

Pension fund as an investor in infrastructure projects in Latin America

David Tuesta

Chief Economist Pensions Unit

PPP Days 2012

Hosted by: The United Nations | The World Bank | The Asian Development Bank

Geneva, February 21st, 2012



BBVA

RESEARCH

Index

Section 1

Pension funds as an investor of infrastructure projects in LAC

Section 2

Sizing opportunities

Section 3

How Pension Funds are investing in infrastructure in LAC?

Section 4

How to spur Pension Funds-Infrastructure relationship?

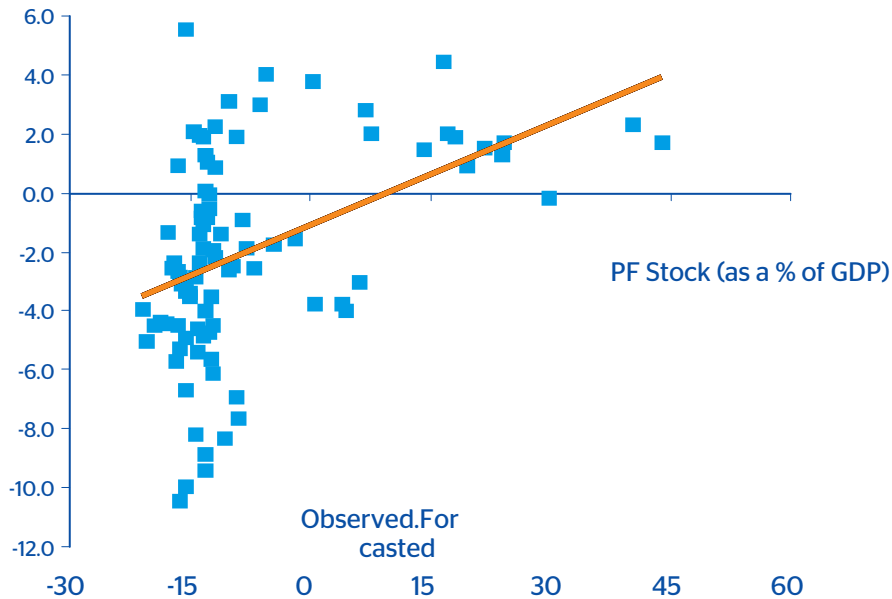
Section 5

Final comments

A virtuous circle between PF and PPPs

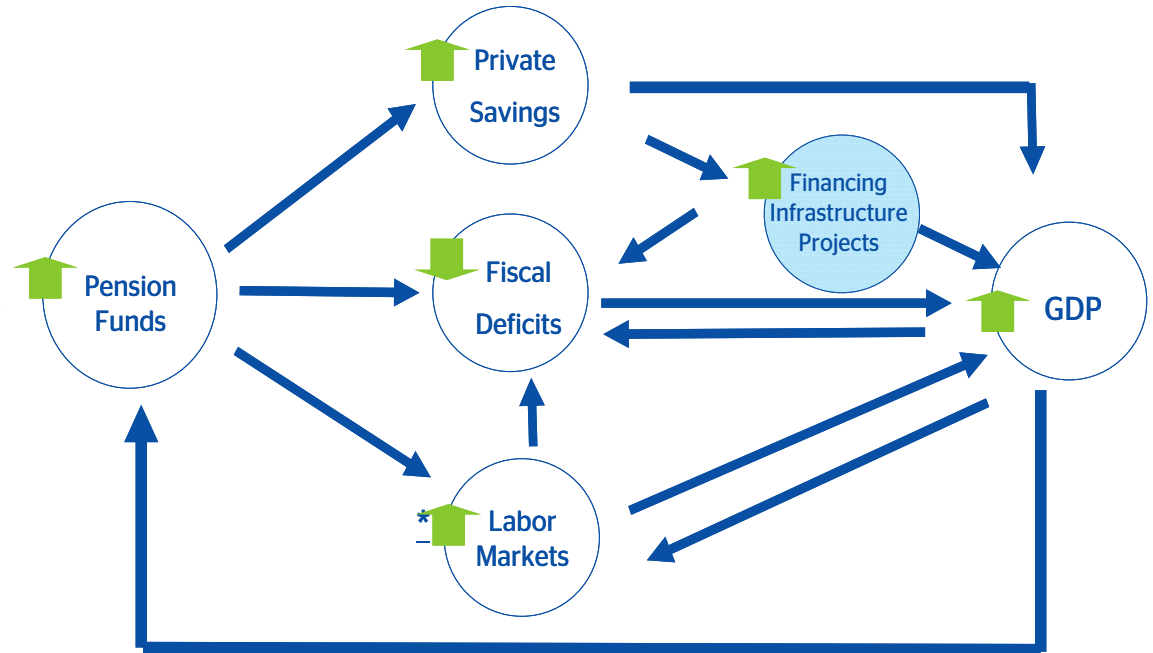
National savings rate (as a % of GDP)

Source: Cobo & Schmidt-Hebbel (2003)



Pension Funds an PPP: A reinforcing Dynamic (as a % of GDP)

Source: Cobo & Schmidt-Hebbel (2003)



*Variables ortogonales a la tasa de dependencia demográfica y el grado de educación.

* Conditioned to other factors (e.g. market rigidities)

- A 10 percent increase in the size of the pension funds has an impact of one tenth in aggregated savings
- Corbo y Schmidt-Hebbel (2003) found that a one percent point increase in pension funds, relative to GDP, has an impact between 1 and 5 points of GDP in savings

Pension Funds and Infrastructure projects: combining the needs of two parties

National Needs

- Economic Growth
- Quality and costs efficiency
- Budgetary optimality- Fiscal Balance
- Private partner to substitute/complement public investments
- Lack of resources to close the infrastructure gap



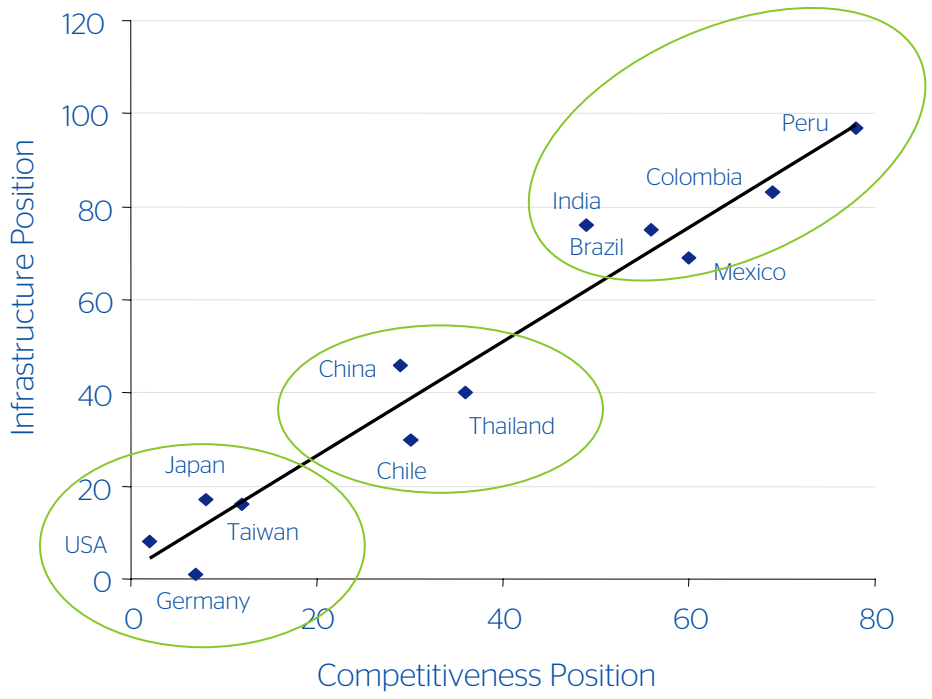
Pension Funds Needs

- Optimal planning of long-term portfolios
- Improve risk-return ratios
- To reduce political and regulatory risks
- A more direct connection with national needs: to improve population's welfare (roads, electricity, water supply, etc)
- Increasing resources to fill the infrastructure gap

The infrastructure gap in LAC

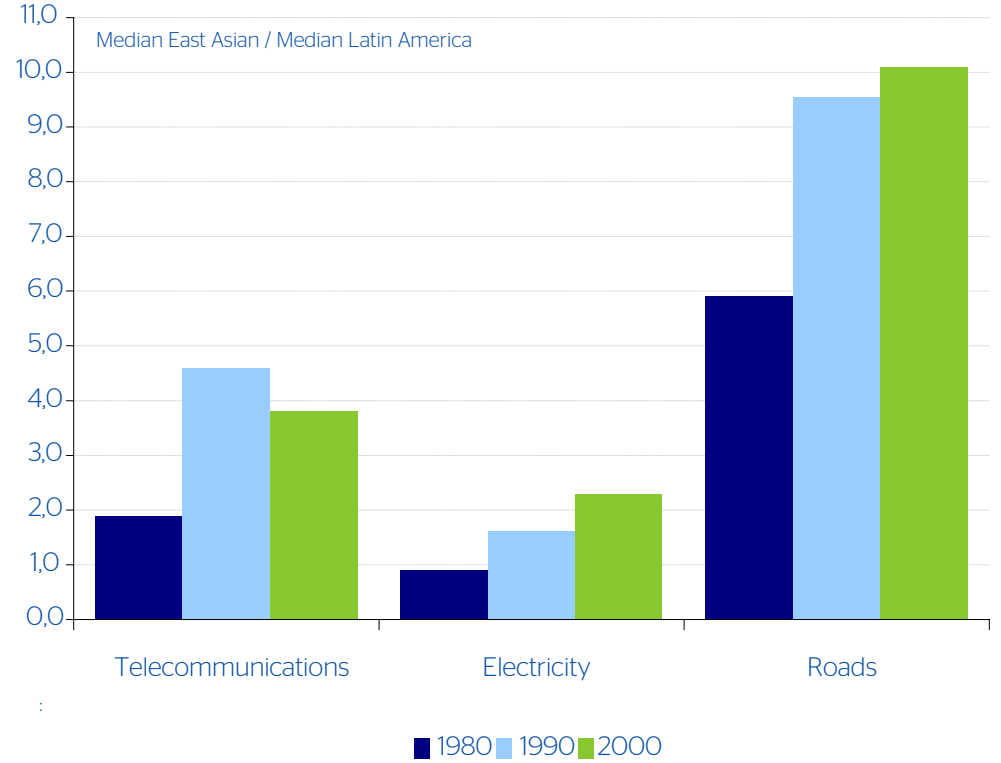
- Important needs of infrastructures in LAC if the region pursue a sustainable growth

Relation between competitiveness and infrastructures



Source: World Economic Forum)

Infrastructure gap East Asia - Latin America



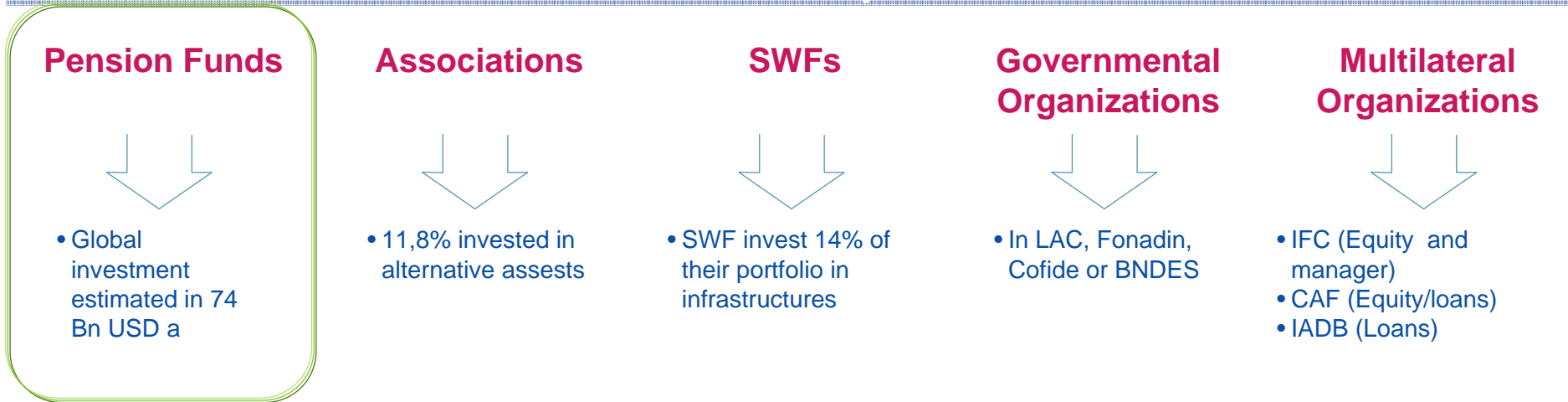
Main and mobile lines, Power generating capacity and Roads and paved roads length
 Source: World Bank/ Calderon and Servén)

Why would Pension Funds be interested in investing in infrastructure?

Interesting benefits from diversification and risk-return point of view

- Long term horizon
- Low correlation with market value financial assets
- Hedge against inflation
- Cash-Flows stability
- Social development objectives match with financial interests

Financial Players



Source: BBVA AM

Why would Pension Funds be interested in investing in infrastructure?

The Risk Profile in infrastructure is among that of stocks and bonds. However, the ratio of risk/return is more similar to investments in bonds

Assets according to estimated risk and return

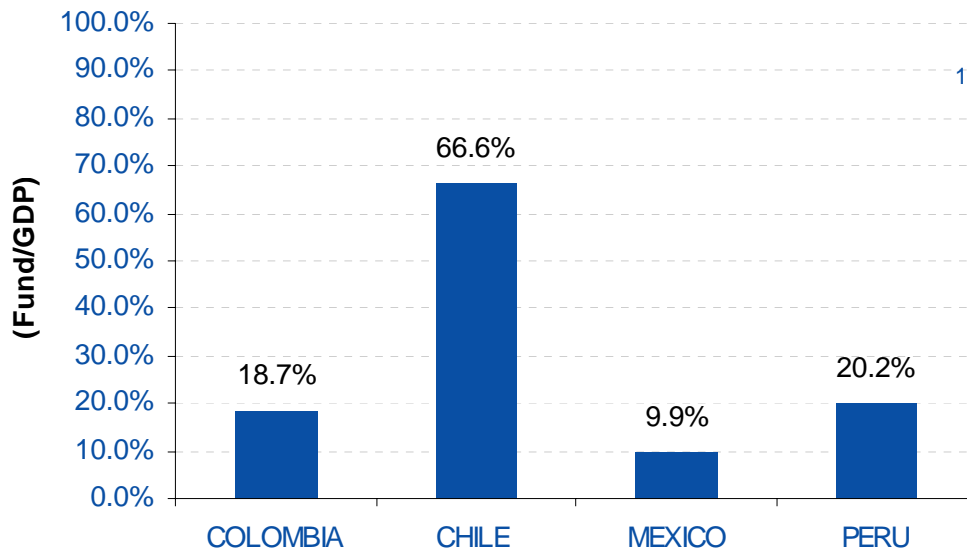
Source: Morgan Stanley-Liability model (data as of May 2007)

Assets	Expected return	Annualized volatility	5% of the worst returns	Ratio Risk/Return
Bonds (5 years)	5.20%	4.40%	3.10%	1.18
Stocks	8.10%	18.20%	1.10%	0.45
Real Estate	7.00%	9.50%	-1.30%	0.74
Infrastructure	9.30%	7.90%	-1.50%	1.18
Private capital funds	10.00%	30.20%	-7.30%	0.33

Pension Funds: an important financial player in LAC

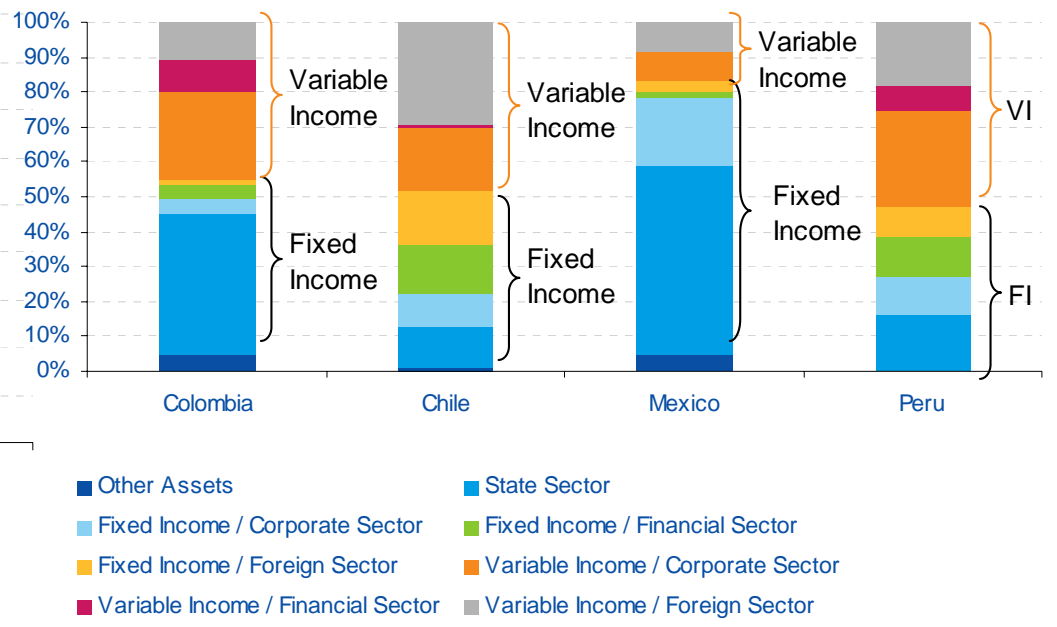
Assets under management

Source: FIAP



Portfolio composition-Assets under management

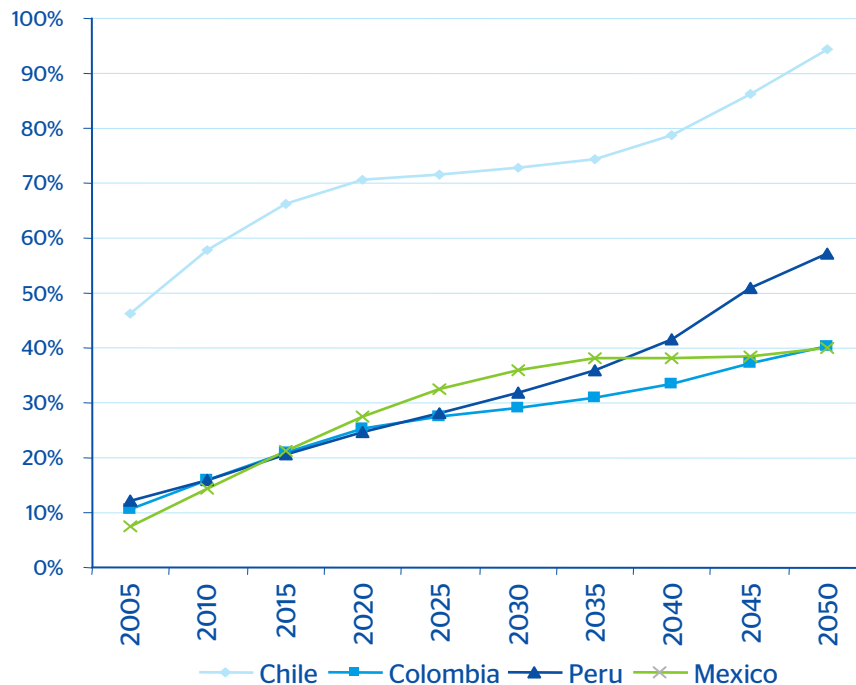
Source: FIAP



Pension Funds: many more resources in the next decades

Projected Private Pension Funds Accumulated Balance

(% of GDP)
Source: BBVA Research



- The FPs will administer a large quantity of resources over the next decades
- The Pension Funds (FPs) can be an appropriate source of savings to partially cover the financing needs

But, important....

Three key elements from the pension fund perspective in investing in infrastructure projects

- Active contribution in infrastructure to the risk-return in the total Pension Fund portfolio
- Fiduciary duties and prudential investment analysis under the scheme provided
- Feasibility of cash flows of infrastructure assets. Unfortunately, not all infrastructure projects are necessarily successful for various reasons: technical, operational, economic, political, etc.

The final decision to invest in infrastructure should be left in the hands of the Pension Funds, which must be the result of rigorous analysis of the optimal portfolio management and the relevance of their fiduciary role (the funds are of the future retired)



BBVA

RESEARCH

Index

Section 1

Pension funds as an investor of infrastructure projects in LAC

Section 2

Sizing opportunities

Section 3

How Pension Funds are investing in infrastructure in LAC?

Section 4

How to spur Pension Funds-Infrastructure relationship?

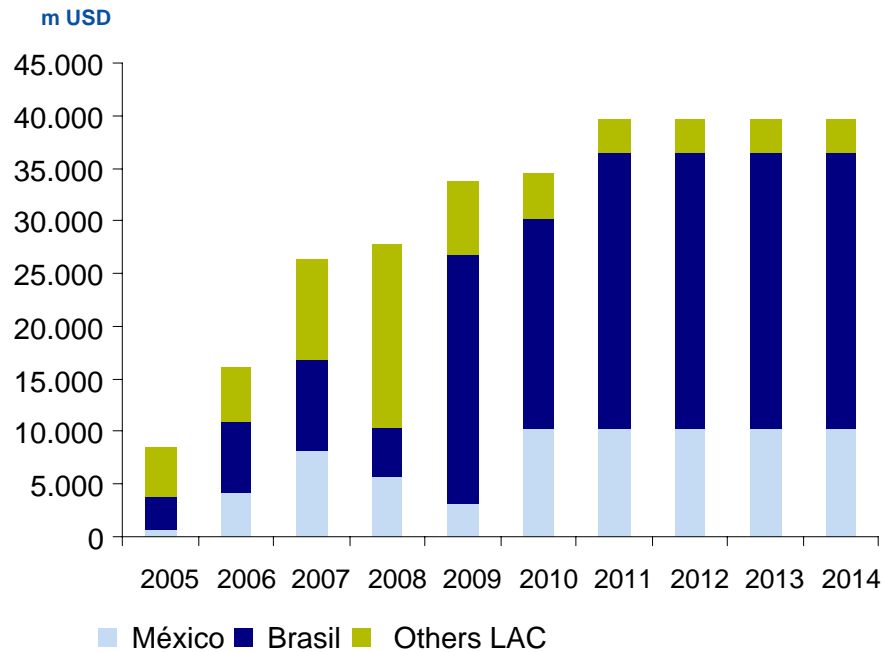
Section 5

Final comments



Size of confirmed infrastructure projects in coming years

Confirmed Infrastructure projects



Source: BBVA AM/ Dealogic for historical data. Prepared estimates from data on infrastructure investment plans official. We assume that the needs of privately financed projects will be 20%

- It is estimated 1 Tn USD of investment between 2011-2014

Estimated PF investment in LAC infrastructure projects 2011-2014

Equity	48 Bn USD
Deuda	112 Bn USD
Total	160 Bn USD

Source: BBVA AM

- In the same horizon, it is estimated that Pension Funds in LAC might finance 160 bn.
- Probably 70% in debt and 30% equities:

Opportunity cost of not investing in infrastructure...

	Opportunity cost of not investing in infrastructure				Potential benefit of investing in infrastructure
	Gap % between GDP per capita in a scenario with higher infrastructure investment vs historical investment, % each year				Discounted Present Value/ GDP (2005)
	2020	2030	2040	2050	2005-2050
México	0,8%	1,0%	1,1%	1,1%	24,1%
Chile	1,8%	2,7%	3,2%	3,6%	89,3%
Colombia	0,9%	1,4%	1,8%	2,2%	49,15
Peru <small>Source: SEE BBVA</small>	1,6%	2,3%	3,0%	3,6%	103,3%



BBVA

RESEARCH

Index

Section 1

Pension funds as an investor of infrastructure projects in LAC

Section 2

Sizing opportunities

Section 3

How Pension Funds are investing in infrastructure in LAC?

Section 4

How to spur Pension Funds-Infrastructure relationship?

Section 5

Final comments

Regulatory framework and development areas for Pension Funds in Infrastructure Projects

Colombia

- The 1328 law of 2010 and its regulatory decrees, allows greater diversification, and depending on the opportunities of the presented projects and the existing investment plans, a space for indirect investments in infrastructure projects may be added (**for example, the limit of 30% of the portfolio in bonds, now is extended to 60%**)

Mexico

- It was only from March 2008, with the reform of the investment regime, that direct investment in infrastructure was allowed **through trusts and financial instruments linked to infrastructure projects (Certificates of Capital Development CKD's, Infrastructure and Real Estate Trusts**
- It is possible to **invest up to 40% of the portfolio in securitized instruments and up to 15% in structured instruments** (depending on the type of Pension Fund)

Chile

- Investment funds can only be invested in specifically authorized instruments by law or the investment regime
- The investment regime looks to make pension funds invest only in financial assets for public offerings, due to their liquidity and relatively easy valuation. **Investment in structured debt can reach 95% of the portfolio (depending on the fund)**

Peru

- In order for an AFP to invest in any instrument it should be "AFPable". That is, the Superintendency of Banking, Insurance and AFP (SBS) needs to authorize that the AFP can invest in the said instrument. In some cases this process can be long and complex, limiting the supply of investment instruments
- **Pension funds can invest up to 100% of their portfolio in structured instruments (depending on the type of fund)**

How much is invested?

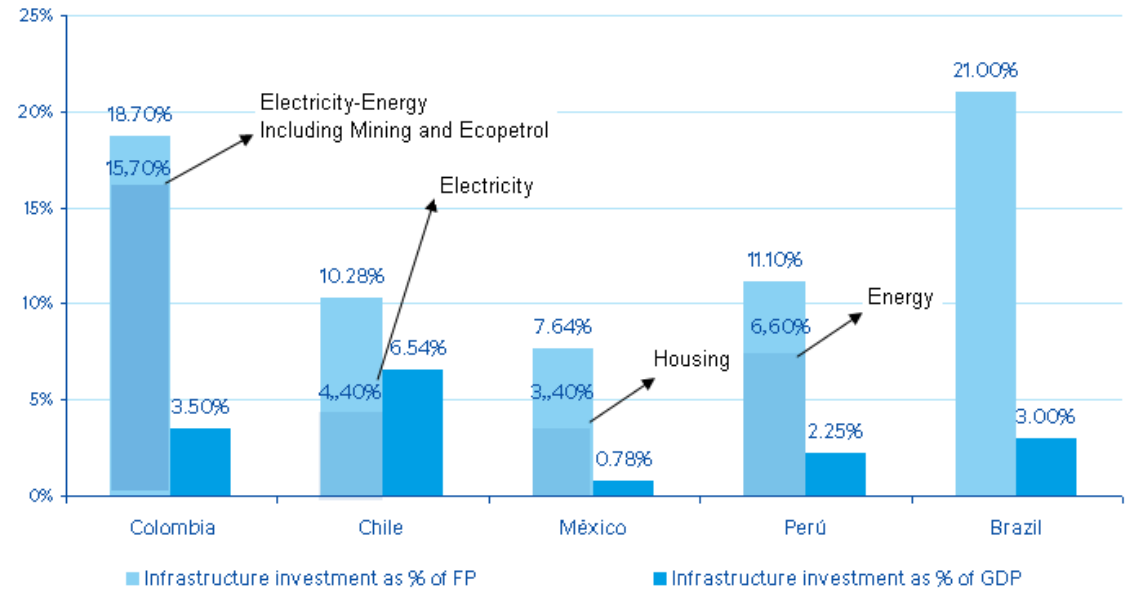
Infrastructure investment by the Pension Funds in LAC-2010

Source: BBVA Research

	US\$ Billion	As a % of GDP
Brasil	62.6	3,0%
Colombia	9,5	3,5%
Chile	14,5	6,5%
Mexico	8,3	0,8%
Peru	3,4	2,3%

Infrastructure investment by the Pension Funds (FPs)

Source: ASOFONDOS, Superintendency of Pensions in Chile, Consar



How does Pension Fund Invest in LAC?

Portfolio structure- Infrastructure investment by the Pension Funds in LAC-2010

Source: BBVA Research

	Direct	Indirect
Brasil (*)	0,7	20,3%
Colombia	0,0	100%
Chile	86,0	14,0%
Mexico	76,0	24,0%
Peru	73,0	27,0%

(*) Extrapolated from PREVI's statistics

- Pension Funds portfolios show different approaches to Direct Investment (financial vehicle used specifically for an investment project) or Indirect Investment.
- This particular biases depend on the financial regimes and current opportunities.
- Chile, Peru and Mexico are the most DI oriented in LAC



BBVA

RESEARCH

Index

Section 1

Pension funds as an investor of infrastructure projects in LAC

Section 2

Sizing opportunities

Section 3

How Pension Funds are investing in infrastructure in LAC?

Section 4

How to spur Pension Funds-Infrastructure relationship?

Section 5

Final comments

What we see in the PFs-Infrastructure relationship?

Strong Points

- Gradual advances in regulation on the participation of the Private Sector in infrastructure investing. History is building.
- Pension Fund participation in infrastructure and other special instruments has begun.



Weaknesses

- Lack of a clear process for the integral development of concessions and the participation of different actors.
- Fragmented legal bodies in different economic sectors and government levels.
- Administrative and judicial restrictions that limit the decisions of key actors in the concession process.
- Limits on the degree of authority given to principal decision makers in the process
- Risks are not accurately allocated/assessed in many countries.
- Obsession to rush Pension Fund involvement with infrastructure, which could generate perverse incentives.

The institutional framework: important factor that need improvement.

Strengths and Weaknesses of the current systems (0=worst, 8=best)

	Chile	Colombia	Mexico	Peru
Macro Environment	5,6	4,7	4,7	4,7
Legal Structure	4,5	3,8	3,3	3,3
Political Risk	6,8	4,8	5,5	4,8
Information Access	5,6	4,8	4,7	4,0
Financial Markets Factors	4,9	3,5	3,6	3,6
Private Investment	5,4	3,2	2,5	4,8
Government and Society	5,3	4,7	3,9	3,0
Ability by the private government investment	5,5	5,6	4,1	5,8

Deadlines in six concessions projects

Source: Report Infrastructure projects, Payet Firm, 2009. Elaborated by: ERD BBVA

Project	Infrastructure	Type	Months
Olmos	Water diversion	Co-Financed	89
Red Vial 5	Road	Self-sustainable	59
Red Vial 6	Road	Self-sustainable	90
Lima Airport	Airport	Self-sustainable	29
North IRRSA	Road	Co-Financed	58
Emfapa Tumbes	Sanitation	Co-Financed	59

Mia et al (2007) and BBVA Research (2010)

- There are weaknesses in the infrastructure investing system. The most important is concentrated in the bureaucratic process that holds concessions
- Others include: failures in contracts, social risk, inadequate framework for monitoring
- Delays in the granting process affects the duration of the project and can add a lot of uncertainty. In the example of six projects, the average time is almost six years



How to create a framework for infrastructure investing with the participation of Pension Funds

To do this, a comprehensive approach and the improvement of each stage in the process is necessary

- a) **Identify bottlenecks**, comparing the views of various stakeholders
- b) **Projection models** for institutionalized cost-benefits
- c) **Regulation, concession** and control laws should be effective and insure efficiency
- d) **Appropriately allocate the risks of the markets and financial assets for investors**, and comply with existing regulations (or cause changes that involve improvements). **The institutional investors must have a voice in this design**



How to create a framework for infrastructure investing with the participation of Pension Funds

- e) **Develop clear instruments to mitigate risks.** A risk outline that allows a favorable environment to receive good credit ratings of the instruments involved, and the participation of relevant stakeholders
- f) For the case of pensions, it is **important to evaluate the risk-return performance of these instruments which are considered appropriate** within the multi-fund schemes of the industry
- g) Necessity to consolidate the model of **Project Finance**

Proposal: to search for comprehensive approaches for reform in each country by neutral agencies (Multilateral Organizations)



BBVA

RESEARCH

Index

Section 1

Pension funds as an investor of infrastructure projects in LAC

Section 2

Sizing opportunities

Section 3

How Pension Funds are investing in infrastructure in LAC?

Section 4

How to spur Pension Funds-Infrastructure relationship?

Section 5

Final comments



Final comments

- Private Pension Funds in LAC and Infrastructure Project have an interesting match. A virtuous circle that needs to be reinforced.
- The impact in economic growth and welfares is considerable.
- PFs assets in the Region will increase enormously in the coming decades. They will need to diversify their future portfolios and could be an interesting financial player for developing new projects.
- One of the key factors that needs to be solved is the institutional framework of PPPs processes. Red tape, fractioned decisions in different government levels and lack of transparency in some cases, have been deterring interesting projects and increasing inefficiencies.

Thank you.

David Tuesta | David.tuesta@grupobbva.com

PPP Days 2012

Hosted by: The United Nations | The World Bank | The Asian Development Bank

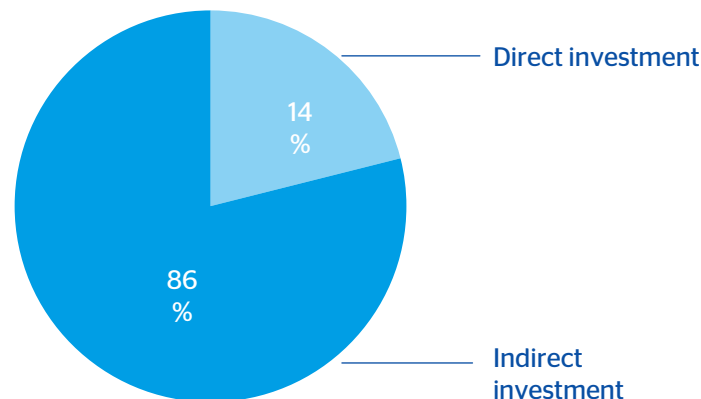
Geneva, February 21st, 2012

Chilean Case: Investment in Infrastructure

- Pension funds hold a significant volume of resources invested in infrastructure (USD \$14,451.7 million – 6.54% of GDP)
- The principal form of investment, indirect, is to invest in stocks and bonds related to infrastructure (USD \$12,492 million – 5.34% of GDP)
- Direct investment, infrastructure bonds and investment funds in infrastructure projects (USD \$1,959.7 million) (example: Investment funds “Prime Infrastructure I and II”, Route between Talcachuanos –Penco ports)

Infrastructure Investment

Source: BBVA Research



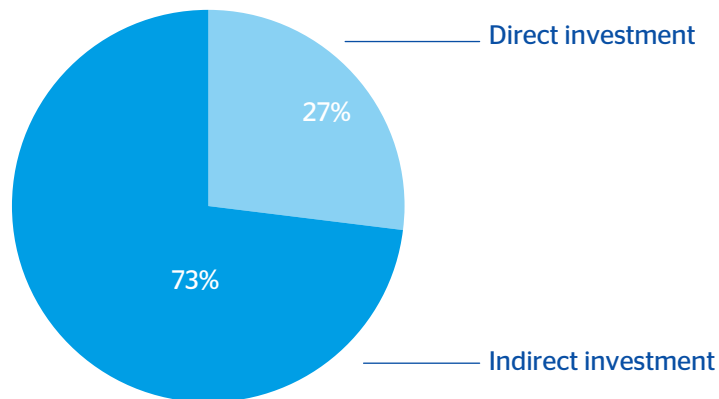
- The investment by FPs in infrastructure bonds was strong at first, when used for large transportation projects (major highways, freeways and airport capital). However **this tendency has stopped, (the last issue was launched in 2006)**
- A principle cause of not using infrastructure bonds as a financing method for new projects **is the bankruptcy of monoline insurers**

Peruvian Case: Investment in Infrastructure

- Funds invested by the FPs in infrastructure amounts to USD \$3,416 million - 2.3% of GDP
- The principal form of investment, is indirect, the investment in stocks and bonds of companies related with infrastructure and in investment funds of this sector (USD \$2,483 millones - 1.7% of GDP)
- Direct investment is made through bonds and stocks of infrastructure projects and infrastructure trust funds. (For example, the financing method used for the IIRSA Sur highway: Certificates of Recognition of Annual Pay for Projects, CRPAO)

Infrastructure Investment

Source: BBVA Research



- The market of infrastructure investment funds in Peru is relatively new. Currently there exists: (i) Infrastructure investment funds, public services and natural resources of AC capital, (ii) Larraín Vial investment fund in Latin American Energy and (iii) Brookfield infrastructure investment fund and AC Capital
- The latter was created by the Ministry of Economy as a way to finance large investment projects in the context of the 2009 financial crisis. Currently it has committed just under USD \$500 million

Colombian Case: Investment in Infrastructure

Infrastructure Investment

Source: Asofondos and BBVA Research

Type of investment in infrastructure	
Direct investment	0%
Indirect investment	100%
Indirect investment as a % of total portfolio	
Electricity	15.7%
Private Capital Funds	1.2%
Transportation	0.8%
Communications	0.2%
Water	0.3%
Aeronautical bonds	0.2%
Mortgage Securitization	0.0%
Other	0.2%
Sub-total Infrastructure excl. Energy and Private Capital Funds	1.7%
Total	18.6%

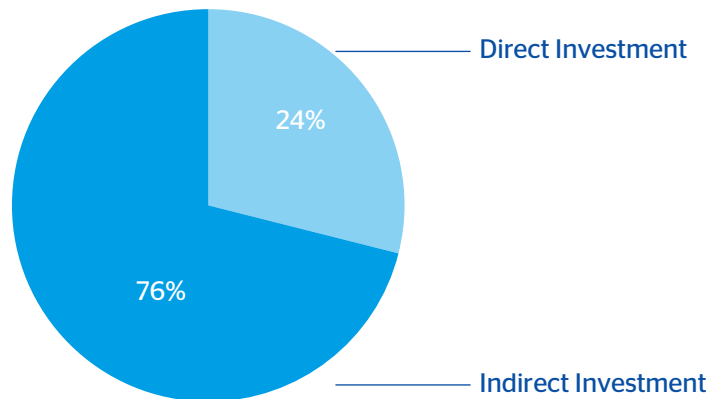
- Indirect infrastructure investment has mainly developed through corporate bonds and stocks (USD \$9,591 million - 3.5% of GDP)
- The electricity sector captures the majority of infrastructure investment participation (84% of total infrastructure investment)
- Investment in private capital funds (FCP) has considerably increased since 2007, when the investment regime was established through the 2175 decree
- Currently they are investing in 35 FCP, of which the main funds are principally related with the energy sector. FCP Interbolsa energético, FCP CPVAL and FCP Tribeca Fund I
- Beyond the energy sector, the other areas of the FCP have portfolios with a much lower participation in pension funds (1.7%). However, if it is put in context, that is equivalent to 14.5% of bond issues of local corporate debt in 2010 or 30% of private investment in transportation and communication.

Mexican case: Investment in Infrastructure

- As a percentage of GDP, pension funds in Mexico have increased from 1.4% at the end of 1998 to 10.2% by the 2010 year end (USD \$114.24 billion)
- The main form of investment, indirect, is conducted through stocks and company bonds related with infrastructure (including hotels, steel, transportation, infrastructure, telecom and housing) (USD \$6.6 billion - 0.6% of GDP by the end of 2010)
- Direct investment through structured instruments among them the CKD's, represents 0.2% of GDP by the end of 2010 (USD \$2.1 billion)
- CONSAR figures from December 9th, 2010, \$2.34 billion had been placed in CKD's, the participation of the SIEFORES in CKD's endorsed productive projects worth \$2.11 billion and were in the process of positioning and analyzing around 20 new projects

Infrastructure Investment

Source: BBVA Research



- **The Certificates of Development (CKDes) are trust certificates intended to fund one or more projects.** There are two types, one directed toward private capital which in turn invests in projects and another directed only to projects, mainly in infrastructure
- **Among the principle CKDs related with infrastructure there are: Macquarie and Red de Carreteras de Occidente (RCO).** Macquarie is the first infrastructure investment fund launched in Latin America by an Australian bank Macquarie. RCO was the first project that issued CKD's (October 2009) and is mainly responsible for the Maravatío-Zaplotanejo Highway, Autopista Guadalajara-Zaplotanejo, and others