## BBVA Research

## Argentina

## Automobile Market Outlook

December 2010

## Economic Analysis

- The vehicle fleet has soared over recent years improving the ratio of vehicles per inhabitant which stood at 4.4 in 2008, above regional averages but still significantly below ratios in developed countries. The average age of the vehicle fleet is relatively high.
- The demand for vehicles is predominantly for low- and medium-priced cars, with Volkswagen and Chevrolet leading the rankings.
- The local industry comprises 10 car manufacturers and has grown substantially since the 1990s on the basis of the compensated trade agreement within MERCOSUR, as a result of which $60 \%$ of vehicles sold in the local market are imported, mainly from Brazil.
- Argentina has a large trade deficit in auto parts. This has led the authorities to implement credit lines for SMEs in order to increase the percentage of domestic components in locally manufactured vehicles by $10 \%$.
- Vehicle sales are strongly pro-cyclical. Significant increases are forecasted for 2011 and 2012 as per capita income will continue to grow and interest rates will remain low, although at a slower pace than in 2010
- Financing, whether from banks or manufacturers' financing agencies, remains underdeveloped in Argentina (it represents just $30 \%$ of total sales) as a result of persistently high inflation and informality in labor markets.


## Index

1. Argentina is a market with high potential given its income per capita and its geographical size ..... 3
2. Motorisation has increased, but the vehicle fleet is still relatively old ..... 3
3. Demand for low- and medium-priced cars is the largest .....  .5
4. Most sales through dealers and in cash ..... 6
5. Strong regional integration in automotive supply ..... 6
6. Balanced trade with Brazil allows some flexibility .....  7
7. Strong trade deficit in the auto parts trade sector ..... 8
8. Exports account for $60 \%$ of the demand for domestically-manufactured vehicles ..... 9
9. The determinants of demand ..... 9
10. Medium-term prospects for demand. ..... 10
11. Low financing ratios ..... 10

## 1. Argentina is a market with high potential given its income per capita and its geographical size

Argentina is one of the larger automotive markets in Latin America, in a second group of countries behind the leading regional players, Mexico and Brazil. Moreover, with 40.1 million inhabitants and a GDP per capita of USD 7,850 per year (2009 figures), potential for growth is high, given the limited levels of financing available as a consequence of high macroeconomic volatility.

Its extensive geographical area ( $2,791,810 \mathrm{~km} 2$ ) and limited population density ( 14.2 inhabitants per km 2 ) is serviced by a road network of $38,920 \mathrm{~km}$ (2008 figures), of which $88.4 \%$ is paved. Investment in road infrastructure, mainly new works, has increased significantly in recent years (by a factor of nine between 2001 and 2008, see Chart 1).

Chart 1
Road infraestructure investment at constant prices


Source: BBVA Research using MIPLAN data

However, the deterioration of the rail network has led to the shift from rail freight transport to road haulage by trucks. As a result, the main roads in the country, particularly those connecting with MERCOSUR, are saturated and require new investment. In the case of Buenos Aires, the steep rise in the number of vehicles over the last 5 years, coupled with migration towards the suburbs, has resulted in major traffic congestion in the access to the downtown areas that affects both the public transport of passengers by bus and the movement of private vehicles.

## 2. Motorisation has increased, but the vehicle fleet is still relatively old

The Argentinean motor vehicle fleet in 2008 (latest available figures) numbered 12,982,537 units, of which about $8,976,712$ were still running, a ratio of one car per 4.4 inhabitants.

The size of the vehicle fleet has increased sharply over the last three years. As a result, this ratio has improved, as will become even clearer when the new figures corresponding to 2009, and in particular 2010, are incorporated into the statistics (see Chart 2).


Source: BBVA Research

Although Argentina has a higher density of cars per person than most of the countries in the region, it is still far behind the density observed in developed countries such as Spain, where the ratio of people to cars is practically half (see Chart 3).

Just over a quarter of the vehicle fleet on the road is up to 5 years old, and as much as $38.8 \%$ is up to 10 years old (see Table 1).

Table 1
Age of vehicle fleet

| From | To | Units | Share \% |
| :--- | :--- | ---: | ---: |
|  | 1988 | 2518966 | $28.1 \%$ |
| 1989 | 1993 | 947826 | $10.6 \%$ |
| 1994 | 1998 | 2027243 | $22.6 \%$ |
| 1999 | 2003 | 1172373 | $13.1 \%$ |
| 2004 | 2008 | 2310304 | $25.7 \%$ |
|  | Total | 8976712 | $\mathbf{1 0 0 . 0 \%}$ |

Source: DNRPA

Over $50 \%$ of the vehicle fleet is located either in the province of Buenos Aires (34.26\%) or the City of Buenos Aires (19.13\%).

Chart 4
Vehicle fleet by province


Source: DNRPA

Chart 5
Vehicle fleet by category


Source: DNRPA

Cars represent the most important category within the vehicle fleet, at $69.9 \%$, followed by light commercial vehicles, at 18.1\% (see Chart 5).

With regard to public passenger transportation, information from the Secretariat of State for Transport reveals that the 135 bus lines within the metropolitan area of Buenos Aires carry 9,688 vehicles in circulation with an average age of 7.13 years. Although there has been an improvement in the age of the vehicle fleet over the last two years, it is still higher that in the last years of the Convertibility Regime, due to the negative impact of the 2002 crisis and the subsequent delay in adjusting prices for the sector.

In contrast, the fleet of vehicles making up the long-distance transport lines has been renewed, with 132 companies handling a total of 4,439 vehicles at an average age of 3.4 years.
The average age of taxi fleets is also lower. More than 50,000 cars are estimated to be in use as taxis in the country, of which 42,810 are in the city of Buenos Aires and are an average of 4.9 years old.

## 3. Demand for low- and medium-priced cars is the largest

New car sales numbered 486,000 units in 2009, at an estimated value of around USD $13,400 \mathrm{~m}$, of which $48.4 \%$ were low- and medium-priced, $22.8 \%$ high-end and $23.6 \%$ light commercial vehicles. The remaining $5.2 \%$ corresponded to bus and heavy trucks, though it should be noted that these figures were greatly affected by the major fall in investment over the last year as a result of the contraction in activity due to the international crisis.

Market leaders within the segment of cars and light passenger and commercial vehicles were Volkswagen (20.7\%), followed by Chevrolet (14.5\%) and Ford (13.1\%).

Table 2
Sale of cars and light vehicles by make to public

|  |  | 2009 |  |  | 2008 |  |
| :--- | :--- | ---: | ---: | ---: | ---: | :---: |
|  | Marque | Units | Share $\%$ | Units | Share |  |
| 1 | Volkswagen | 102329 | $20.7 \%$ | 109287 | $19.1 \%$ |  |
| 2 | Chevrolet | 71622 | $14.5 \%$ | 85617 | $14.9 \%$ |  |
| 3 | Ford | 64721 | $13.1 \%$ | 69685 | $12.2 \%$ |  |
| 4 | Renault | 60884 | $12.3 \%$ | 68662 | $12.0 \%$ |  |
| 5 | Fiat | 49674 | $10.1 \%$ | 63611 | $11.1 \%$ |  |
| 6 | Peugeot | 45748 | $9.3 \%$ | 59130 | $10.3 \%$ |  |
| 7 | Toyota | 29120 | $5.9 \%$ | 30523 | $5.3 \%$ |  |
| 8 | Citroën | 20324 | $4.1 \%$ | 22214 | $3.9 \%$ |  |
| 9 | Honda | 15085 | $3.1 \%$ | 18722 | $3.3 \%$ |  |
| 10 | Suzuki | 6775 | $1.4 \%$ | 9335 | $1.6 \%$ |  |
| 11 | Mercedes Benz | 4856 | $1.0 \%$ | 6383 | $1.1 \%$ |  |
| 12 | Nissan | 4071 | $0.8 \%$ | 6234 | $1.1 \%$ |  |
| 13 | Hyundai | 3317 | $0.7 \%$ | 4663 | $0.8 \%$ |  |
| 14 | Audi | 2678 | $0.5 \%$ | 3261 | $0.6 \%$ |  |
| 15 | Kia | 2187 | $0.4 \%$ | 3679 | $0.6 \%$ |  |

Source: BBVA Research using ACARA data

In the segment of heavy goods vehicles, buses and trucks, the leading brand is Mercedes Benz (41.0\% of the total), followed by Ford (19.0\%) and Iveco (11.3\%) (see Table 3).

Table 3
Sale of heavey utility vehicles by make to public

|  |  | $\mathbf{2 0 0 9}$ |  |  | $\mathbf{2 0 0 8}$ |  |
| :--- | :--- | ---: | ---: | ---: | ---: | ---: |
|  | Marque | Units | Share $\%$ | Units | Share $\%$ |  |
| 1 | Mercedes Benz | 5540 | $41.0 \%$ | 8171 | $35.7 \%$ |  |
| 2 | Ford | 2561 | $19.0 \%$ | 4538 | $19.8 \%$ |  |
| 3 | Iveco | 1531 | $11.3 \%$ | 3120 | $13.6 \%$ |  |
| 4 | Volkswagen | 1218 | $9.0 \%$ | 2727 | $11.9 \%$ |  |
| 5 | Scania | 926 | $6.9 \%$ | 1629 | $7.1 \%$ |  |
| 6 | Agrale | 618 | $4.6 \%$ | 679 | $3.0 \%$ |  |
| 7 | Reanault | 348 | $2.6 \%$ | 636 | $2.8 \%$ |  |
| 8 | Volvo | 329 | $2.4 \%$ | 778 | $3.4 \%$ |  |
| 9 | Puma de Tat | 183 | $1.4 \%$ | 363 | $1.6 \%$ |  |
| 10 | Hyundai | 182 | $1.4 \%$ | 231 | $1.0 \%$ |  |

Source: BBVA Research using ACARA data

## 4. Most sales through dealers and in cash

Sales are basically made through three channels: a) dealers, who overall account for $65 \%$ of the sales, with many of them being multi-brand dealers; b) special sales by carmakers directly to corporate customers; and c) special savings plans designed for car purchase organized by the carmakers themselves.

Most sales of new cars are paid for in cash (69.8\%); while the remaining $30.2 \%$ are financed ( $48.3 \%$ of which correspond to the savings plans mentioned above). This distinguishes the Argentinean market from that of Brazil, where the proportions are reversed, with a clearly higher number of financed sales. However, the financing of car purchases is actually slightly higher than that indicated by these figures, as some personal loans are used for this purpose, although the sales themselves are registered as being in cash.
In terms of the second-hand market, transfers in 2009 numbered 1,327,734 units, though no reference price can be identified due to the informality that is a characteristic of this market. This also explains the low financing level in the segment of second-hand cars, estimated at only $5 \%$ of transfers, with the remaining $95 \%$ made in cash.

## 5. Strong regional integration in automotive supply

The automotive industry in Argentina has 10 manufacturers in operation with plants in the provinces of Buenos Aires, Santa Fe, Córdoba and Tucumán. Of these, 9 plants manufacture assembled units while the other makes gearboxes. Domestic output is among the 25 biggest in the world ranking of top vehicle producing countries, though the precise figure varies according to the year.
The manufacturers operating in Argentina are Fiat Auto, Ford, General Motor, Iveco, Mercedes Benz, PSA Peugeot-Citroen, Renault, Toyota and Volkswagen. They manufacture assembled units in one or all of the market segments. Scania only manufactures gearboxes.
Following the major slump provoked by the 2002 crisis, the vehicles supply began a sustained process of recovery, which was only interrupted in 2009 by the impact of the international crisis that affected both domestic production and imported units. However, there was a major recovery in 2010 with accumulated year-on-year growth of $43.8 \%$ to October. Production in terms of number of units is estimated at 700,000 for the full year, an increase of more than $36 \%$ year-on-year and above the alltime highs posted in 2008.

Chart 6
Automotive supply


Source: ADEFA

Despite the significant growth in the industry since 2002, there is no scarcity of idle capacity. The INDEC survey shows that utilization of installed capacity is at $66.5 \%$, below the general average for manufacturing industry, which stands at $75.5 \%$ (see Chart 7).

Chart 7
Installeda capacity utilization


Source: Indec

Although the car industry has a long tradition in Argentina, with the first manufacturers settling over 50 years ago, it is only from the 1990s that activity received a new boost through integration into MERCOSUR and the implementation of regional strategies by carmakers. Closer international links meant that processes and models were updated and trade flows increased in both directions in the sector. Following the agreement within MERCOSUR and the close relationship established with Brazil, there were complementary agreements with Mexico and Chile.

## 6. Balanced trade with Brazil allows some flexibility

The automobile trade agreement between Argentina and Brazil has determined the framework within which most international trade in the industry operates. The current agreement expires in 30 June 2013, after which either free trade will exist between the parties, or a new agreement will be concluded.

The treaty covers an intra-area compensated exchange of vehicles in all categories, including parts, components and accessories, with a 100\% preferential customs treatment (0\% tariff), provided that the products comply with the requirements of origin. Manufacturers from outside the zone are subject to a Mercosur common external customs tariff of $35 \%$.
Trade flows are monitored and the administrative model establishes different flexible (Flex) coefficients of deviation in bilateral trade for each country. If Argentina runs a deficit in its bilateral trade with Brazil, the ratio between the value of imports and exports must maintain a coefficient of deviation on the value of annual Argentinean exports not greater than 1.95.

If Brazil runs a trade deficit, the ratio between the value of imports and exports must maintain a coefficient of deviation on the value of annual Brazilian exports not greater than 2.50.

In this way, the conditions agreed reflect the different capacity of each economy to face an imbalance in the sector, thus allowing a greater deficit for Brazil.

There are no maximum limit for exports to the extent that the established Flex limits are complied with. Companies based in territories of one or the other country that has a surplus in their exchange may transfer their credit to companies running a trade deficit. If this global exchange remains above the limits provided for under the Flex even after using this transfer scheme, reductions will be applied in the customs tariff preferences of $100 \%$.

The automotive products in question must have a minimum regional MERCOSUR content of 60\%. In the case of new models manufactured in the territory of one of the parties, a 2-year schedule for gradual integration has been established. This stipulates a minimum regional component of $40 \%$ at the start, $50 \%$ in the first year, and $60 \%$ in the second year, as for the general regulations.

## 7. Strong trade deficit in the auto parts trade sector

A glance at the automotive value chain shows that Argentina has suppliers of basic products in steel, aluminum and plastics. The input markets are monopolies or oligopolies, and the existing companies are not exclusive providers of the automotive industry. In fact, they supply a broad range of sectors, including electrical appliances and construction.
The auto parts industry is made up of around 400 companies, mostly SMEs, which directly employ around 52,800 workers. Total sales in the sector were USD $3,930 \mathrm{~m}$ in 2009. The main destinations of the auto parts manufactured in Argentina were Brazil, the United States, Mexico and Venezuela, while the countries of origin of the imports were headed by Brazil, followed by Germany, China and the United States.

The level of domestically-produced parts in vehicles is a concern for the Argentinean authorities, due to its impact on the balance of trade. It is estimated that only $20 \%$ of the parts in a vehicle considered "domestically manufactured" are actually domestic in origin. Figures for the first half of 2010 show a deficit of USD $2,797 \mathrm{~m}$ in auto parts trade, $109 \%$ above the same period the previous year.
With the aim of increasing by $10 \%$ the proportion of Argentinean car parts, the Ministry of Industry is studying the provision of subsidized financing for 150 auto part investment projects for a total value of ARS 1.4 billion.

Chart 8
Auto part foreign trade


[^0]
## 8. Exports account for $60 \%$ of the demand for domestically-manufactured vehicles

With the integration of the industry to the international (above all regional) scene, exports are an important component in demand for domestic manufactured vehicles ( $60.6 \%$ over the last two years), while imported vehicles represent a significant part of total sales in the domestic market (60.2\% in the same period). The main destinations of exports are Brazil and Mexico, although there were also smaller amounts sold to other countries in Latin America, Europe, Asia and Africa.

Chart 9
Automotive demand


Source: ADEFA

After the contraction in the markets in 2009 as a result of the global crisis, there was a major recovery in demand in 2010, both domestic and external. In the first 10 months of 2010, exports totaled 358,067 units (up $44.0 \% \mathrm{y} / \mathrm{y}$ ), while sales on the domestic market, including both locally manufactured and imports, totaled 558,723 vehicles (up 39.5\% y/y).

## 9. The determinants of demand

Car sales tend to accentuate the economic cycle and showed an elasticity of 4.6 with respect to GDP in the last growth cycle of 2002/2008. As these are durable goods, demand is influenced by future expectations related to economic performance as well as improvement in income per capita. As the fall in unemployment and the improvement in real wages for workers increase accessibility, consumer expectations with respect to whether these improvements are temporary or permanent play an important role.
In 2010, demand for durable goods was boosted by acelerating inflation and continued low interest rates. These have created a disincentive to saving and boosted demand for cars as a hedge value. Although the total wage bill can be expected to continue increasing in 2011 and monetary conditions will probably continue to be lax, the uncertainty linked to the electoral cycle will have a negative impact on confidence and the purchase of durable goods, thus reducing the rate of expansion in the sector.
In the medium term, the continued growth of the economy and a deceleration of inflation, will enable the sector to develop with an increased use of bank finance.

The tax component is not a determinant factor in demand for cars manufactured inside MERCOSUR, as only in the case of a vehicle costing more than ARS 170,000 are internal taxes payable with a surcharge of $10.0 \%$; otherwise, only $21 \%$ of value added tax (IVA) is applicable. For a vehicle imported from outside the Mercosur area, an additional $35 \%$ customs tariff is added. This mainly affects high-end vehicles.

## 10. Medium-term prospects for demand

We estimate a simple econometric model to assess the outlook for automobile demand in Argentina over the coming years. The model links total car sales with the interest rates of car loans (in which the car is used as collateral), the real interest rate, GDP per capita and the price of vehicles ${ }^{1}$.
Estimates suggest that, in our base scenario of sustained per capita output growth and continuing real negative interest rates, the prospects for the sector are positive as that there will be continued sales growth, although at a slower rate than this year. Sales are expected to reach 950,000 units in 2012, $14 \%$ above the figure for 2011 , which at 836,400 units will in turn show a growth of $23 \%$ on 2010 values (see Chart 10).

Chart 10
Vehicle sales (base scenario, quarterly variation, \%)


Source: BBVA Research

## 11. Low financing ratios

Due to the volatility of the Argentinean economy and high nominal interest rates over prolonged periods, the use of finance in the purchase of vehicles is very low in Argentina (as in the case of housing) compared with other countries in the region. Car loans have never accounted for more than $9 \%$ of total lending and barely $2 \%$ of GDP (see Chart 11). Another factor that has an effect on these figures is the high rate of informality in the labor market (around $36 \%$ of workers), which makes it more difficult for people to access bank credit.

Chart 11
Car loans


Source: BBVA Research

Chart 12
Access to vehicle


Source: BBVA Research

[^1]Accesibility has improved for formal workers after the economy plunged in 2002, due to the increase in real wages. Over recent years it has reached similar levels to the best in the historical series, with 28 monthly wages required for the purchase of a compact family car (see Chart 12).

On the finance supply side, it is worth highlighting the importance of financing companies linked to the carmakers who have a $30 \%$ share of the car loans, in direct competition with the banks. In some cases, these companies are associated with a bank and have the advantage of better developed collection units in case of a sustained increase in default rates during recessive cycles.
Currently, with output expanding substantially and with positive prospects for the economy over the coming years, sales will probably continue to expand and there will be no problems in the marketing chain. The NPL rate is estimated at only $1 \%$ in the current portfolio, due not only to the general economic situation, but also the role that vehicles have as a hedge value in an inflationary context.

On average, loans for car purchases finance up to $50 \%$ of the value of the vehicle at terms of up to 5 years. At the close of this report, interest rates for car loans varied between $16.5 \%$ and $22 \%$ p.a., representing a negative rate in real terms. However, the importance of loan-linked insurance (life and car) should be taken into the account in the total financial cost. This shows the potential for crossselling involved in car loans both due to the related insurance products and to the fact that they tend to enhance customer loyalty in the medium term.

## DISCLAIMER

This document and the information, opinions, estimates and recommendations expressed herein, have been prepared by Banco Bilbao Vizcaya Argentaria, S.A. (hereinafter called "BBVA") to provide its customers with general information regarding the date of issue of the report and are subject to changes without prior notice. BBVA is not liable for giving notice of such changes or for updating the contents hereof.
This document and its contents do not constitute an offer, invitation or solicitation to purchase or subscribe to any securities or other instruments, or to undertake or divest investments. Neither shall this document nor its contents form the basis of any contract, commitment or decision of any kind.

Investors who have access to this document should be aware that the securities, instruments or investments to which it refers may not be appropriate for them due to their specific investment goals, financial positions or risk profiles, as these have not been taken into account to prepare this report. Therefore, investors should make their own investment decisions considering the said circumstances and obtaining such specialized advice as may be necessary. The contents of this document is based upon information available to the public that has been obtained from sources considered to be reliable. However, such information has not been independently verified by BBVA and therefore no warranty, either express or implicit, is given regarding its accuracy, integrity or correctness. BBVA accepts no liability of any type for any direct or indirect losses arising from the use of the document or its contents. Investors should note that the past performance of securities or instruments or the historical results of investments do not guarantee future performance.
The market prices of securities or instruments or the results of investments could fluctuate against the interests of investors. Investors should be aware that they could even face a loss of their investment. Transactions in futures, options and securities or high-yield securities can involve high risks and are not appropriate for every investor. Indeed, in the case of some investments, the potential losses may exceed the amount of initial investment and, in such circumstances, investors may be required to pay more money to support those losses. Thus, before undertaking any transaction with these instruments, investors should be aware of their operation, as well as the rights, liabilities and risks implied by the same and the underlying stocks. Investors should also be aware that secondary markets for the said instruments may be limited or even not exist.

BBVA or any of its affiliates, as well as their respective executives and employees, may have a position in any of the securities or instruments referred to, directly or indirectly, in this document, or in any other related thereto; they may trade for their own account or for third-party account in those securities, provide consulting or other services to the issuer of the aforementioned securities or instruments or to companies related thereto or to their shareholders, executives or employees, or may have interests or perform transactions in those securities or instruments or related investments before or after the publication of this report, to the extent permitted by the applicable law.

BBVA or any of its affiliates' salespeople, traders, and other professionals may provide oral or written market commentary or trading strategies to its clients that reflect opinions that are contrary to the opinions expressed herein. Furthermore, BBVA or any of its affiliates' proprietary trading and investing businesses may make investment decisions that are inconsistent with the recommendations expressed herein. No part of this document may be (i) copied, photocopied or duplicated by any other form or means (ii) redistributed or (iii) quoted, without the prior written consent of BBVA. No part of this report may be copied, conveyed, distributed or furnished to any person or entity in any country (or persons or entities in the same) in which its distribution is prohibited by law. Failure to comply with these restrictions may breach the laws of the relevant jurisdiction.
This document is provided in the United Kingdom solely to those persons to whom it may be addressed according to the Financial Services and Markets Act 2000 (Financial Promotion) Order 2001 and it is not to be directly or indirectly delivered to or distributed among any other type of persons or entities In particular, this document is only aimed at and can be delivered to the following persons or entities (i) those outside the United Kingdom (ii) those with expertise regarding investments as mentioned under Section 19(5) of Order 2001, (iii) high net worth entities and any other person or entity under Section 49(1) of Order 2001 to whom the contents hereof can be legally revealed.
The remuneration system concerning the analyst/s author/s of this report is based on multiple criteria, including the revenues obtained by BBVA and, indirectly, the results of BBVA Group in the fiscal year, which, in turn, include the results generated by the investment banking business; nevertheless, they do not receive any remuneration based on revenues from any specific transaction in investment banking.
BBVA and the rest of entities in the BBVA Group which are not members of the New York Stock Exchange or the National Association of Securities Dealers, Inc., are not subject to the rules of disclosure affecting such members.
"BBVA is subject to the BBVA Group Code of Conduct for Security Market Operations which, among other regulations, includes rules to prevent and avoid conflicts of interests with the ratings given, including information barriers. The BBVA Group Code of Conduct for Security Market Operations is available for reference at the following web site: www.bbva.com / Corporate Governance".

Chief Economist
Gloria Sorensen
gsorensen@bancofrances.com.ar
Jorge Lamela
jorge.lamela@bancofrances.com.ar

With the assistance of
Juan Manuel Manias
Marcos Dal Bianco
José Berdiñas
Laura Rocha
Pablo Borakievich

## BBVA Research

Group Chief Economist
José Luis Escrivá

## Chief Economists \& Chief Strategists:

Regulatory Affairs, Financial and Economic Scenarios:
Mayte Ledo
teresa.ledo@grupobbva.com
Financial Scenarios
Sonsoles Castillo
s.castillo@grupobbva.com

Financial Systems
Ana Rubio
arubiog@grupobbva.com
Economic Scenarios
Juan Ruiz
juan.ruiz@grupobbva.com
Regulatory Affairs
María Abascal
maria.abascal@grupobbva.com

## Market \& Client Strategy:

## Antonio Pulido

ant.pulido@grupobbva.com
Equity and Credit
Ana Munera
ana.munera@grupobbva.com
Interest Rates, Currencies and
Commodities
Luis Enrique Rodríguez
luisen.rodriguez@grupobbva.com
Asset Management
Henrik Lumholdt
henrik.lumholdt@grupobbva.com

## Spain and Europe:

Rafael Doménech
r.domenech@grupobbva.com

Spain
Miguel Cardoso
miguel.cardoso@grupobbva.com
Europe
Miguel Jiménez
mjimenezg@grupobbva.com

Jorge Sicilia
i.sicilia@bbva.bancomer.com

United States
Nathaniel Karp
nathaniel.karp@bbvacompass.com
Mexico
Adolfo Albo
a.albo@bbva.bancomer.com

Macro Analysis Mexico
Julián Cubero
juan.cubero@bbva.bancomer.com

Emerging Markets:
Alicia García-Herrero
alicia.garcia-herrero@bbva.com.hk
Cross-Country Emerging Markets Analysis
Daniel Navia
daniel.navia@grupobbva.com
Pensions
David Tuesta
david.tuesta@grupobbva.com
Asia
Stephen Schwartz
stephen.schwartz@bbva.com.hk
South America
Joaquín Vial
jvial@bbvaprovida.cl
Argentina
Gloria Sorensen
gsorensen@bancofrances.com.ar
Chile
Alejandro Puente
apuente@grupobbva.cl
Colombia
Juana Téllez
juana.tellez@bbva.com.co
Peru
Hugo Perea
hperea@grupobbva.com.pe
Venezuela
Oswaldo López
oswaldo_lopez@provincial.com

## Contact details

BBVA Research Latam
Pedro de Valdivia 100
Providencia
97120 Santiago de Chile
Teléfono: + 5626791000
E-mail: bbvaresearch@grupobbva.com


[^0]:    Source: ACARA

[^1]:    1: It is a linear single-equation model estimated by ordinary least squares at quarterly frequency. It relates the first difference of the logarithm of total car sales with the first lag in the nominal interest rate of the car loans and the real interest rate, the rate of growth of per capita output and the quarterly change in the price of cars. The model was estimated using quarterly data from between 1Q 1993 and 3Q 2010. All the variables are statistically significant to within $5 \%$, except the real interest rate, which is significant to $10 \%$ (its p -value is 0.069 ).

