



## CAS RPM SEMINAR

### Recent Trends in Personal Lines Pricing in Latin America

**A presentation to RPM  
by Benjamin Williams**  
March 11, 2015

TOWERS WATSON 



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# Agenda

- An Introduction to Latin America
  - Economic context
  - Insurance context
- Personal Lines Pricing in Latin America
  - The environment and its impact on ratemaking
  - A survey of major markets

## An introduction to Latin America

- Latin America is the sub-region of the Americas comprising those countries where Romance languages are spoken, primarily Spanish and Portuguese.
- Latin America has an area of approximately 7.4 million sq mi, almost twice that of the United States
- As of 2013, its population was estimated at more than 604 million, almost twice that of the United States
- In 2014, Latin America had a combined nominal GDP of about 5.6 trillion USD, about a third that of the United States



## An introduction to Latin America

- Latin America is a large region
- The countries in Latin America have many points in common, but are diverse, in terms of size, culture, geography, and in terms of the development of their economies and insurance markets

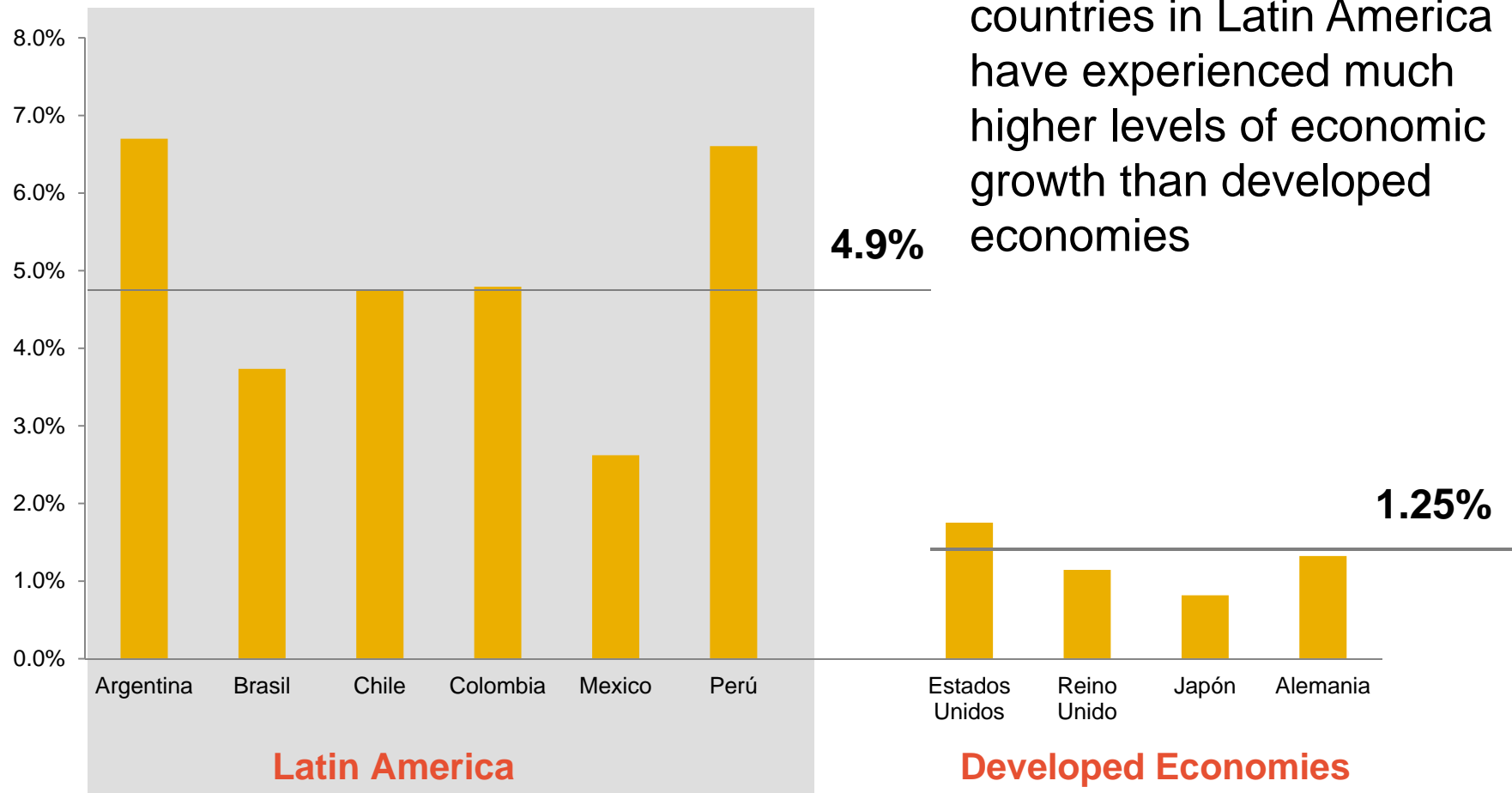




# Economic Context

# Economic Growth in Latin America

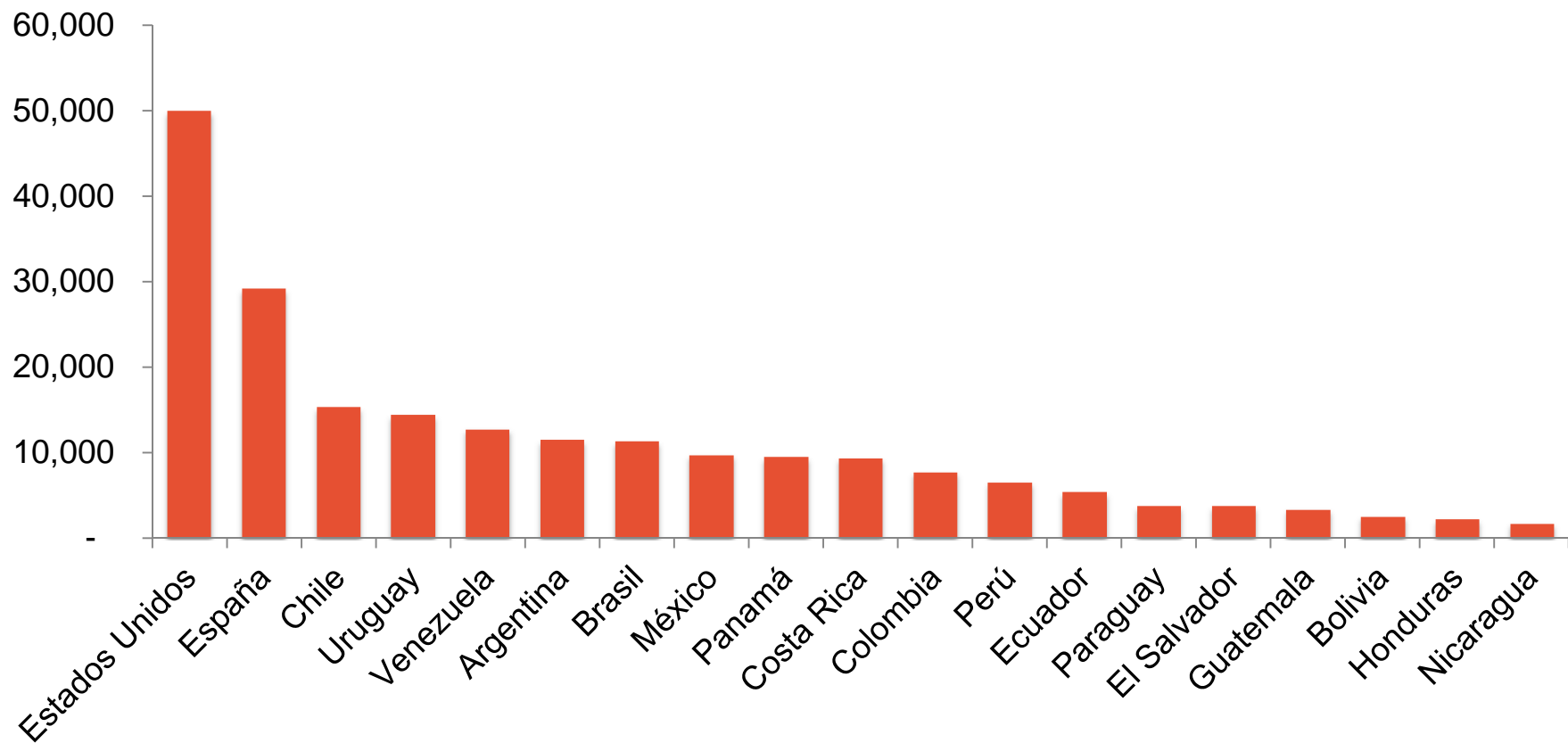
Annual growth in GDP between 2004 and 2013



In recent years, many countries in Latin America have experienced much higher levels of economic growth than developed economies

## GDP per capita

In spite of these high growth rates in the Latin American economies, the GDP per capita continues to be much lower than in developed countries



Source: FIDES

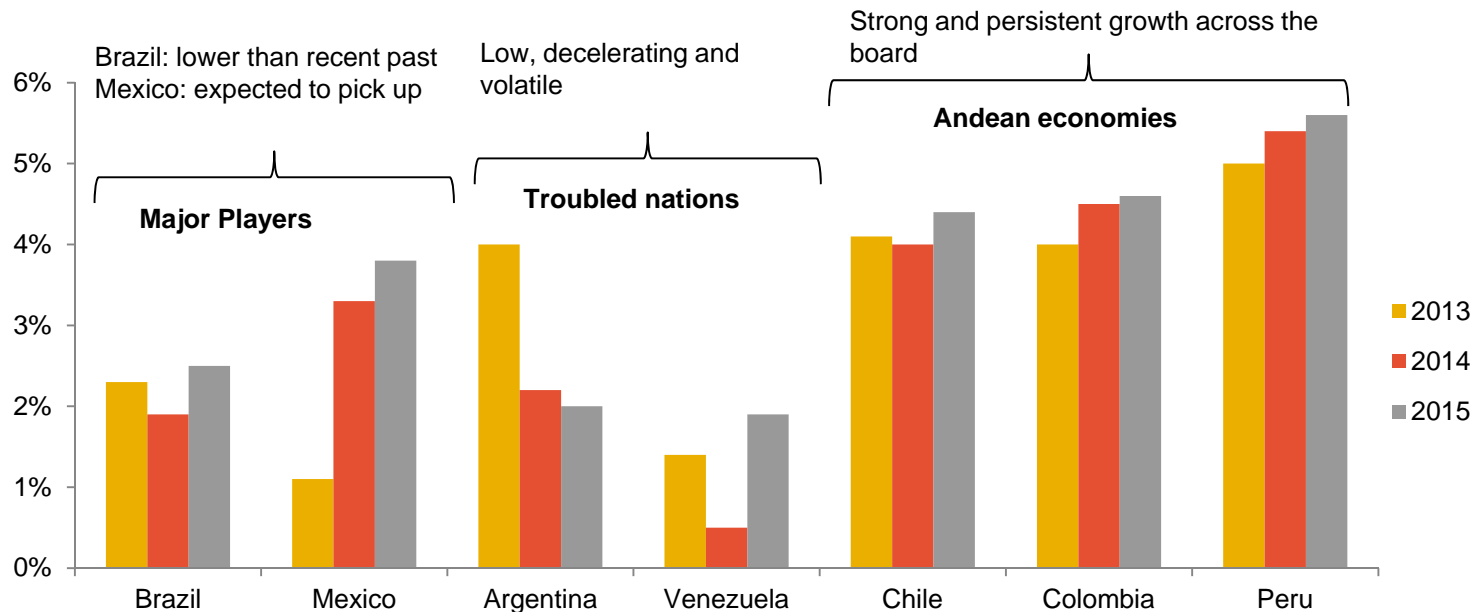
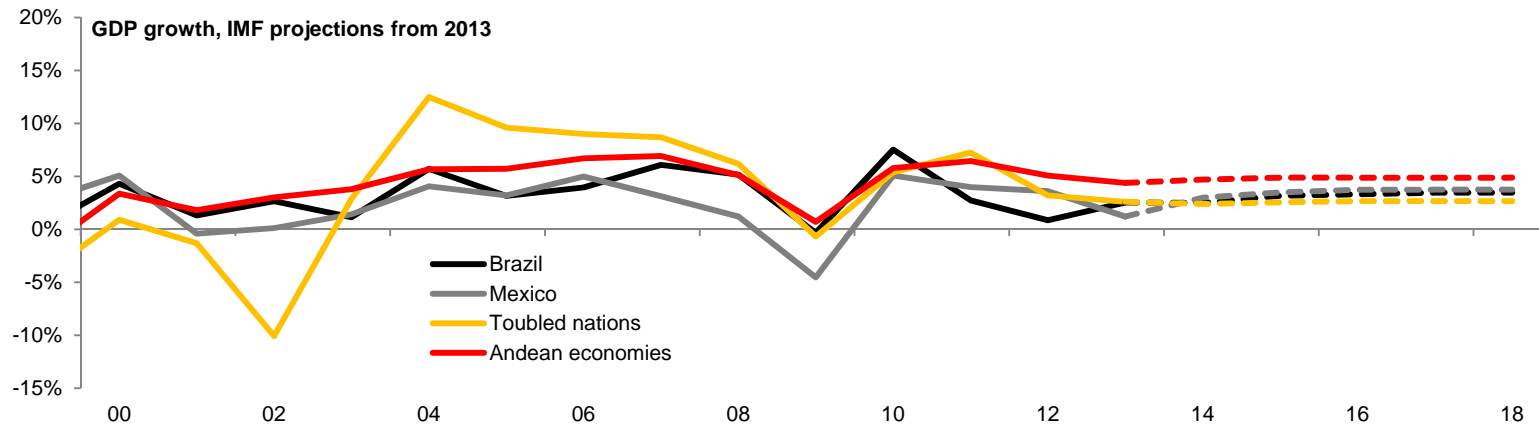
[towerswatson.com](http://towerswatson.com)

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# Growth deceleration?

There are signs that this growth will not continue

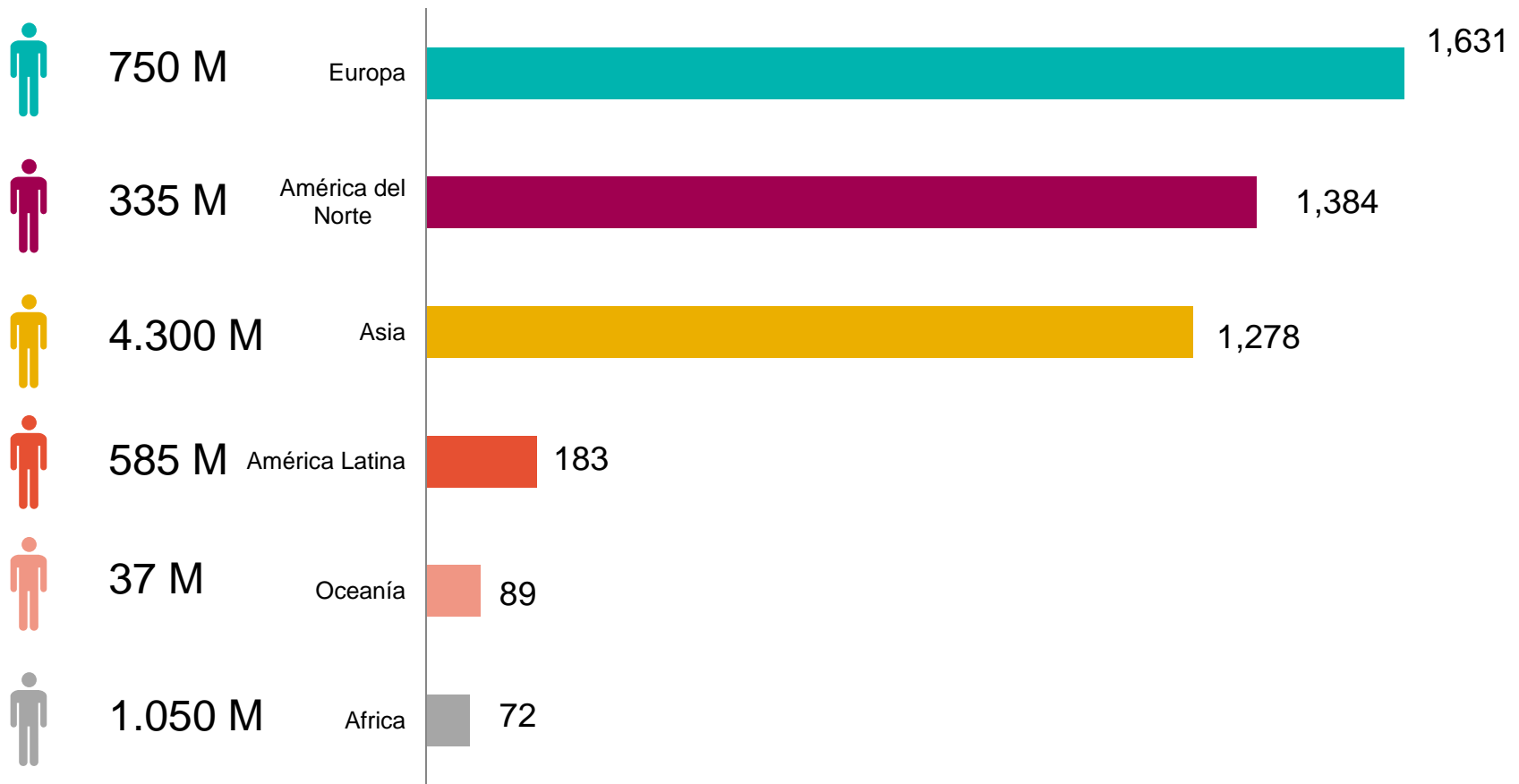




# Insurance Context

# Latin America is a small player in terms of premiums written

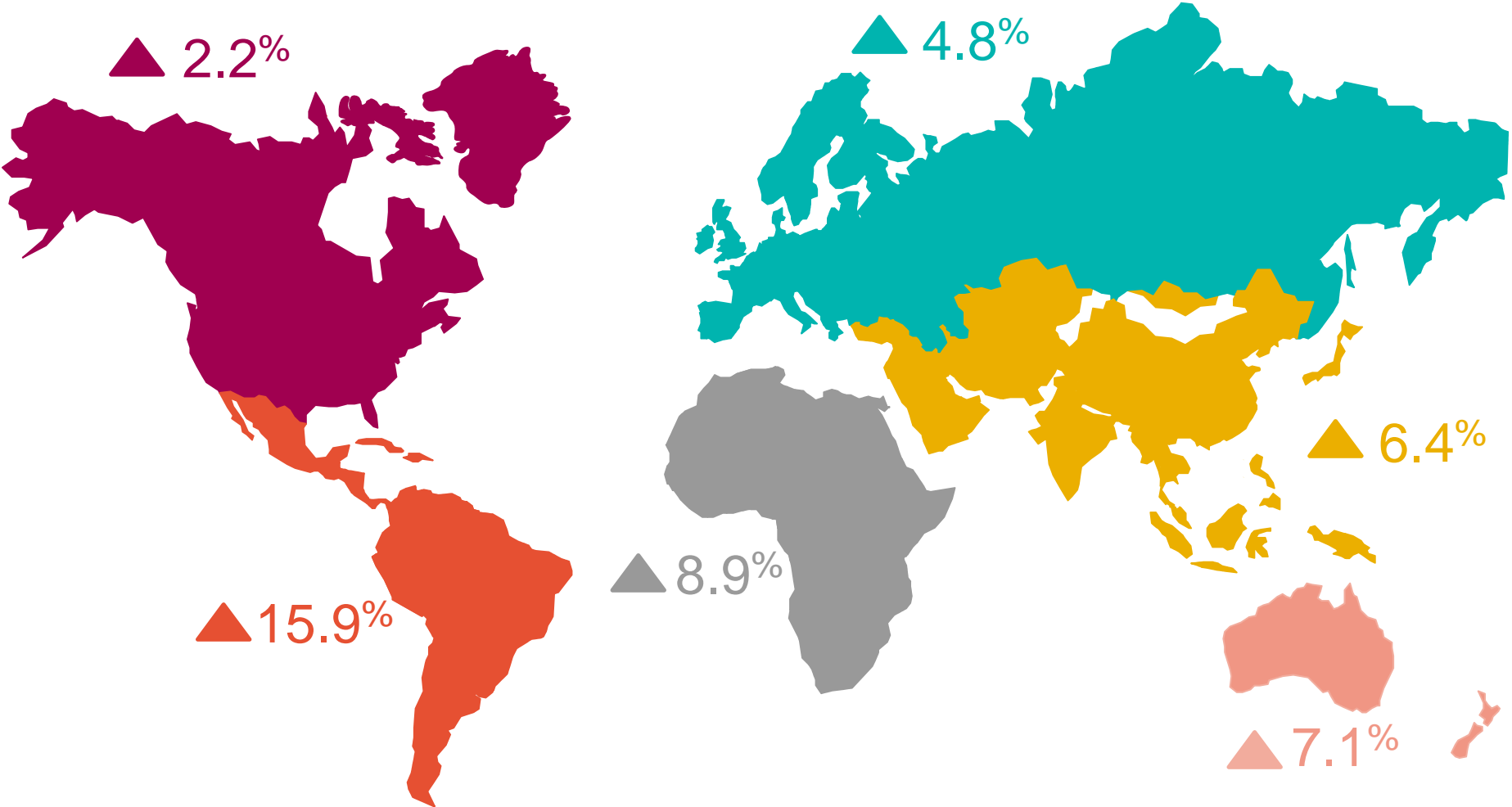
## 2013 Written Premiums (billions USD)



Source: Swiss Re

# Latin America is a growing player

Premium growth 2003-2013



Source: Swiss Re  
[towerswatson.com](http://towerswatson.com)

# Motors in growth in insurance in Latin America

**Increased awareness/knowledge**, owing to natural disasters

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**Growing middle class**, increasing the demand for products, especially savings-based

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**Obligatory insurance**, retirement products from social security, workers' compensation, health, auto liability

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**Microinsurance**, from various sources, including microfinance

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**Bancassurance**, use of existing banking infrastructure to bring insurance products to underserved communities, and insurance related to credit

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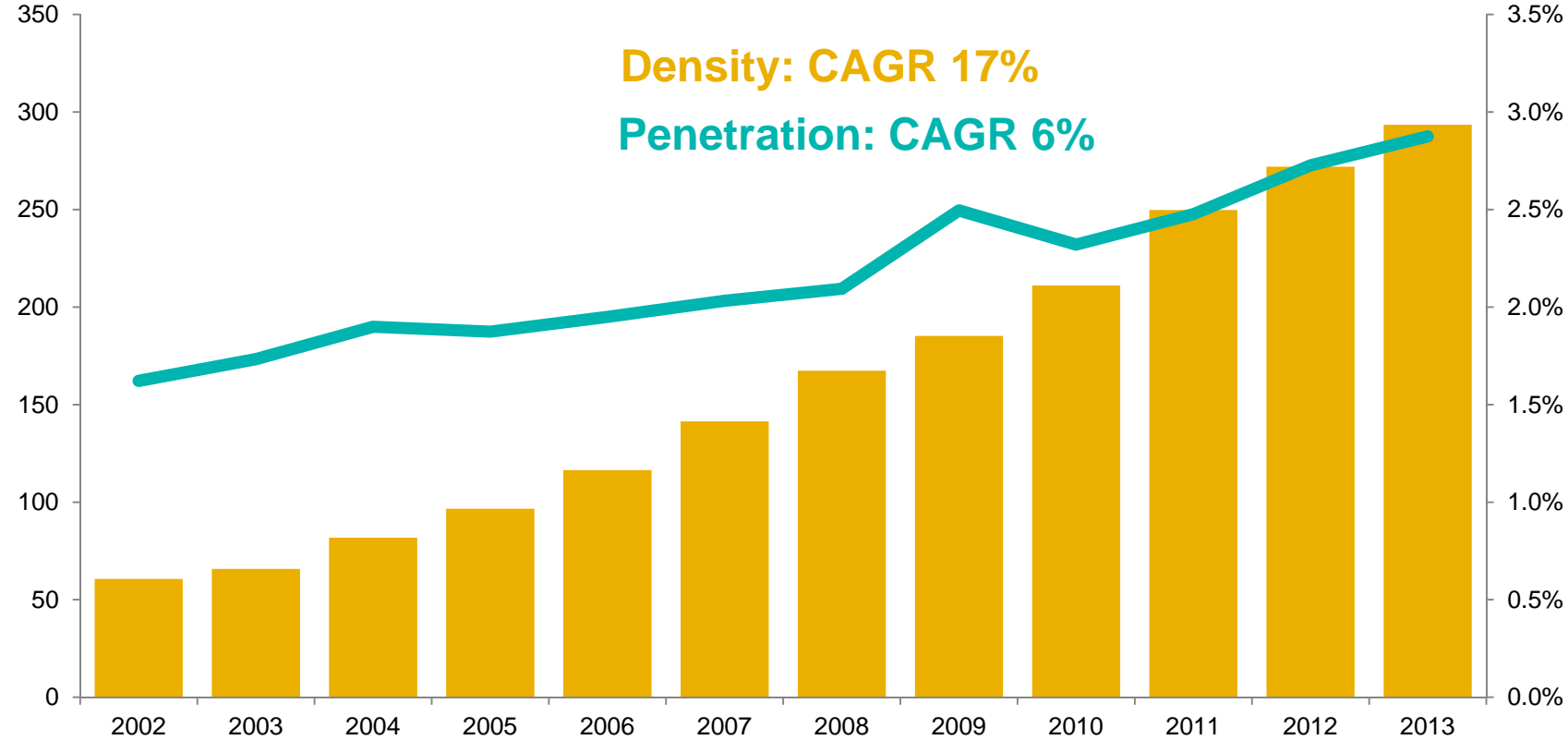
**Broadband marketing and new distribution channels**, to penetrate new segments and new generations

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**Important demand in commercial insurance**, especially in SMEs

# Insurance Density and Penetration in Latin America

Density and Penetration have increased in recent years



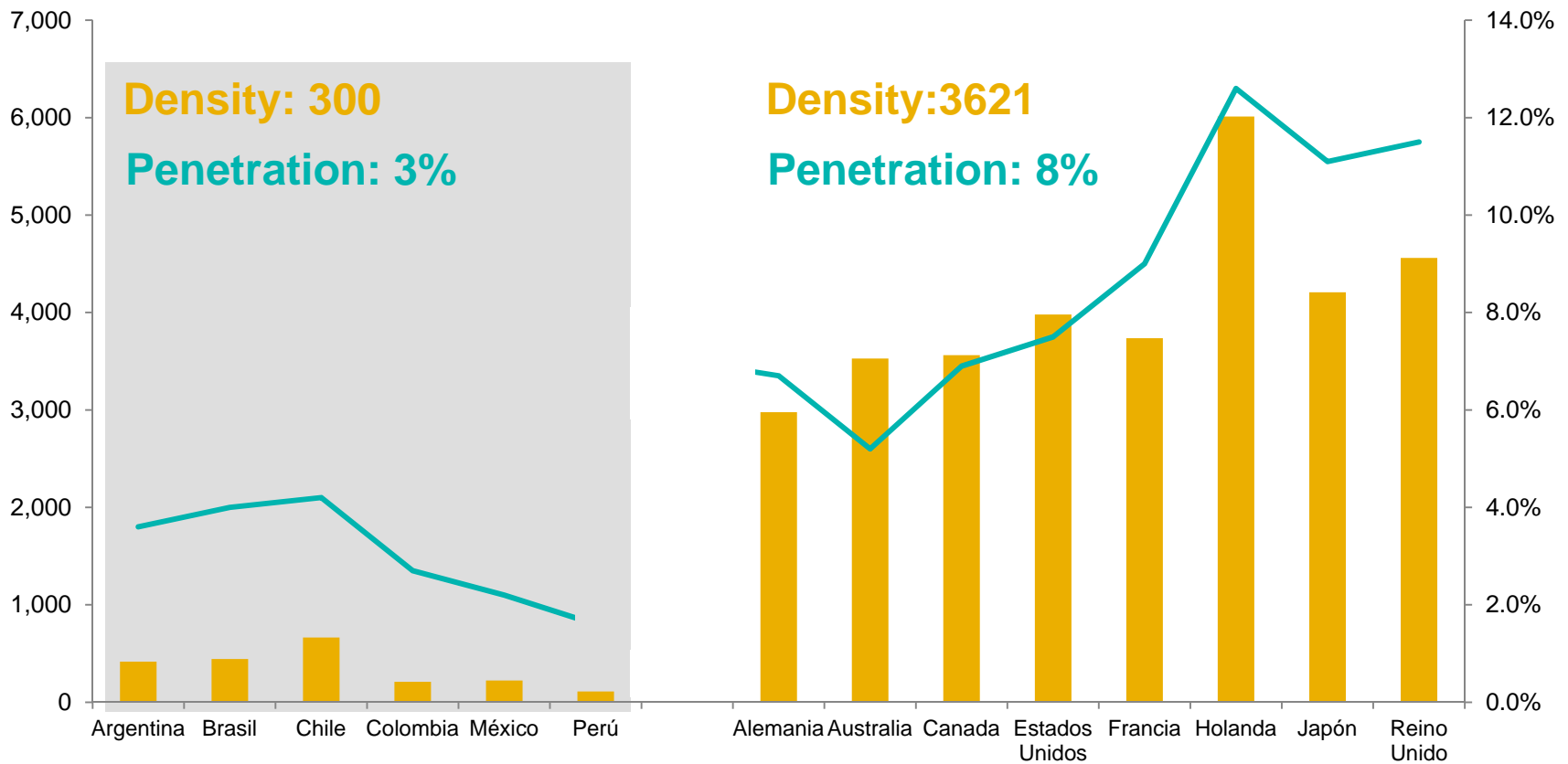
**Density:** direct premiums per capita  
**Penetration:** direct premiums as a percentage of GDP

Source: Latinoinsurance

# Insurance Density and Penetration

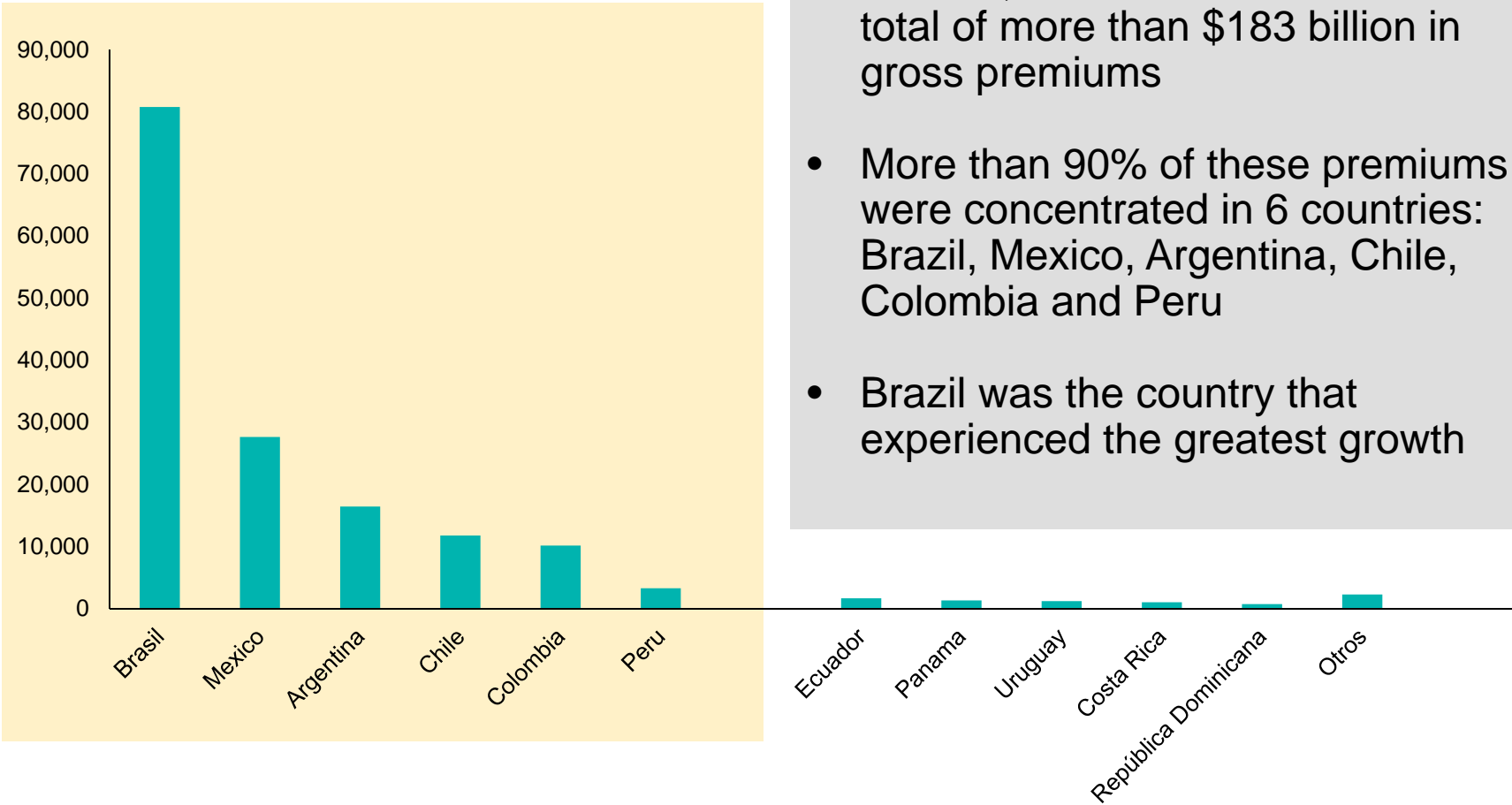
## Latin America vs. Mature Markets

While levels of penetration and density have increased in the last decade, they continue to be very low in comparison with developed economies



# 2013 Premiums by Country

2013 premiums in millions of USD



- In 2013, Latin America reached a total of more than \$183 billion in gross premiums
- More than 90% of these premiums were concentrated in 6 countries: Brazil, Mexico, Argentina, Chile, Colombia and Peru
- Brazil was the country that experienced the greatest growth

Source: LatinoInsurance





# Personal Lines Pricing in Latin America

# Personal Lines Pricing in Latin America

- The environment and its impact on pricing
  - The Players
  - Products
  - Regulation
  - Distribution
  - Data Considerations
  - Economic factors
  - Market traditions
- A survey of major markets
  - Brazil
  - Argentina
  - Mexico
  - Chile

## The Environment: The Players

To varying extents, these markets are dominated by large players

- Large local operators (including some regional players)
- Multi-nationals

## Presence of Multinational Insurers

Name	ARG	BO	BR	CL	CO	SV	MX	PY	PE	UY	VE
Mapfre	X		X	X	X	X	X	X	X	X	X
Metlife	X		X	X	X		X			X	
Liberty	X		X	X	X						X
Santander	X		X	X			X		X	X	
CNP	X		X								
AXA	X		X	X	X		X				
Zurich	X		X	X			X			X	X
BBVA	X	X	X	X	X		X	X	X	X	X
Allianz	X		X		X		X				
HSBC	X		X	X	X		X		X	X	
GENERALI	X		X		X						
RSA	X		X	X	X		X			X	
CHUBB	X		X	X	X		X				
ACE	X		X	X	X		X		X		

# Market Participation of Multinational Insurers

Ranking			Country
<b>3</b>	MAPFRE	10,867	Spain
<b>5</b>	ZURICH	6,841	USA
<b>6</b>	METLIFE	5,205	USA
<b>8</b>	LIBERTY	4,111	USA
<b>9</b>	CNP	3,190	France
<b>10</b>	ALLIANZ	3,020	Germany
<b>14</b>	AXA	2,343	France
<b>15</b>	HSBC	2,134	UK
<b>16</b>	ACE	2,025	USA
<b>18</b>	BBVA	1,812	Spain

Millions de USD, December 2012.

Source: Fundación Mapfre  
[towerswatson.com](http://towerswatson.com)

# Market Participation of Largest Local Insurers

Ranking			Country
<b>1</b>	BRADESCO	13,848	Brazil
<b>2</b>	ITAU / UNIBANCO	11,884	Brazil
<b>4</b>	BRASILPREV	8,213	Brazil
<b>7</b>	PORTO SEGURO	4,537	Brazil
<b>11</b>	SURAMERICANA	2,825	Colombia
<b>12</b>	GNP	2,787	Mexico
<b>13</b>	TRIPLE-S	2,441	Puerto Rico
<b>17</b>	SUL AMERICA	1,822	Brazil
<b>21</b>	GRUPO MERCANTIL	1,707	Venezuela
<b>23</b>	INBURSA	1,475	Mexico

Millions of USD, December 2012.

Source: Fundación Mapfre  
[towerswatson.com](http://towerswatson.com)

## The Environment: The Players

To varying extents, these markets are dominated by large players

- Large local operators (including some regional players)
  - Multi-nationals
- 
- Large local operations are able to develop their own resources
  - Multi-nationals take advantage of expertise/resources from other markets, or develop centers of excellence
  - Smaller local players are often left behind in terms of awareness of new techniques or their importance, or are unable to implement them because they lack resources

## The Environment: Products

- Products differ from market to market, but follow a similar pattern
  - Bodily Injury coverage typically represents a small proportion of premium
  - Theft coverage represents a large proportion of premium
  - Wide interest in Usage Based Insurance (UBI)
    - A UBI product has been launched in Brazil
    - Ongoing concerns about privacy/security
  - In most markets, the vehicle is insured rather than the driver (or drivers), meaning that driver information can be limited or approximate
  - In some markets (e.g. Argentina), many companies sell a plethora of different products with different coverages/exclusions, which can be difficult to combine for monitoring/modeling purposes
- 
- Products do not strongly limit use of predictive modeling
  - However the products sold can impact on availability of data



## The Environment: Regulation

- Rates have to be approved by regulators
- In general, personal lines rates are not publicly available and are carefully guarded
- Thoroughness of approval process differs from market to market, but is typically less onerous than in the US
- However regulators may be averse to what they see as excessive innovation

- Regulation does not strongly limit use of advanced pricing techniques

## The Environment: Distribution

- Intermediaries continue to be the most important channel; most are not tied to a particular company
  - Direct distribution, through internet or call centers, is beginning to make its presence felt
  - A few price comparison sites have appeared, but in many cases, even if clients find prices online, they will not close the contract online
  - This is because many people prefer to do business face to face (they trust the person, not the company), and because commercial discounts are common and these must be negotiated
- Intermediaries do not like to ask clients a lot of questions, and may offer a different company's product to keep things simple
  - This means that companies can be afraid to increase the number or quality of questions asked, and data quality does not improve
  - Commercial discounts can blunt the effectiveness of highly segmented rates

# Price Comparison Websites

- Price Comparison Websites, some run by Bancassurance operations, can offer information on price sensitivity useful for predictive modeling
- These have appeared in Brazil, Argentina and Chile

## The Environment: Data Considerations (Internal)

- Internal sources of information can be limited
- In some markets it is common to insure the vehicle, not the driver, and driver info can be fragmentary or approximate
- It is not common practice to store complete or even partial information on quotations or renewal notices
- In many cases, it is difficult or impossible to trace a policy from one renewal to the next

- These factors can limit the power of predictive modeling

## The Environment: Data Considerations (External)

- Vehicle Specifications
    - No market-standard vehicle symbols
    - Not all markets have suppliers of vehicle specifications
    - Efforts in some markets to store this because of awareness of usefulness
    - Where available, it is more often used for underwriting than pricing
  - Geo-demographical Information
    - Many insurers are able to access granular address information
    - Geo-demographic data is available in most markets, though it is not as broad, as cheap or as easy to apply as in the US (e.g. may require some work/assumptions to get to a useful format)
    - In many markets it is not easy to find digital maps (e.g. shapefiles) at a useful level of granularity. For example, it may be difficult to segment a city the size of Buenos Aires, with a population of 3 million people
- Vehicle and geo-demographical information is not widely used in predictive modeling in Latin America

## The Environment: Data Considerations (Competitor)

- Competitor Price Information is available in some markets/channels (e.g. through aggregators, vendors, brokers) in differing volumes, but in general with less ease than in the United States
  - In some markets, for example Brazil, attaining competitor price information is complicated by the speed with which rates change and the complexity of rates
  - Commercial discounts complicate the attainment and interpretation of competitor price information
- 
- These factors can limit the ability of companies to understand their competitive position, which is useful in pricing, including demand modeling

## The Environment: Economic factors

- In some markets (most notably Argentina), economic factors such as inflation and exchange rate fluctuations can limit the use of predictive modeling
- These can be a major limiting factor in the use of advanced pricing techniques

## The Environment: Market Traditions

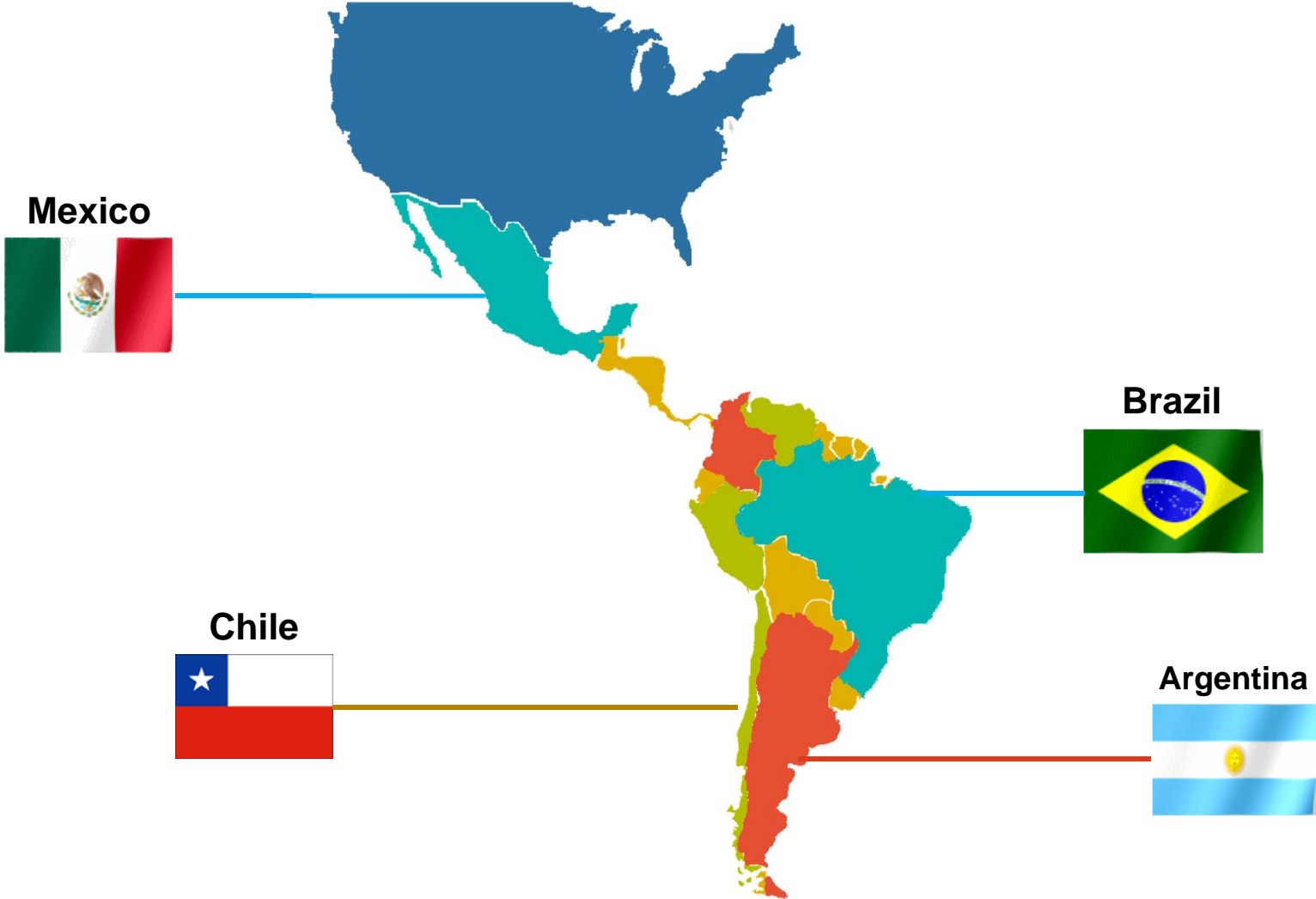
- In many markets, prices are traditional controlled by underwriting or commercial areas, who see the use of advanced pricing techniques as interfering in their domain
- This can be a major limiting factor in the use of advanced pricing techniques



## The Environment: Conclusions

- **Larger operators** typically have the know-how and resources to develop more advanced pricing
    - Use of predictive modeling is more widespread among larger insurers in larger markets; in smaller markets and among smaller local insurers, use of predictive modeling is limited to nonexistent
  - **Regulation** does not, in general, limit use of advanced pricing techniques
  - **Data** continues to be an issue in many cases
  - **Economic factors** can be an issue in some cases
  - **Distribution** and the **mechanics of individual companies** continue to limit wider use of advanced pricing techniques
- We will now see how these issues are manifested in some major Latin American markets, as well as recent trends

# A survey of major markets



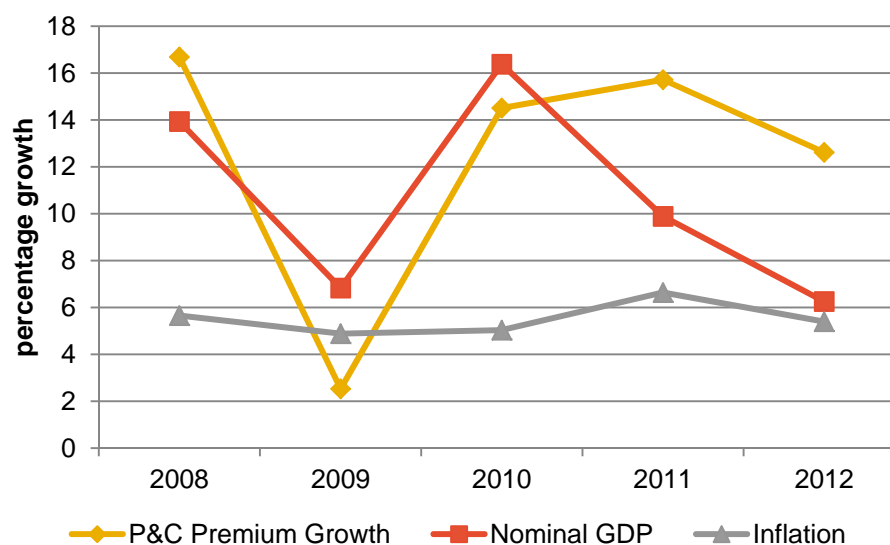
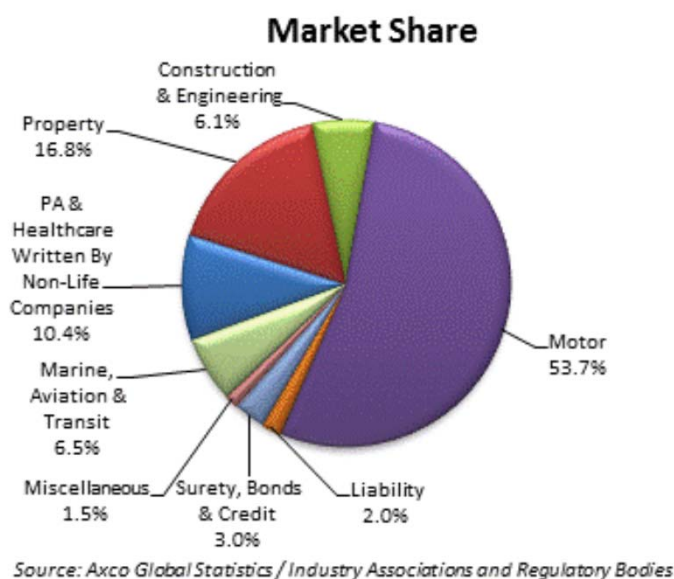


# Brazil



## P&C Market Overview

- The largest Latin American insurance market
- In last 5 years has experienced strong P&C premium growth, frequently in excess of growth of GDP
- P&C market dominated by Auto

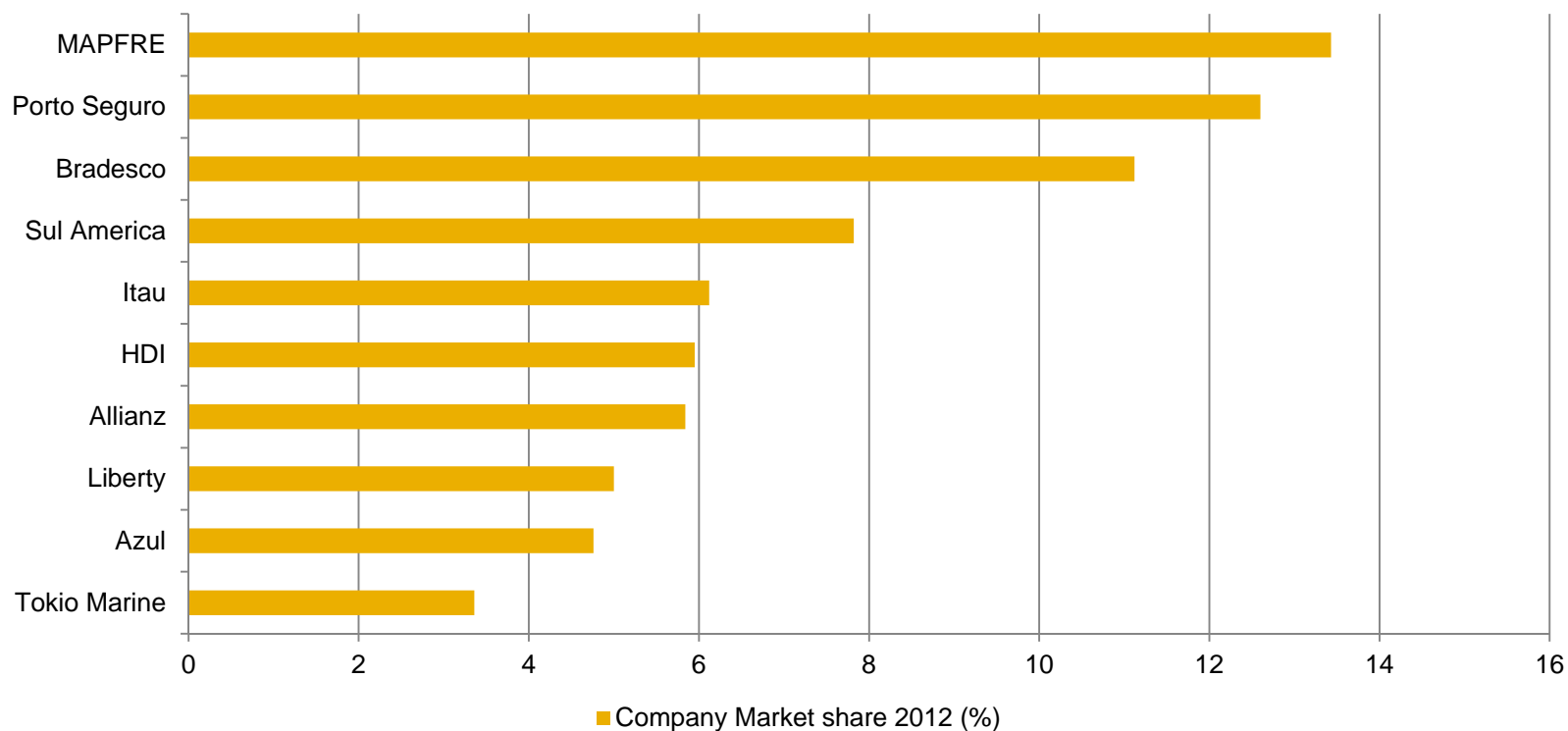


Source: Axco Global Statistics / Industry Associations and Regulatory Bodies



## Auto Market Overview

- Top 10 companies account for 76% of premiums
- Large players include several multinationals as well as home-grown operations



Source: Axco Global Statistics / Industry Associations and Regulatory Bodies



## Auto Market Overview

- Recent results have been consistent



Source: Latino Insurance



## Regional Distribution

The more developed south and south east of Brazil have the largest market share

The state of São Paulo alone has about 42% of the market

Rank	State	Market Share
1	São Paulo	42.1%
2	Rio de Janeiro	8.0%
3	Minas Gerais	8.0%
4	Paraná	7.8%
5	Rio Grande do Sul	6.2%
6	Santa Catarina	4.8%

• Information from SUSEP





## Regulatory Environment

- The National Council for Private Insurance (Conselho Nacional de Seguros Privados – CNSP) and the Superintendence of Private Insurance (Superintendencia de Seguros Privados – SUSEP) regulate and supervise the Brazilian insurance sector
- For most products, a “File and use” product approval process is followed
- SUSEP performs only limited checks. If there is no objection from the Superintendence, the insurer can go ahead and launch the product
- For Motor, rates do not have to be filed, but they should be actuarially justified





## Distribution Channels

- Non-life insurance distribution is mainly intermediary-based
- The exceptionally high number of brokers and quasi-mandatory use of intermediaries keeps administrative costs high
- Affinity marketing shows strong growth
- Certain agents have favorable relationships with specific companies which can be difficult to break
- Price comparison sites are becoming more widely used, but mainly to search for price



## Products

### **The following coverage options are available:**

Compulsory third party bodily injury motor coverage (DPVAT, in Portuguese)

Voluntary coverage, covering:

- Third Party Liability
- Physical Damage Cover (Both Collision and Theft)
- Full Package including both third party and physical damage
- Some companies offer a theft & fire only product
- Additional add-ons include Personal accident insurance, 24-hour breakdown assistance, courtesy vehicle replacement, free extension to other Mercosur countries, discounted vehicle parts, etc.

# Usage Based Insurance in Brazil

- Porto Seguro, in Brazil, recently launched a UBI product for young drivers, AutoJovem
- This gives a 30% discount in the first year, during which speed and proportion of late night driving are measured
- The insured also has to take a couple of courses
- At renewal, premium and deductible depend on experience
- Maximum discount is 30%

**CONHEÇA O PROGRAMA DE RELACIONAMENTO:**

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## Pricing of Auto Products in Brazil

- In Brazil the insurance is acquired for a particular car, and not for a person
- Physical Damage Cover is generally priced as a rate per sum insured by most companies while Third Party Liability is priced as a premium with separate values for bodily injury and property damage
- Although Brazil has pricing actuaries, underwriters usually participate in rating to maintain competitiveness
- High theft rates (in some regions of Brazil 50% of the risk cost comes from theft)
- Bodily Injury claims make up only around US\$2 of the risk cost due to very few claims and a different legal culture



## Standard Rating Variables used in Brazil

Profile Variables	Vehicle Variables	Other Variables
Policyholder Age	Vehicle Make/Model	Region
Policyholder Gender	Vehicle Age	Deductible
Policyholder Marital Status	Vehicle Value	Renewal/New Business Indicator
Bonus Class	New Vehicle Indicator	Credit Score
Garage Information	Vehicle Category	Young Driver Coverage
Claims History		Mileage



## Predictive Modeling in Brazil

- Most of the top companies in the market are regularly performing predictive modeling, developing generalized linear models by peril on a frequency and severity/rate basis
- Data quality is still a large problem for a number of operators, particularly where profile information is not being collected
- The list of variables being collected at POS is still relatively small in comparison with the US market
- Cost and quality of external information has resulted in low usage so far
- A small number of companies have developed demand modeling for renewals and new business
- Credit score becoming widely used
- Granular geographical segmentation is becoming common
- Rate structures in Brazil are typically very complicated, reflecting intervention based on commercial considerations rather than statistics
- It is common to overfit models (e.g. including vehicle make/model as a factor, rather than using vehicle specifications- which are difficult/impossible to integrate in data)

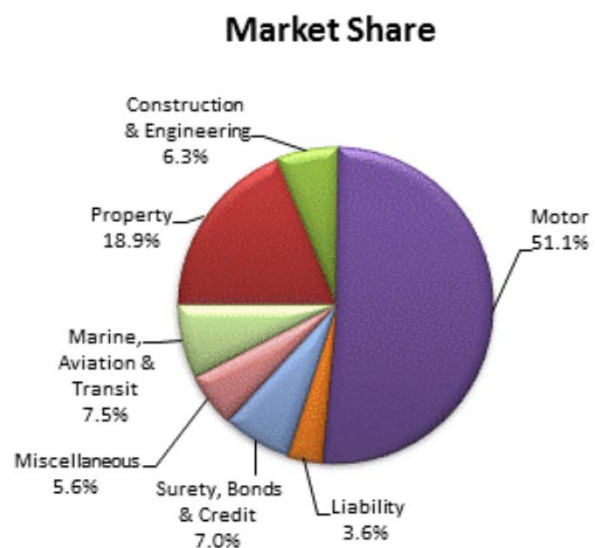


# Mexico

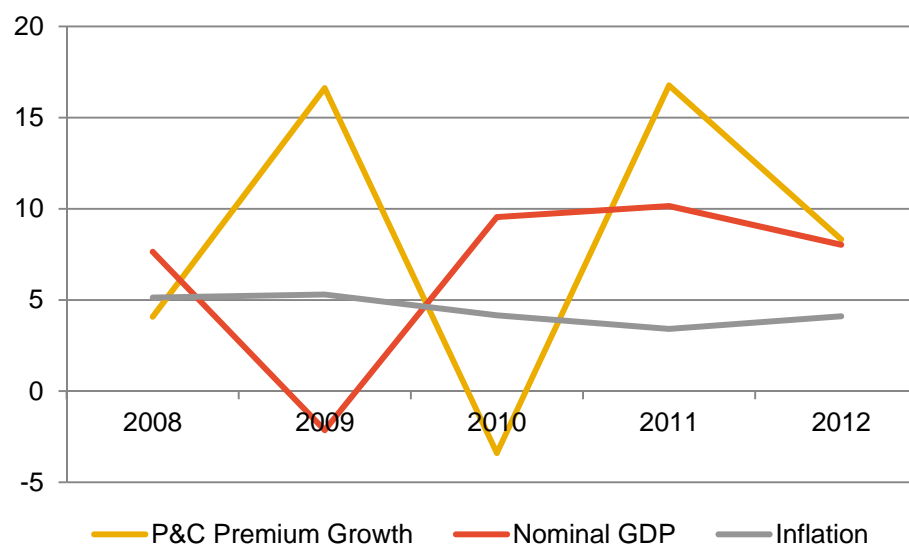


## P&C Market Overview

- The second largest Latin American insurance market
- In last 5 years has experienced strong P&C premium growth, on average in line with inflation
- P&C market dominated by Auto



Source: Axco Global Statistics / Industry Associations and Regulatory Bodies



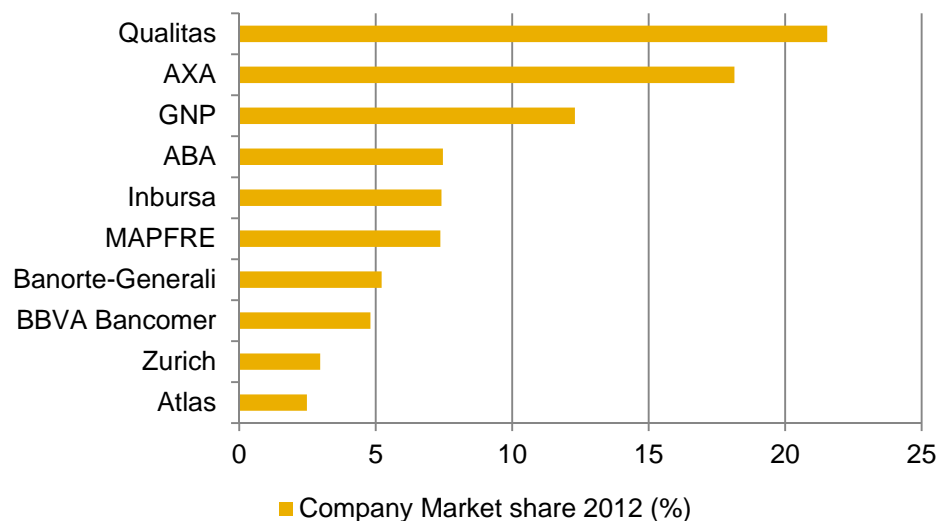
Source: Axco Global Statistics / Industry Associations and Regulatory Bodies



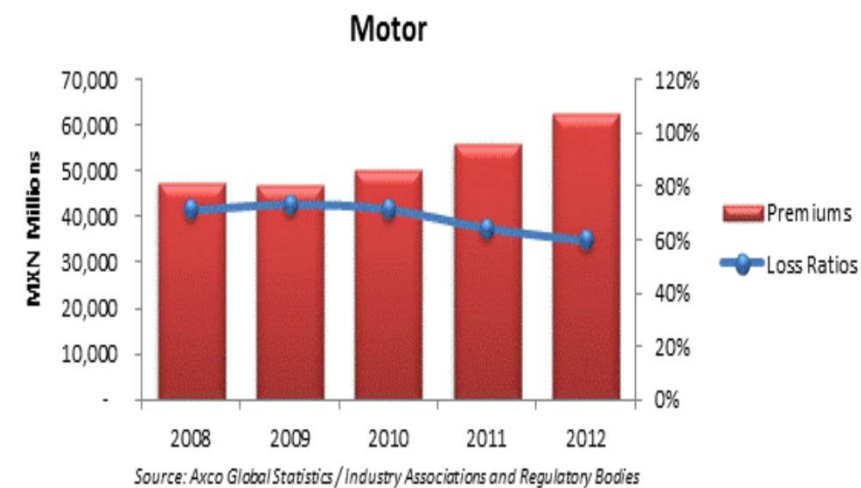


## Auto Market Overview

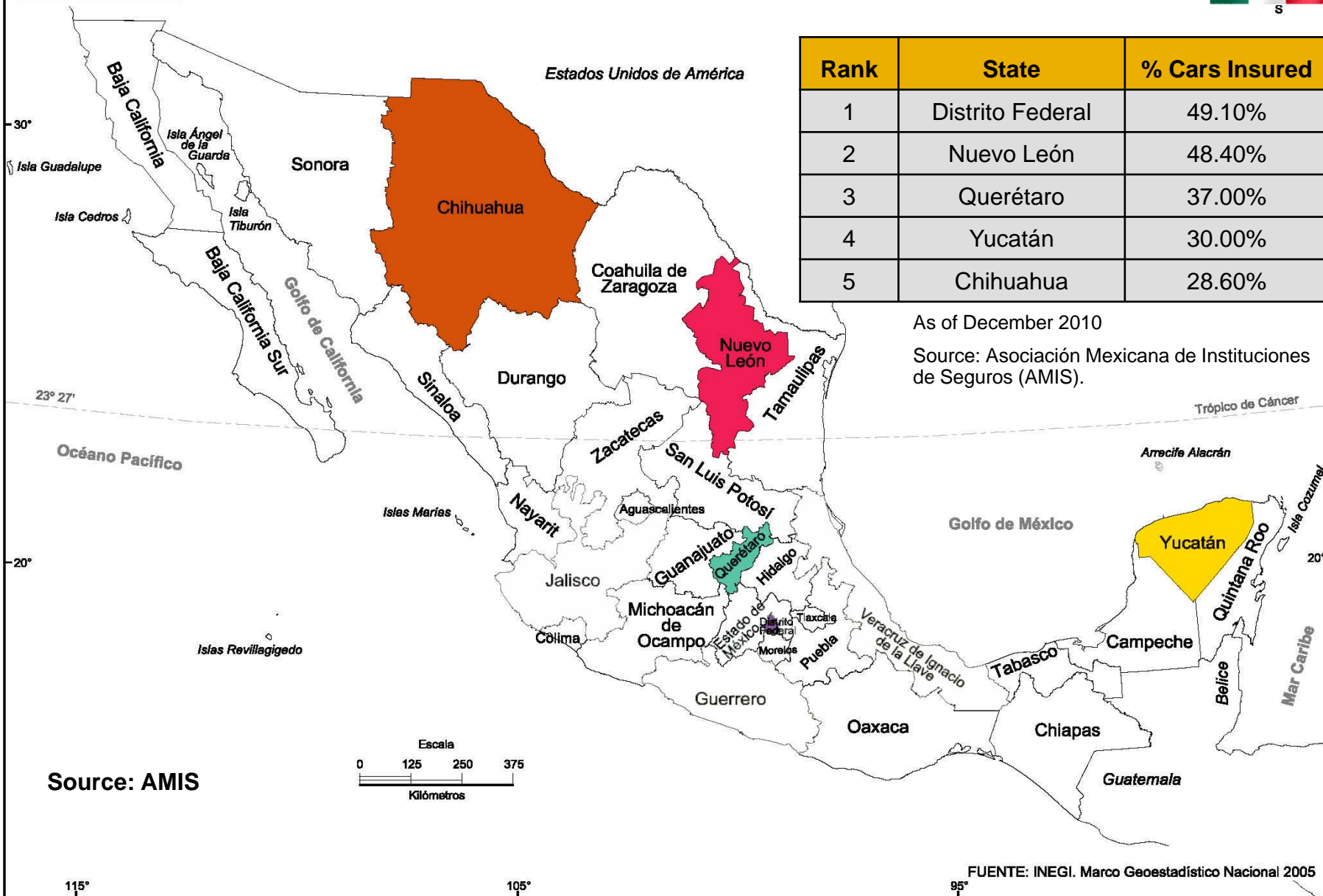
- A concentrated market, with top 10 accounting for 90% of premiums
- Large players include a mix of multinationals and home-grown operations
- Technical results have improved in recent years



Source: Axco Global Statistics / Industry Associations and Regulatory Bodies



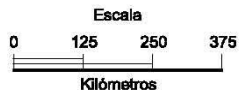
# Estados Unidos Mexicanos



Rank	State	% Cars Insured
1	Distrito Federal	49.10%
2	Nuevo León	48.40%
3	Querétaro	37.00%
4	Yucatán	30.00%
5	Chihuahua	28.60%

As of December 2010  
 Source: Asociación Mexicana de Instituciones de Seguros (AMIS).

Source: AMIS



FUENTE: INEGI. Marco Geoestadístico Nacional 2005



## Regulatory Environment

- Treasury (Secretaría de Hacienda y Crédito Público- SHCP) is the institution which determines regulations and resolves all issues related to insurance
- National Commission of Insurance and Surety (Comisión Nacional de Seguros y Fianzas -CNSF) is the institution that supervises and reviews insurance companies

### Product Registration

- Product registration must be done with the CNSF, which can suspend the product if it fails to comply with the regulatory, actuarial/technical or legal aspects, according to their interpretation
- CNSF has 30 working days to provide comments on the actuarial and legal details, in case there are no comments the product is registered



## Pricing of Auto Products in Mexico

- In Mexico insurance is acquired for a particular vehicle, and not for an individual- anyone is able to drive the insured vehicle
- Some companies distinguish pricing for age and gender
- Physical Damage and Theft are priced as a rate per sum insured by most companies
- All companies use component based pricing in their rating systems to calculate separate rates for partial collision, total collision and theft.
- Third Party Liability is priced as a premium. It covers both bodily injury and property damage
- Medical expenses are related to the number of passengers in the vehicle





## Pricing Challenges

- Medium and large insurance companies have a team of actuaries; small companies depend on external vendors and underwriters to set rates
- In urban areas a high percentage of the cost comes from a high frequency in collision
- Theft is an important component of the price- in recent years it has declined in Mexico City and has increased in the north
- Agents with large portfolios often have agreements to receive higher commissions than smaller competitors with no difference in the price, or even lower prices in some cases





## Rating Variables used in Mexico

Profile Variables	Vehicle Variables	Other Variables
Policyholder Age*	Vehicle Make	Region (State)
Policyholder Gender*	Vehicle Model/Age	Deductible
Claims History*	Vehicle Value	Renewal/New Business Indicator*
	Vehicle Category	

\* Non-Standard Variable



## Predictive Modeling

- Currently few companies have implemented predictive models; and so far only for Auto
- Those that have typically use Generalized Linear Models (GLM)
- Most prices are still set using univariate analyses, with groups defined by criteria of the pricing actuary, influenced by commercial aspects
- Data quality is a large problem for a number of companies
- List of reliable variables is still relatively small in comparison with the US market
- A handful of companies have developed scenario testing environments using demand models
- Mexico D.F. (population 10 million) and in some cases Mexico City (population over 20 million) are considered one rating area
- Biggest obstacles to development are data, company mechanics, and power of distribution



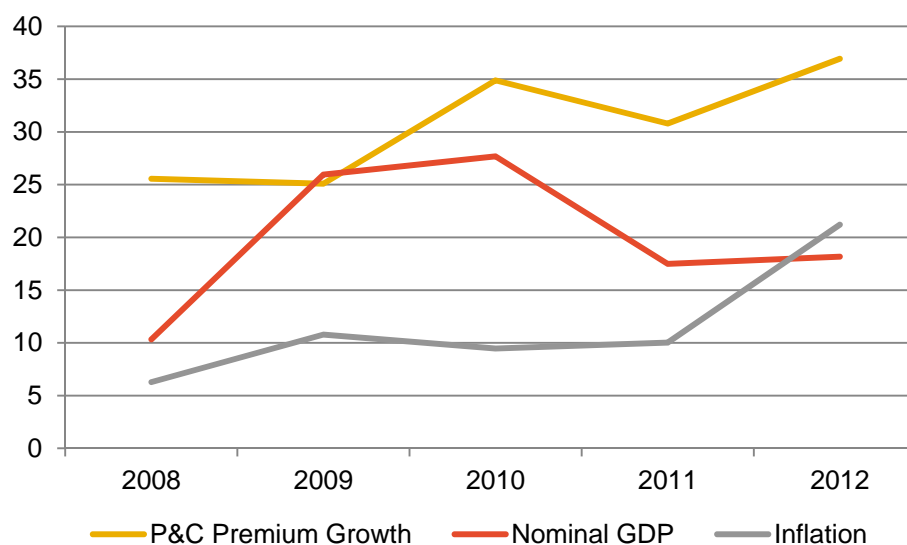
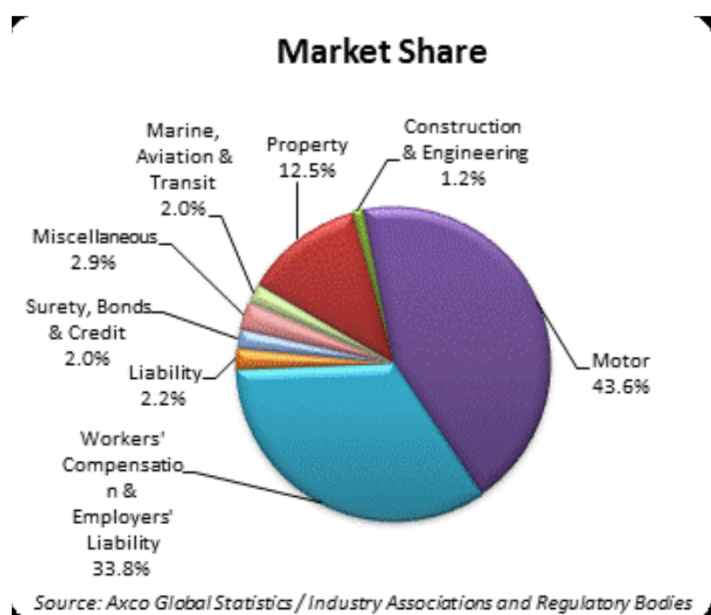
# Argentina





## P&C Market Overview

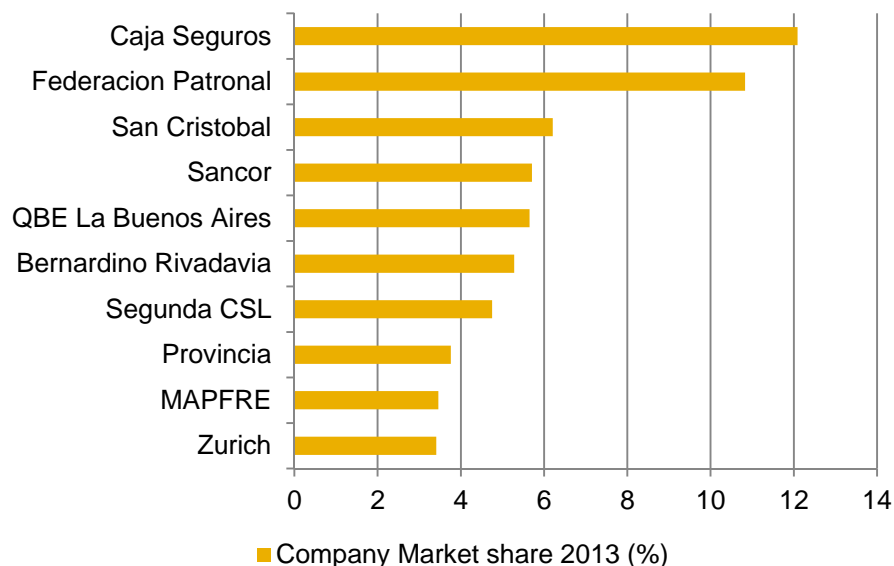
- The third largest Latin American insurance market
- Apparent strong P&C premium growth is possibly misleading, given the unreliability of official inflation figures
- Auto is the largest line in the P&C market, followed by WC



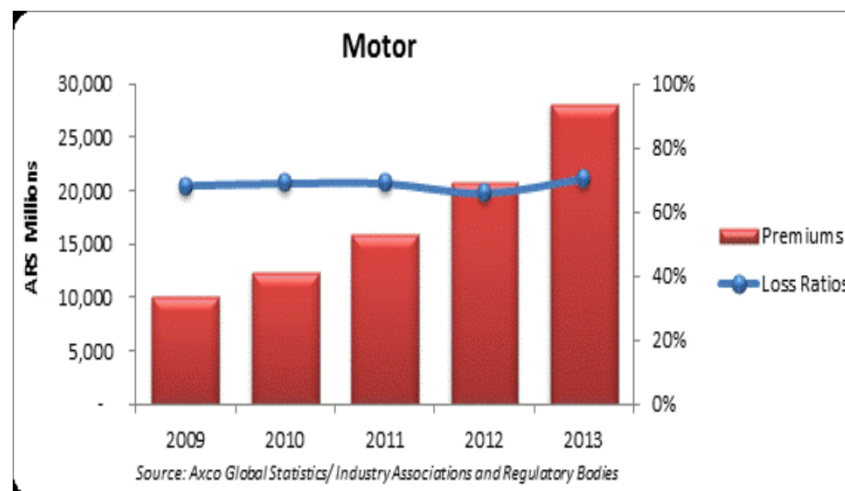


## Auto Market Overview

- A less concentrated market, with top 10 accounting for only 61% of premiums
- Large players include a mix of multinationals and home-grown operations



Source: Axco Global Statistics / Industry Associations and Regulatory Bodies

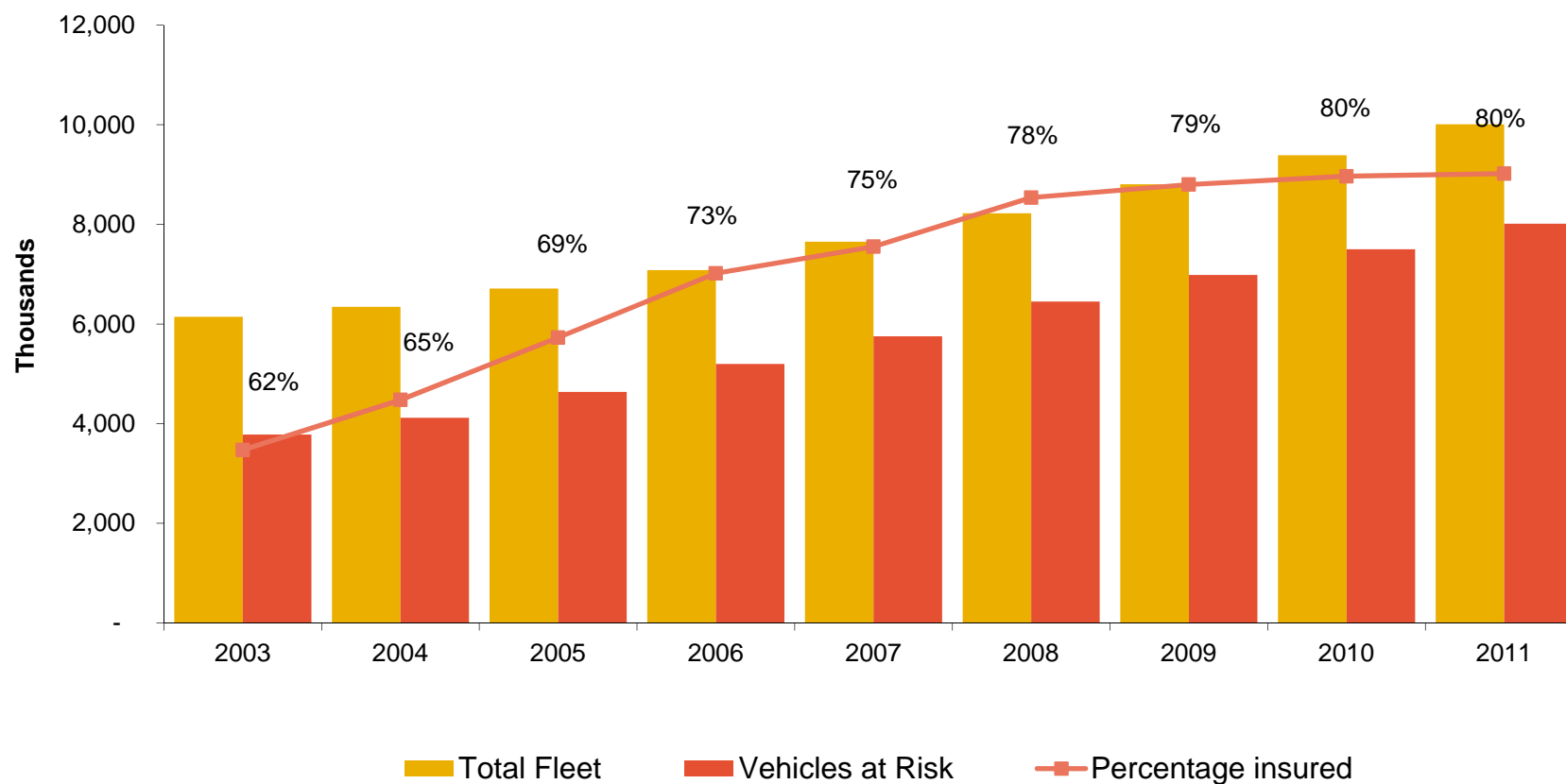


- Poor negative technical results have persisted
- Profitability depends on investment income



## Market Penetration

Approximately 80% of vehicles have some type of insurance





## Regional distribution

Rank	Province	Market Share
1	Buenos Aires	43.7%
2	Capital Federal	18.9%
3	Santa Fe	8.5%
4	Córdoba	8.4%
5	Mendoza	3.5%
6	Entre Ríos	2.3%
7	Chubut	1.4%
8	Tucumán	1.4%
9	Neuquén	1.3%
10	Río Negro	1.3%





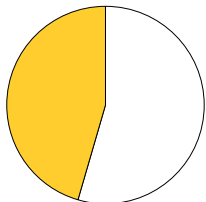
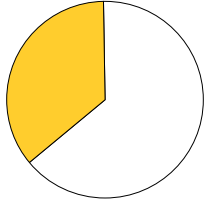
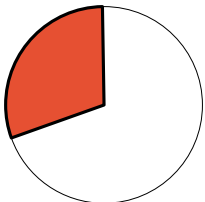
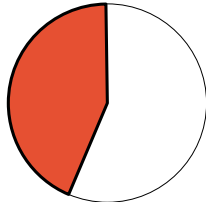
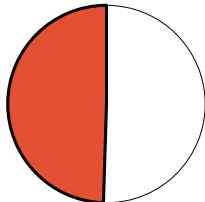
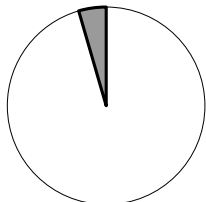
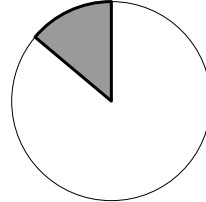
## Products

Main products are:

- Third party liability only
- Third party liability + total loss by fire + total loss by theft
- Third party liability + total loss by accident, fire or theft
- Third party liability + total loss by accident and total and partial loss by fire or theft
- All risks (comprehensive) with varying deductibles, including third party liability and total and partial loss by accident, fire or theft



## Portfolio composition change

Product	2005	2008	2011
Third party only and other coverages	65% 	45% 	36% 
Comprehensive wo/ partial damage	30% 	44% 	50% 
Comprehensive	5% 	11% 	14% 



## Regulatory Environment

- The Superintendent of Insurance – Superintendencia de Seguros de la Nación (SSN) – is responsible for supervising all Argentinean insurance companies
- The SSN authorizes the operation of new companies and their business plans, determines regulations and checks for compliance
- For Auto and other classes where the premium exceeds the 20% of the total premium, changes or new rates must have a certificate of sufficiency of the premium signed off by an actuary



## Distribution Channels

- The traditional channel in the market is intermediaries, including both small agents and brokers
- Very few companies use their own sales forces
  - RSA owns a direct operation, Answer On Line, which sells Auto insurance by telephone and internet
  - Another major direct player is La Caja while AIG, Zurich and MAPFRE are also involved to a lesser extent
- There are indications that insurers are beginning to exploit the synergies offered by banks



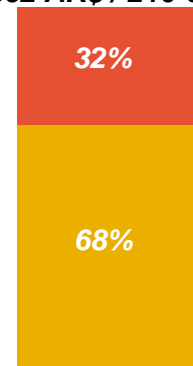




## Property Damage / Bodily Injury

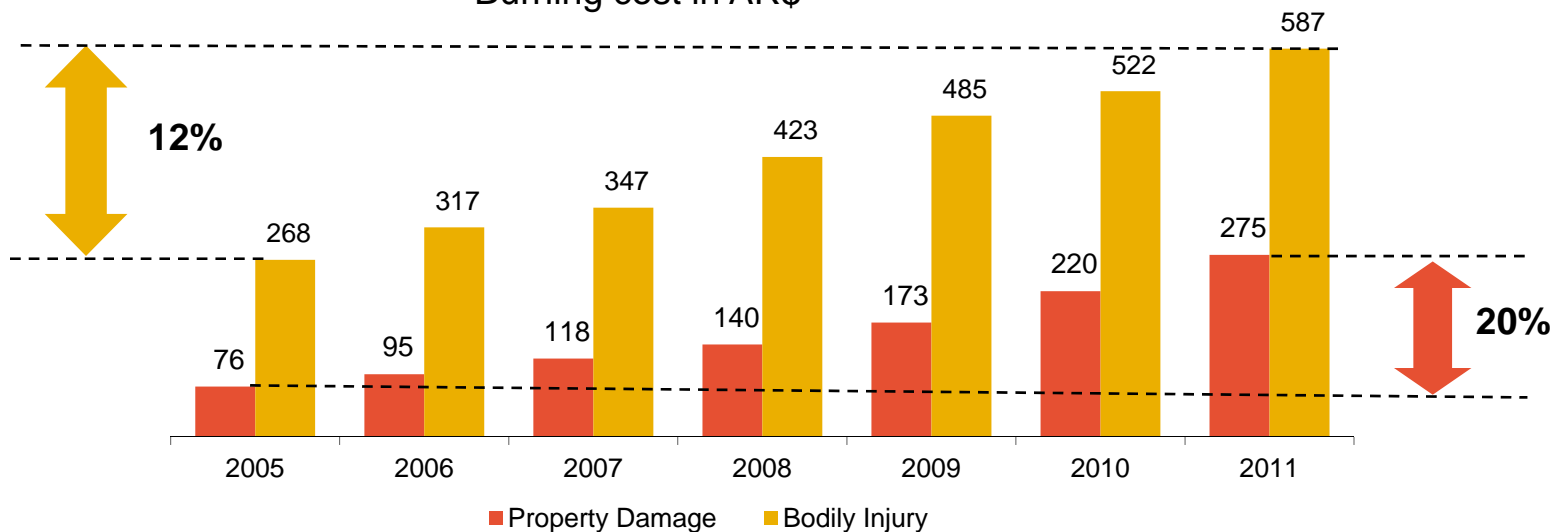
- Almost 70% of the Third party loss costs come from Bodily Injury
- Claim loss cost inflation for Property Damage is greater than for Bodily Injury

862 AR\$ / 210 USD



■ Bodily Injury ■ Property Damage

Burning cost in AR\$





## Rating & Deductibles

Third party premiums are mainly based on:

- Geographical area (between 3 and 8 zones according to the company)
- Type of vehicle insured (normally group in 3 or 4 classifications)

Own damage premiums are calculated as a percentage of sum insured - main variables used:

- Geographical area
- Type of vehicle
- Make & Model
- Vehicle age

Deductibles are very common for Own Damage. These are normally applied as a percentage of sum insured



## Pricing challenges

- Most P&C companies do not have actuarial teams
- Rates are determined based on past experience and further adjusted to follow inflation
- Underwriters have a major influence in the definition of rates
- Bonus schemes are recognized as being more commercial than technical
- Very few companies use predictive modeling techniques
- Companies sell a wide variety of products, often with very different coverages, exclusions, rates and data, making analysis difficult



## Pricing challenges: Exchange Rates

- A major devaluation of the local currency from January 2014 has had an impact on motor insurance premiums. Since quotations are based on replacement values, some sources have seen increases of between 10% and 30% to recognize the higher cost in local currency of imports
- Further devaluations are not ruled out, and make prediction of future costs difficult



## Pricing challenges: Inflation

- Official inflation statistics are not considered credible
- In order to keep pace with inflation, companies are issuing three, four or six-month policies and adjusting the vehicle value and premium at the beginning of each period
- One company is increasing the price of its third party motor cover by 2.5% per month
- In spite of these measures, there is a general agreement that price increases have been below the real inflation rate
- Inflation in the cost of repairs and the shortage of spare parts has given rise to a situation where cars are worth more dismantled than they are whole
- While the value of vehicles is estimated to have risen by 100% in the past five years, in the same period, the cost of salaries has risen by 180% and the price of spares has increased by 200%



## Pricing challenges: Inflation

A couple of anecdotes

- A 1990 Mercedes received damage to its rear wing in a collision but was still drivable. The insurance company paid a total loss as the cost of the repair was 160% of the vehicle's value
- A vehicle suffered flood damage to its engine, which had to be replaced. A total loss was paid as the cost of the new engine was 120% of the cost of a new car

Not surprisingly, the incident of vehicle theft and theft of parts such as the wheels is increasing.

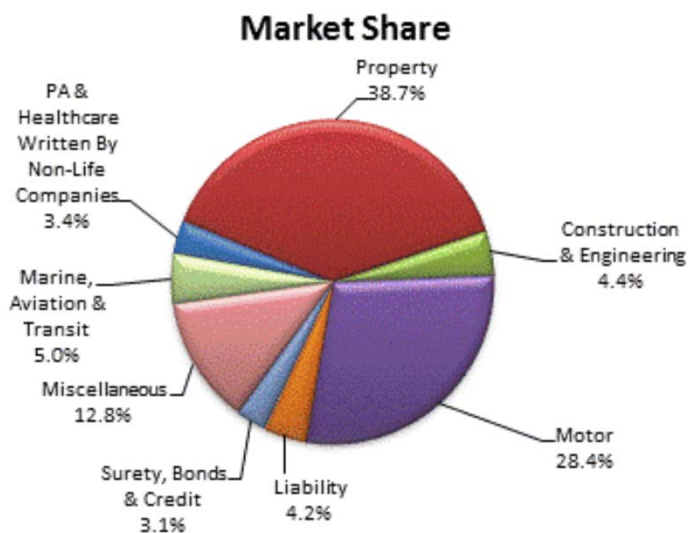


# Chile

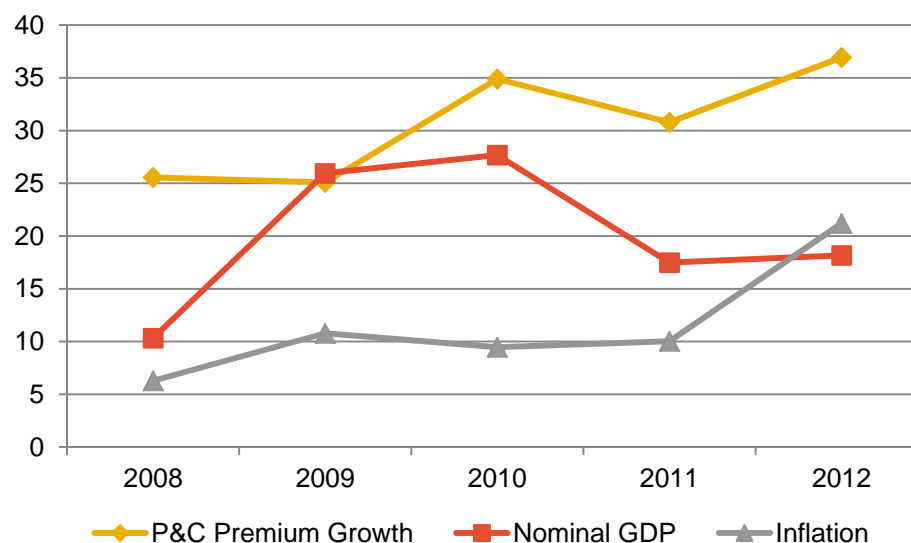


## P&C Market Overview

- In last 5 years has experienced strong P&C premium growth, consistently in excess of growth of GDP
- P&C market dominated by Property (owing to Earthquake risk); Auto a distant second



Source: Axco Global Statistics / Industry Associations and Regulatory Bodies



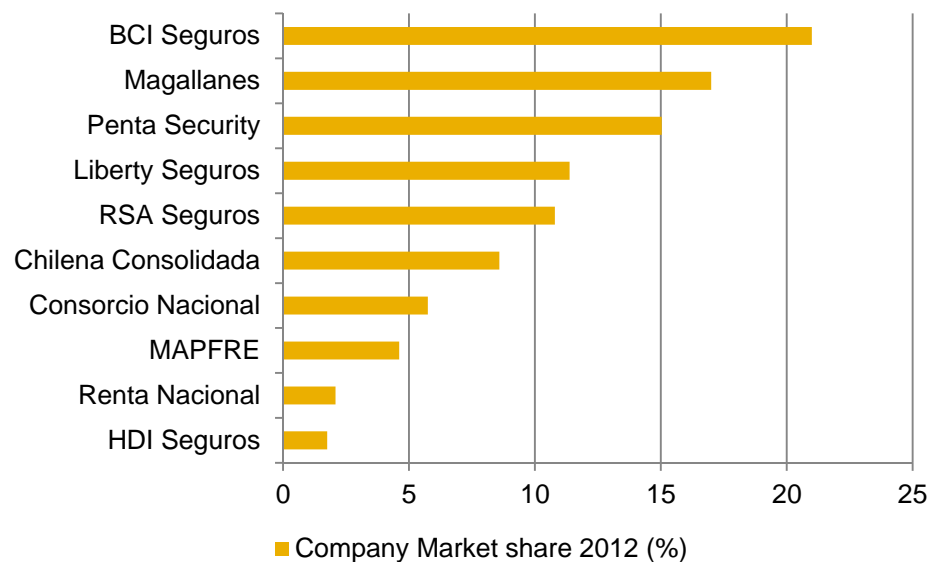
Source: Axco Global Statistics / Industry Associations and Regulatory Bodies





## Auto Market Overview

- A very concentrated market, with top 10 accounting for 98% of premiums
- Largest players are home-grown, but top 10 includes several multinationals



- Technical results have evolved positively

Source: Axco Global Statistics / Industry Associations and Regulatory Bodies



## Market Background

- Like Argentina, the market is highly concentrated in the capital, Santiago
- Most distribution is through intermediaries, including Bankassurance (especially in the case of new vehicles purchased on credit) and department stores (Paris, Falabella), as well as more traditional agents
- Advanced pricing techniques have not traditionally been widely used



## Predictive Modeling challenges

- Chile stretches more than two and half thousand miles, and includes deserts, mountain ranges, icy wastes and a huge city. Most companies do not segment by geography
- It is not standard practice to change premiums on renewal unless a claim was incurred. This limits the ability to control prices, and therefore, the power of ratemaking

## Conclusions

- There is growing awareness of the usefulness of predictive modeling in personal lines pricing
- **Larger operators** typically have the know-how and resources to develop more advanced pricing
- **Regulation** does not, in general, limit use of advanced pricing techniques
- While internal, external and competitor **data** continues to be an issue in many cases, efforts are being made to improve quality, and more factors are being used in models
- Demand models as well as loss cost models are being fitted
- **Distribution** continues to limit wider use of advanced pricing techniques, but the growth of direct business could change this
- **Mechanics of individual companies** continue to limit wider use of advanced pricing techniques, but this is changing