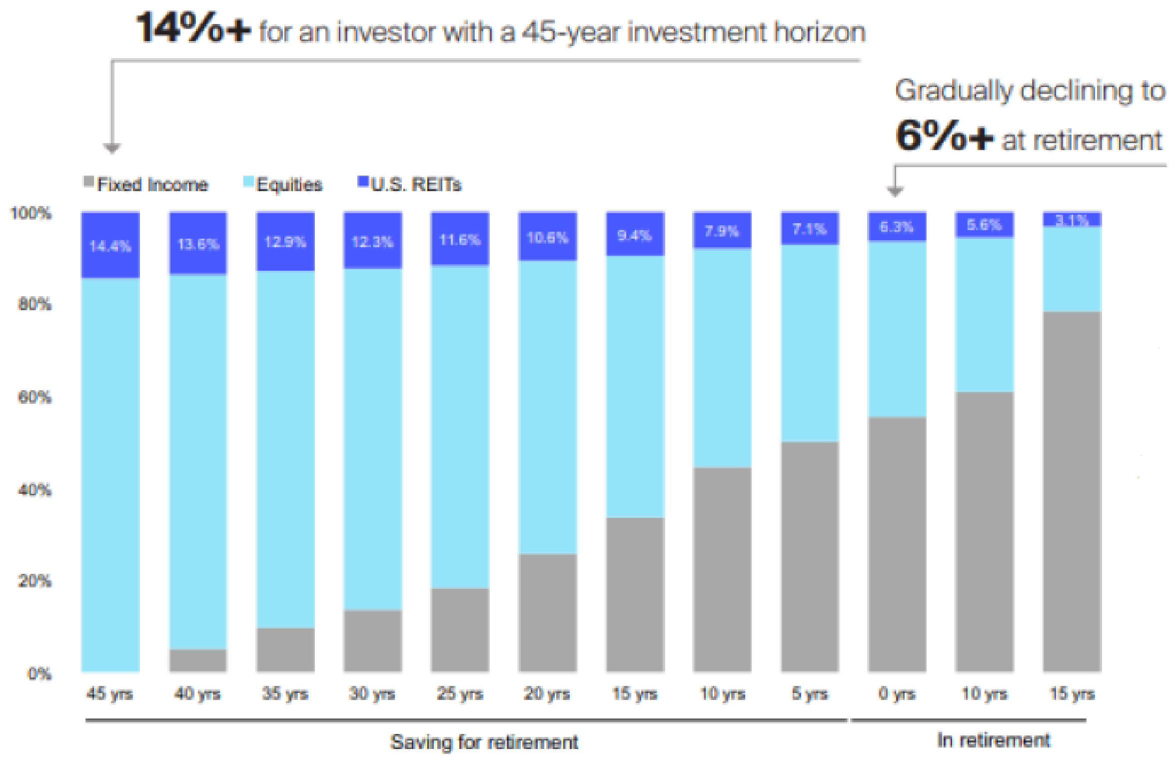
Wilshire Fund Management (2018) conducted a study on the role played by the REITS in pension funds, concluding that they play a decisive role in improving returns on investments and also help to reduce risk. As can be seen in Table 5, real private assets obtained a higher risk-adjusted return (measured by the Sharpe ratio)[7]compared to other asset classes.

Table 6 shows the matrix of correlations between different instruments. As can be seen, real assets have a low or negative correlation with other kinds of traditional assets, which proves that these types of assets have a positive impact in terms of efficiency and diversification of the portfolio, also contributing to improving return levels.

[7] This indicator is a measure of the excess returns per unit of investment risk.

Graph 8.

Allocation of REITS in a pension portfolio with different retirement horizons



Source: Sanchez (2018) from Wilshire Fund Management data.

Table 5

Returns, Standard Deviation and Sharpe Ratio for different asset classes

	Stocks	Bonds	Private real assets			Public commodities and real estate		
	Russell 3000	Barclays U.S. Aggregate	NCREIF Real Estate	NCREIF Farmland	NCREIF Timberland	NAREIT	GSCI Agriculture	Timber proxy
Avg Annual Return	8.78%	6.07%	8.68%	11.98%	10.34%	12.89%	-0.25%	8.29%
Std Deviation	17.00%	4.27%	8.40%	6.90%	9.94%	20.47%	19.96%	21.05%
Sharpe Ratio	0.35	0.75	0.69	1.32	0.75	0.49	-0.16	0.26

Source: Sanchez (2018).

Table 6

Correlation of Real Assets, Commodities and REITS (1992-2016)

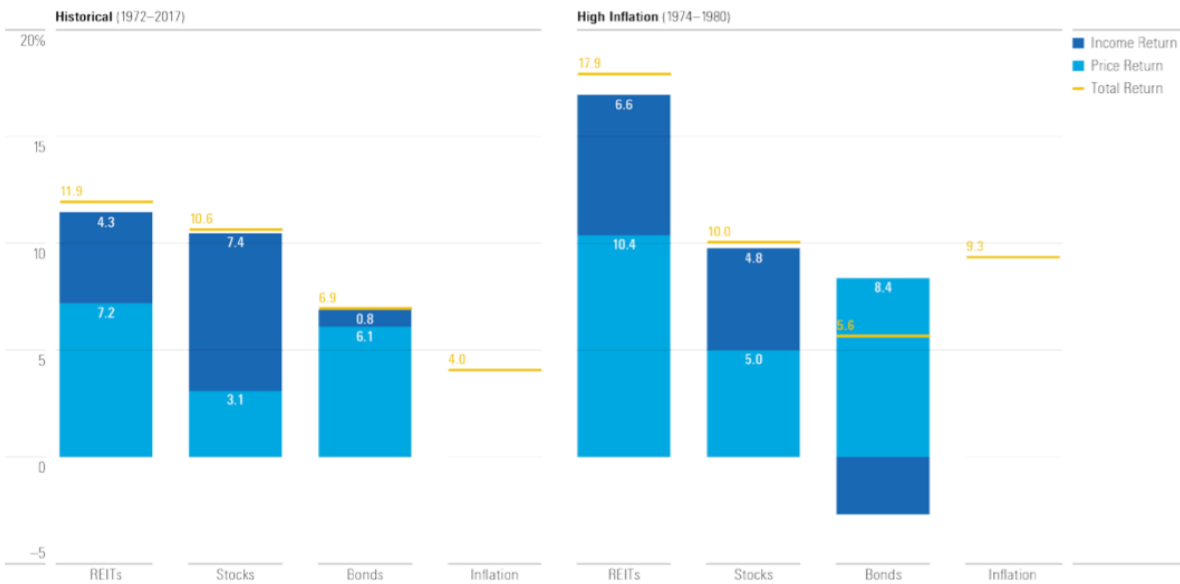
	Stocks	Bonds	Private real assets			Public commodities and real estate		
Market Indexes	Russell 3000	Barclays U.S. Aggregate	NCREIF Real Estate	NCREIF Farmland	NCREIF Timberland	NAREIT	GSCI Agricul-ture	Timber proxy
Russell 3000	1.00	-0.05	0.25	0.03	0.17	0.55	0.22	0.62
Barclays U.S. Aggregate	-0.05	1.00	-0.24	-0.41	0.15	0.14	0.11	-0.11
NCREIF Real Estate	0.25	-0.24	1.00	0.39	-0.05	0.14	0.16	0.03
NCREIF Farmland	0.03	-0.41	0.39	1.00	0.20	-0.04	0.02	-0.12
NCREIF Timberland	0.17	0.15	-0.05	0.20	1.00	-0.03	0.12	0.02
NAREIT	0.55	0.14	0.14	-0.04	-0.03	1.00	0.21	0.64
GSCI Agriculture	0.22	0.11	0.16	0.02	0.12	0.21	1.00	0.18
Timber proxy	0.62	-0.11	0.03	-0.12	0.02	0.64	0.18	1.00

Source: TIAA-CREF.

Recent studies have also shown that over long periods of time (for example, between 1972 and 2017), real estate does not only provide returns, but even exceed bonds and equity investment in terms of return and risk (see Graph 9). As can be seen, in high inflation periods, as occurred in the second half of the 1970s in the United States, real estate has more effective defensive and preservation behavior than other assets.

There are other studies that optimize the investment portfolio with and without REITS (see Table 7), showing the increased returns and reduced risk entailed in incorporating these assets.

Graph 9
Dividends and inflation
Stocks, Bonds, and REITS, 1972-2017



Source: Sanchez (2018) from MorningStar data.

Table 7
Portfolio risk and return comparison: 1975-2017

	Annualized Portfolio Risk	Annualized Portfolio Return	Portfolio Starting Value	Portfolio Ending Value
Optimal Portfolio Without REITs	9.57%	10.18%	$10,000	$586,021
Optimal Portfolio With REITs	9.31%	10.58%	$10,000	$683,666

Source: Sanchez (2018) from Wilshire Fund Management data.

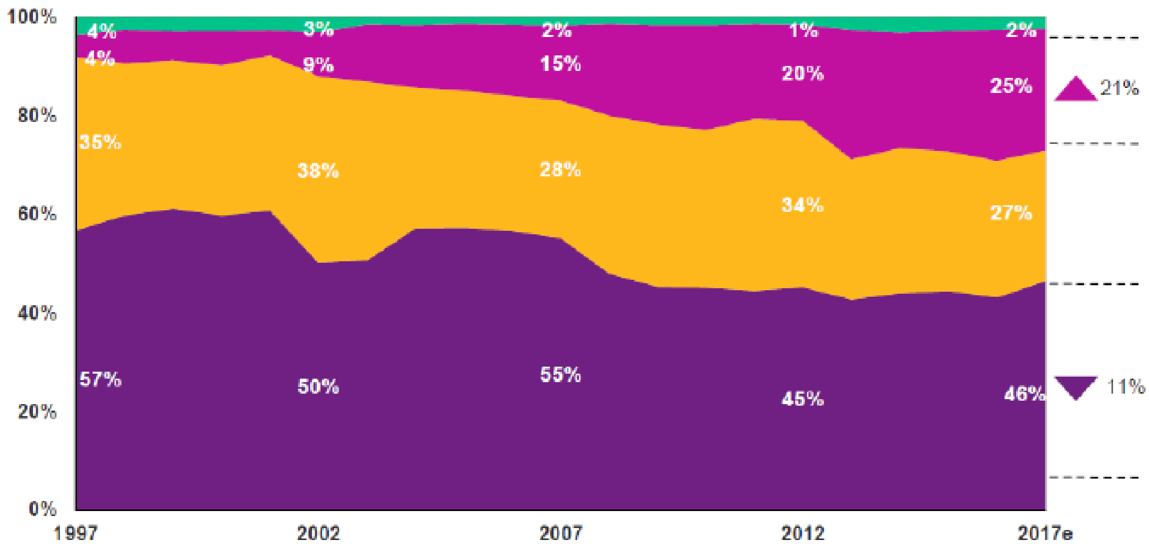
All this has contributed to generating ever greater possibilities of investing in alternative assets in Chile and everywhere else. Thus, bonds, shares and cash allocations have diminished in varying degrees since 1997, while allocations to other assets (real estate and other alternatives) have increased from 4% to 25%.[8] (See Graph 10).

Private assets have been the main asset class: investment of private equity in real

[8] It must be noted that this is not the case in Chile.

estate assets and infrastructure in the 20 year between 1997 and 2017 has risen from 4% to about 20%. Alternative assets have been attractive due to return considerations, compensating for their governance issues.

Graph 10
P7 Agglomeration due to allocation of assets from 1997 to 2017



Source: Sanchez (2018) from Willis Towers Watson data and other secondary sources.

References

Ballinas, Octavio (2018). "International experience in investing in alternative assets." Available on the Internet.

CONSAR (2018). "Investment in alternative instruments in Mexico: Advantages and future opportunities." Available on the Internet.

Guzmán, Francisco (2018). "Alternative assets: the decision to invest." Available on the Internet.

Sanchez, Fernando (2018). "The contribution of real estate assets in investment portfolios." Available on the Internet.

Pensions Commission (2018). Speech by the Superintendent of Pensions, Osvaldo Macías, in the FIAP Investment Seminar "A view to the future," October 17, 2018. Available on the Internet.

Wilshire Fund Management (2018). "REITs Critical to Retirement Portfolios." Available on the Internet.

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