The Usual Suspects:
Investment Banks' Recommendations and Emerging Markets

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October, 2006

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Abstract

The paper addresses two core questions: do recommendations have an impact on the allocation of portfolio flows in the emerging-markets asset class? Above all, are there asymmetries of information between brokers and investors given that the former could have a better knowledge concerning this asset class? In order to answer these questions, we constructed a unique database covering the period 1997-2006 for all the bond recommendations made by the major investment banks that dominate the emerging bond markets. The most important findings are as follows: 90 per cent of the underwriters recommend buying or maintaining in their portfolios the bonds issued by the countries where they are acting as lead managers; and investment banks' recommendations are also correlated with the relative size of the secondary bond market. In fact, there is a phenomenon that we call "too big to underwrite" meaning that investment banks do not send negative signals to investors of countries that, given their size, are considered important for their business. Finally, by using panel data analysis, we found that the impact of investment banks' recommendations on portfolio capital flows is more significant and more predictable than some macroeconomic variables such as interest rate, economic growth and inflation rate. The first of the two major policy lessons at stake is that there is a need for more detailed information disclosure by investment banks in order to determine if past recommendations are related to macroeconomic variables and financial variables or whether they are associated with the investment banks' business in emerging economies. Second, given that banks' recommendations and portfolio flows are related, an international co-operation scheme needs to be established to encourage investment banks to cover more countries.

I. Introduction

Since the beginning of the 21st century, emerging markets have reached a kind of nirvana. The global search for higher returns led to record inflows of liquidity into dedicated emerging markets' bond and equity funds, especially in 2005 and 2006.

In 2005, emerging market equity funds absorbed more than $20 billion on net inflows, five times more than the previous year and beating the record of 2003, according to data from *Emerging Portfolio Fund Research*, a US company that tracks fund flows around the world. Emerging bond markets also soared, breaking the previous record of inflows as more than $10 billion flew to these funds in 2005 against a meagre $3 billion in 2004. The year 2006 saw an even more impressive turn of events: in January, global net inflows into emerging markets equities topped more than $11 billion, an amount that is more than half of last year's total in a single month. In the first quarter alone of 2006, inflows exceeded those received during the whole of 2005. All in all, including all kind of portfolio investors, foreigners ventured an impressive net $61,4 billion in emerging equities over 2005.

The search for yield explains much of this story. Historically low interest rates in developed countries and soaring global liquidity, combined with structural macroeconomic improvements in the emerging markets asset class, led to an impressive search for yield that benefited emerging markets. This environment has been particularly favourable for investment banks with huge amounts of money pouring into the asset class, fees burgeoning and massive deals in the pipeline. The multilateral officials were probably the only unhappy people in the crowd, fearing that their institutions could be relegated to the trash heap of history. In Wall Street and the City, while yield-hungry buyers were casting the net wider in the hunt for returns, analysts and investment bankers were opening champagne.

This recent emerging market boom is not unique. During the late nineteenth century, Latin American countries, for example, already experienced a massive foreign investment boom. A major part of the inflows took the form of sovereign debt, the bonds being traded in European financial centres. At that time, the market value of emerging market debt traded in London was impressive: at the turn of the 20th century, its value was equivalent to 12 per cent of world GDP[3].

Therefore, even if in nominal terms we are witnessing an explosion of bond flows towards emerging markets, this pales in comparison to the previous globalisation era, in relation to the size of the world's economies. Not only was the previous era of global finance much more open in terms of total capital flows but emerging markets were also very present within London asset managers and bank portfolios, the major dealers of the

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[3] One century later, in 1999, the total volume of emerging debt market traded was, however, a meagre 2.7 per cent of world GDP. The recent allure of emerging markets has seen debt trading value jump to $5 500 billion in 2005 (roughly 12 per cent of world GDP), which is simply restoring the position already reached 100 years ago.

time[4]. According to estimates from Mauro, Sussman and Yafeh (2002), by 1905, the market value of emerging markets bonds traded in London reached 25 per cent of all government bonds traded in the City! By comparison, in recent years, US institutional investors have had barely 10 per cent of their portfolios invested in foreign securities, with a meagre fraction of that capital devoted to emerging markets.

The lack of knowledge of investors regarding developing countries was also impressive by that time[5]. Gregor McGregor, a Scottish trader and adventurer who "invented" a country, Poyais, and subsequently paper traded on that country in London during the 1820s. Poyais was a fictitious state that nevertheless borrowed on the London market in 1822. When investors discovered the fraud one year later and ceased to trade the worthless papers it ended in one of the first big series of Latin defaults. By the mid 19th Century, Poyais managed to borrow on the same terms as legitimate states such as Chile, Colombia or Peru (on 19th century emerging markets see in particular Tomz, 2001; Flandreau et al, 2003; Flandreau and Zumer, 2004; Flores, 2006).

Today a repeat of this story is impossible: the levels of information are higher and the density and complexity of players greater. Indeed, the role of brokers is predominant and the information provided to investors is vast and expensive. However information gaps could remain. By delegating to brokers the search of economic and financial information of emerging economies, investors can fall into the trap of an asymmetric information problem. Indeed, in some circumstances, information provided by banks to investors could be biased depending on their own objective that sometimes could differ from those of investors[6]. More precisely, banks are confronted with a trade-off concerning recommendations. Indeed, while sell side[7] or brokerage activity could have the incentive in the long term to build reputation by giving accurate and robust information in order to capture and/or maintain clients, in the short term sell side recommendations could be biased in order to obtain temporary benefits. Additionally, investment banking activities could be motivated to recommend optimistically the assets which banks are participating as underwriters in an IPO.

Most of the studies underline that bias concerns mostly developed economies and equity markets is related to the autonomy of financial research. However the empirical

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[4] The largest bondholder of long-term cross border investments at the turn of the XXth Century was the United Kingdom, accounting for nearly half of all cross-border investments in the early XXth Century. At the time, about 30 per cent of its investments were in government debt, 40 per cent in railways, 10 per cent in mining, and 5 per cent in utilities.

[5] In both periods of finance globalisation news about wars or episodes of politically-motivated violence have been significant and robust determinants of spreads. One difference is that in the first era, country-specific fundamentals account for a greater share of variation in spreads than they do today (Mauro, Sussman, and Yafeh, 2006). Another is that information asymmetries tend to be lower today than in the previous era, as also reflected by risk premiums.

[6] See Laffont and Martimort (2002) for a good description and review of the literature concerning principal (here the investor) and agent (here the bank) problems.

[7] The sell side is the retail brokers and research departments that sell securities, make recommendations for brokerage firms' customers and are paid through commissions charged on the sales price of the security. By contrast, the buy side is the part of the financial markets (such as mutual funds, pension funds and insurance firms) that purchase and sell securities for money management purposes.

evidence on emerging markets is fairly scarce. If some studies have been conducted on emerging-equity analysts, hardly any exist on emerging bond markets. Our study provides a first attempt to fill this gap. It addresses two core questions: are broker recommendations useful in emerging bond markets? In other terms do buy or sell recommendations have an impact on the allocation of flows in the asset class? Above all, are we facing in this asset class similar problems of information as a century ago? Are brokers' recommendations biased towards positive outlooks?

The remainder of this article is organised as follows. In Section II, we provide a review of the literature. In Section III, we describe the datasets we used, among them a unique and untapped dataset of all brokers' recommendations for Latin American emerging markets. In the fourth section, we study the relationship between investment banks' recommendations and some aspects related to the business of these banks (in particular sell-side business). This section gives some preliminary results in order to understand whether banks' advice to investors is biased. For that, we analysed firstly underwriters' recommendations and secondly the relationship between the size of emerging markets and outlooks. Section V analyses the impact of broker recommendations on private capital flows towards emerging markets, matching the afore-mentioned database with another one on private portfolio flows. Lastly in the sixth section we conclude by giving the most important results of this paper and we open the door to future research by employing the newly constructed database.

II. Overview of the literature

One of the most important factors affecting the efficiency of capital markets is the problem of asymmetry of information between financial actors. More precisely, in an Initial Public Offering (IPO), an information advantage can arise concerning "fundamentals" of the security for the agent in charge of the underwriting (the bank) over the buyer of the security (the investor). This advantage allows underwriters, through reports made by market analysts, to send to investors recommendations biased towards increasing underwriters' profits, given that part of the payment made by the issuer to the underwriter depends on the "success" of the issue in the primary market.

Empirical literature has mainly investigated these stock market issues in relation to OECD countries. Womack (1996), for example, studied the impact that a recommendation may have on the price of a share issued in the American market by analysing the excess return in the short and medium-term following a buy or sell recommendation made by analysts of the major brokerage firms. More recently, Jackson (2005) instances the Australian equity market to demonstrate that analysts are confronted by a trade-off between sending true signals to the market (thereby building up one's reputation) and sending optimistic recommendations to obtain the short-term benefit of higher commissions.

Studies of the relationship between underwriters and recommendations are scarcer, and the results suggest there is a conflict of interest between different sections of

an investment bank department, such as between the section charged with issuing securities and the research department. Analysing the US equity market, Womack and Michaely (1999) found, for example, that "stocks that underwriter analysts recommend perform more poorly than "buy" recommendations by unaffiliated brokers prior to, at the time of, and subsequent to the recommendation date", which suggests that recommendations by underwriter-analysts are biased.

From a theoretical point of view, the research literature concerning this topic is rich and useful. Myers and Majluf (1984) studied an asymmetric information problem involving managers of a firm about to issue stock to raise cash and potential investors. In the same vein, Stein (1989) modelled a non-co-operative game between managers and rational investors that yielded the short-term behaviour of equity prices following earnings manipulations by the managers. More relevant to our research, Benabou and Laroque (1992) studied the manipulation of prices by the effect of private and pre-announcements on prices. However, they noted that under some conditions investors can resolve this problem in the long run by reassessing the credibility of the individuals offering private information (the research analysts).

The purpose of our study is to focus on emerging markets that have not yet been analysed from this angle. More precisely we intend to analyse this asymmetric information problem in relation to the bonds issued by Latin American governments through international banks (the underwriters) in the US and European capital markets.

Research analysts play a centre role in financial markets. Together with fund managers they are at the heart of the confidence game (Santiso, 2003; Santiso, 1999). Their recommendations influence the price of a company's stock or a sovereign bond. They live in a forward-looking world where anticipation and prediction (of rises or falls) is the key to reaching a financial nirvana measured in extra bonuses. Their cognitive regime is embedded in short-term horizons, research and trade priorities and therefore potential conflicts of interest.

These research analysts study companies and sovereigns in emerging markets to produce buy and sell recommendations. They are usually specialised in a particular industry, sector or, for emerging markets, particular countries and areas, Latin America being in itself an asset class. Whether or not a company or country is covered by research analysts is a central issue. Without significant coverage by the industry, the company or country simply does not exist in the financial world[8]. The analysts' outputs and opinions about a firm or a country are precious signals to which investors react. Investors react to the information contained in analysts' earnings forecasts, stock recommendations and also target prices[9].

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[8] The consequence of this is that companies or countries have to fight to be included in indexes or simply to be covered by analysts. This means for a company, for example, presenting coherent products and corporate strategies easily and clearly identifiable by stock market analysts. As underlined by Ezra Zuckerman, "a firm that participates in a given industry but does not draw attention from industry specialists can be described as suffering from coverage" and tends to contribute to diversifying strategies by corporate managers in order that their stock could be more easily understood by financial analysts. See Zuckerman (2000).
[9] See Brav and Lehavy (2001) and Bradshaw (2000).

A major concern during the 1990s was analsyt's influence and independence. Analysts belong to institutions, for example investment banks, that are not homogeneous entities. Within each institution, each division and each department pursues certain goals and strategies that are linked with the firm, but that may conflict with one another. Investment banks have at least three identified sources of income that are basically brokerage services; (i) corporate finance activities, issuance of securities; (ii) merger and acquisitions advisory services; and (iii) proprietary trading. These three sources of income may create conflicts of interest within the firm, between departments and divisions, but also outside the firm with its potential or current clients. A frequent and observable conflict of interest occurs between investment banking and brokerage activities. The corporate division of a bank is responsible for the issuance of an initial public offering (IPO) or a merger and acquisition for a client. The brokerage house of the firm, through its equity and fixed income department, is responsible for covering the security with a clear objective of delivering timely, unbiased and high quality information to clients that are investors. The objectives of the corporate division can clash with those of the equity and fixed income research department.

In this case, analysts will do their best to deliver the most valuable and independent opinion. For this they use a narrow range of terms to qualify their recommendations (strong buy, buy, hold, sell and strong sell). Moreover, these recommendations could be based on a benchmark index (overweight or over-perform, neutral and underweight or under-perform).

However, one of the paradoxes underlined by the US Securities Exchange Commission in 2001, is that these analyses are rarely "sell" recommendations: in the year 2000 less than 1 per cent of all Wall Street brokerage house analysts' recommendations were "sell" or "strong sell" recommendations. In fact all analysts at investment banks tread a thin line and are caught in potential conflicts of interest. On the one hand, investors, their major clients, want brokers to give honest opinions and be successful over time. On the other hand, an analyst's objectivity and independence can be threatened by several potential conflicts of interest, most of them stemming from the blurring of the lines between research and investment banking[10].

Several factors can shape the investment recommendation as stressed by the US Securities Exchange Commission (SEC): the analyst's firm may be underwriting the offering of a company covered by the analysts ; client companies will prefer positive research reports, therefore negative ones could damage the investment firm's efforts to build long term and lucrative client relationships with a corporate or a sovereign; analyst compensation and bonuses can be linked to the number of deals done; and last but not least, the broker, the analyst or any other employee in the firm may own interests in the company covered. A 2001 US SEC Staff analysis of nine Wall Street firms found the following: seven of them reported that "investment banking had input into analysts'

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[10] As underlined by Unger (2001), acting chair of the US Securities & Exchange Commission, "The blurring can be seen in a number of ways. First an analyst's salary and bonus may be linked to the profitability of the firm's investment banking business, motivating analysts to attract and retain investment banking clients for the firm. Second, at some firms, analysts are accountable to investment banking for their ratings. Third, analysts sometimes own a piece of the company they analyse, mostly through pre-IPO share acquisitions".

bonuses and the analyst hiring process"; although there is no formal supervision of analysts by investment banking "it is well understood by all these analysts that they were not permitted to issue negative opinions about investment banking clients"; in a total of 308 out of 317 IPOs examined, the firm that underwrote the security also provided research coverage; and finally "about one quarter of the analysts inspected own securities in companies they cover". The interest of US regulators in analysts' conflicts of interests prompted the industries associations to provide answers[11].

The Securities Industry Association, for example, issued a "best practices for research" in 2001 in order to consolidate the "integrity of research" recommending that research should not report to investment banking and that analysts should not be directly linked to specific investment banking transactions[12]. At the same time, firms started reviewing their internal procedures to manage conflicts in a response to increasing pressure from former clients. Several of them, including Credit Suisse First Boston and Merrill Lynch, began to adopt policies prohibiting analysts to own securities in companies they covered[13].

Analysts do not only face a myriad of conflicts of interest. Most worrying is the predictive imperative they face. Here the paradox is that, in spite of academic studies pointing to lack of efficiency, research departments of brokerage houses continue to spend large amounts of money on research analysis. They are not, however, totally naive in doing so. The financial industry experienced a dramatic change during the 1990s with the boom of the investment banking business and analysts became increasingly focused on attracting clients rather on writing independent reports. The answer is partly true if we take into account that "sell" or "strong sell" recommendations almost disappeared. However, some academic research is helpful to nuance this perception.

Two recent academic studies underlined that, in 1986-1996[14], sell-side recommendations had no significant market value. The same also applied for the period 1996-2000. In fact, according to a study based on First Call data recording 160,000 real-time recommendations made by 299 brokerage houses[15], most highly rated stocks outperformed the less favourable ones during all of the period 1996-2000 and this in every year but one: in 2000, the trends were very different and the reverse is true. During this period, analysts became increasingly positive with the percentage of "buy/strong buy" recommendations jumping from 65 per cent to more than 70 per cent over the period analysed. Above all, this research underlines a singular behaviour for 2000, reversing the one prevailing during the previous years. The most highly recommended stocks in 2000 returned 31.2 per cent less than the market, on average, while the least favourably recommended stocks gained almost 49 per cent more than the market. This data also confirms the very few "sell/strong sell recommendations" found by previous studies : the percentage of negative recommendations on stock fell from 3.4 per cent in

[11] See Boni and Womack (2002) for a description and discussion of the measures introduced by the NYSE and Nasdaq.
[12] See Securities Industry Association (2001).
[13] See "Credit Suisse limits holdings of its analysts", *Wall Street Journal,* July 25 2001, at C14 ; "Merrill alters a policy on analysts", *Wall Street Journal*, July 11 2001, at C2.
[14] See Barber, Lehavy, McNichols and Trueman (2001a).
[15] See Barber, Lehavy, McNichols and Trueman (2001b).

1996 to a mere 1.8 per cent in 2000, meaning that nearly to negative opinion is being issued by analysts.

Another line of research has being trying to foresee if analyst recommendations tend to have an impact. Here again, the bulk of the research has been heavily concentrated in developed countries. Once again, there has been little, if any analysis conducted on emerging markets. Some papers focused on trading activities on security analyst recommendations, finding that both large and small traders tend to react to these recommendations (Mikhail, Walther, and Willis, 2005). Prior works have also documented that market reaction to upgrades is less pronounced than the market reaction to downgrades by analysts (see Asquith, Mikhail, and Au, 2005; Hirst, Koonce, and Simko, 1995; Jegadeesh, Kim, Krische, and Lee, 2004; Womack, 1996). All of this research has been focused on developed countries.

Not all analysts and brokerage houses are equals. Investment banks and securities houses differ in their strategies, structures and performances. Individual analysts also differ according to their "performance", some being more appreciated than others for their recommendations. In general, buy recommendations of the largest brokerage houses tend to outperform those of the smallest by about 3 per cent annually on a market-adjusted basis[16]. Because of their closer ties with corporate management or sovereign officials, their greater resources to support research and their larger number of analysts, bigger investment firms tend to outperform their smaller counterparts. An analyst's forecast accuracy tends to increase with the size of the investment boutique to which the research analyst belongs, not only because the biggest investment houses tend to hire the best analysts but also because they offer them greater resources to carry out their research (databases, information systems, public policy and industries networks,…). As noted by Brown, Hugon and Luo (2006), "you can be the best analyst and be off the map simply because you do not belong to one of the top institutions. You can also be the best analyst but remain unknown because your research is not referenced in the media, newspapers or research providers like Bloomberg, Reuters, Investext or Multext. Lastly, depending on the type of firm you are working for, your track record can be better or worse, depending whether you are in the sell side industry or in the buy side".

In spite of the amount of literature on broker recommendations, analysts' bias, and fund managers' relations, very little has been written on emerging markets. Among the rare research devoted to the political economy of emerging markets (Santiso, 2003), some papers underline that there is strong evidence that foreign financial analysts outperform local analysts in these markets, as they tend to produce more timely and more accurate forecasts (Bacmann and Bolliger, 2001; Seasholes, 2000)[17]. In a recent paper Seasholes investigated information asymmetries in emerging stock markets and found

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[16] See Barber, Lehavy and Trueman (2000). This research shows also that surprisingly smaller brokers tend to make twice as much "sell" recommendations than the biggest investment boutiques (14 per cent of sell/strong sell against 6 per cent for the big brokers houses during the period studied 1986-1998). The smallest brokers tend also to have superior "sell" recommendations than their bigger competitors, this may be linked to the fact the big broker houses have stronger interests and incentives for preserving existing or potential client relationships.

[17] Bolliger finds however that local houses in Europe have an advantage over foreign ones (Bolliger, 2004), sharing the same kind of results as other studies on OECD countries (Orpurt, 2004). The same kind of research has been conducted for fund managers in emerging markets (Choe et al., 2005; Dvorak, 2005).

that there was little evidence that locals were better informed than foreigners and there is evidence that foreign investors can outperform locals when trading specific stocks (Seasholes, 2004). Bae, Stulz and Tan (2005), by using a sample of 32 countries, among them some emerging ones, tend to find on the contrary a local advantage for the period 2001-2003 and in particular US investors tend to underweight a country's stocks more in their portfolio if that country has a higher analyst local advantage. This is the case in particular in countries where less public information is disclosed by firms, and therefore available to worldwide analysts (see also Chang, 2003).

During the 1990s, the emerging equity markets industry boomed, with the number of stocks covered rising from 150 to nearly 500 between 1993 and 2000, according to some estimates (Bacmann and Bolliger, 2001). The number of brokers covering emerging stocks also increased (from 66 to 170) as well as the number of analysts (from around 260 to more than 1650 for the same period). The average number of analysts employed by foreign brokerage houses amounted to 8 while the average was 5.5 for local ones. Local analysts tended however to be relatively more active, producing forecasts every 76 days (while their foreign peers produced one every 71 days) and changing their firm forecasts on average 1.5 times per firm each year (against 1.16). As shown by Bae et al (2005), the number of analysts per country varies a lot: while South Africa has only 3 firms and Brazil has 23, the former had 126 analysts covering stocks (85 of them foreign) and the latter only 28 (11 of them foreign).

Other micro-focused studies analysed individual investor behaviour: the 90,500 actively investing individuals within the People's Republic of China by the beginning of the 2000s (Feng and Seasholes, 2003); the mutual funds investment strategies in emerging markets (Kaminsky et al., 2004); or the extent and accuracy of analyst activity across 47 countries (15 of them emerging markets) covered by Chang, Khanna and Palepu (2000).

All in all, studies focused on emerging-markets analysts, brokers and investors tend to be scarce. When studies do exist, they are concentrated on equity markets. None, as far as we know, investigated the confidence game within emerging bond markets. This is in fact quite surprising when compared to the density of studies issued on financial analysts over the past years. Since 1992 no less than 250 papers related to financial analysts have been published in the nine major research journals, according to one of the most complete reviews of the literature (Ramnath, Rock, and Shane, 2006).

Our study covers this gap. We used untapped and rich datasets, entirely built on their own, as explained in the following section. We wanted, first, to determine whether bond analyst recommendations are biased and depend on the underwriting mandate or on the size of a specific country's bond market. Our second objective is to study the impact of investment banks' recommendations on fund flows. In other terms whether these analyses are relevant or useful to understanding capital flows towards emerging economies. For this we constructed a unique database covering the period 1997-2006 for all the bond recommendations by the major Wall Street and City brokerage firms

dominating the emerging bond markets, and more precisely the Latin American segment where we focused our attention, the region being the most active in bond markets.

III. Description of the data

In this section we present the source and the relevance of the data used for this paper. The data can be divided into three different types. Firstly, we have the information provided by brokerage houses to investors about their sentiment vis-à-vis an emerging economy. Secondly, we employ data related to the structure of the Latin American Bond Market. More precisely, we use issues, size of each country in the market and credit risk given by the market to emerging countries. Finally, we have taken some macroeconomic variables of Latin American economies such as capital flows, economic activity, interest rates, exchanges rates and inflation rates.

The most important and innovative aspect of our paper is the construction of a unique and totally new untapped database containing the recommendations given by the major investment banks of the Latin American bond markets. Indeed, this is the first publication that studies the impact that investment banks' recommendations may have on Latin American Capital Markets. By using simple statistical analyses we offer a primer result of the impact of research publications on emerging capital markets.

For this purpose we have used the publications produced by the major investment banks operating in emerging markets. In their monthly or quarterly reports they published the recommendations for each emerging country, providing inputs for their clients, namely the "buy side" industry of portfolio asset managers, mutual funds, hedge funds, pension funds, etc. These publications are only available for clients and are not therefore public information. Indeed, they represent a direct and strict link between financial intermediaries and investors. We managed to build the database for 10 brokers, all of them dominant players in emerging bond markets as underwriters. They are all from developed countries' brokerage houses, which are the dominant market makers: ABN AMRO, Barclays Capital, Citibank, Credit Suisse First Boston (now Credit Suisse), Deutsche Bank, Goldman Sachs, JP Morgan, Lehman Brothers, Merrill Lynch and Morgan Stanley (See Annex 1 for a description of these publications).

The period of the recommendations that we have used goes from July 1997 to July 2006[18], nearly 10 years, and the number of recommendations is over 3,400[19]. No reports before this period are available, either in the websites or databases of the brokers. As shown in Table 1, we have taken 11 emerging countries for this research. Indeed they are the Latin American countries that are studied in these publications and that represent nearly 95 per cent of the GDP of the region. They also concentrated over the period the

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[18] In fact, for the period July 1997 - December 1999 we only have information from Citibank.

[19] Most of these publications are monthly (see Annex 1). In order to compare the recommendations provided by investment banks, we have defined a specific month from the 20 of each month (not included) to the 20 of the next month (included). For instance, recommendations given in July are those that are comprised between 21 June and 20 July.

major bond issuers within the emerging-market asset class. With regard to investment banks, our database is constructed from 10 investment banks which represent more than 80 per cent of the investment banks present in the Latin American sovereign IPOs.

The frequency of these publications is in most cases monthly, and the recommendations that we have used are those given to sovereign foreign debt (we only consider country bonds, not corporate bonds). In order to compare the view of each bank towards Latin American countries at the same time, we have classified three types of recommendations, which are Overweight (the value of 1), Neutral (0) and Underweight (-1), assimilated to the cases of buying, maintaining and selling with respect to an index (e.g. EMBI+ calculated by JPMorgan). This means that given portfolio restrictions, a buying recommendation must be compensated by a selling advice, implying that investment banks are constrained to underweight countries in the composition of the portfolio when they have a favourable view of a particular country. In Annex 2, we give an example of the research publication's recommendations given by one of the largest investment banks present in Latin America.

Table 1

INVESTMENT BANKS' RECOMMENDATIONS DATABASE. NUMBER OF OBSERVATIONS (July 1997- July 2006)

	ABN	BARCLY	CITI	CSFB	DB	GS	JPM	LB	ML	MS	TOTAL
Argentina	11	4	69	59	50	24	62	19	21	26	345
Brazil	11	14	73	61	50	25	59	19	29	25	366
Chile	11	14	78	61	0	25	58	19	0	0	266
Colombia	11	15	77	63	50	25	62	19	28	25	375
Dom. Rep.	0	0	9	0	0	2	44	0	29	15	99
Ecuador	1	15	76	61	50	25	61	19	29	24	361
Mexico	11	15	78	61	50	25	61	19	29	24	373
Panama	0	14	61	61	49	25	61	0	29	24	324
Peru	1	14	78	57	50	25	61	19	29	24	358
Uruguay	0	0	21	60	0	16	54	19	29	0	199
Venezuela	11	13	81	61	50	25	61	19	29	24	374
TOTAL	68	118	701	605	399	242	644	171	281	211	**3440**
Part. Underwriting (%)	2.4	2.0	12.2	7.1	10.0	9.8	22.2	0.0	5.5	12.5	83.6

Source: The authors from investment banks' publications (for recommendations) and Bloomberg (for underwriting), 2006

In order to compare these recommendations with one of the most important businesses of investment banks in emerging countries, we constructed a database that contains the Latin American Sovereign Bond Issues from January 1999 to July 2006. The source of information was *Bloomberg* which, among other things, includes the lead managers (or underwriters), the amount outstanding, and the issue and maturity date of each issue. The most important reason for choosing *Bloomberg* as a source of information is that their database is one of the most important benchmarks for market-makers in relation to the list of leaders in the underwriting business. Indeed, the "League Table" by *Bloomberg*, calculated yearly and from 1999, represents an important guide for investors, issuers and actors about the reputation (measured as the market share) of each investment bank[20]. In order to define the issues that can be included in this "League Table", *Bloomberg* has specified the characteristics of these issues[21].

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[20] See *Bloomberg Markets* (April 2006) for a detail of the relevance for the market of the information provided in that database.
[21] The most important types of sovereign bonds issues are included in this table (i.e., Global Bonds, Private Bonds and Bonds denominated in Euros and Yen). As noted by Bloomberg, the league table excludes "the following issue types: accredited investor tranches, asset-backed issues, auction note agencies, collateralized bond obligations, collateralized loan obligations, commercial

As shown in Table 2, the data used is composed by 415 underwriters and corresponds to 251 sovereign issues[22]. In particular, almost 75 per cent of the underwriters are located in Brazil, Argentina, Colombia and Mexico. It is interesting to note that in 1999 Argentina had to use 60 per cent of the underwriters present that year in Latin America in order to place a huge number of bonds, which in fact further complicated the resolution of the Argentinean crisis. In 1999 alone, Argentina issued a total of 52 bonds, compared with 17 for Brazil and 8 for Mexico. The most active issuer in our sample over the period is also the largest economy of the region, namely Brazil, which also happens to be the most liquid Latin American market.

Table 2
Number of Lead Managers (Latin American Sovereign Bonds Issues).

	1999	2000	2001	2002	2003	2004	2005	2006 july	TOTAL
Argentina	52	21	5						78
Brazil	17	21	12	8	8	12	18	6	102
Chile	2		2	5	2	2			13
Colombia	5	12	24	4	5	5	9	2	66
Dom. Rep.			2		2			2	6
Ecuador							2		2
Mexico	8	7	8	6	12	9	5	2	57
Panama	2	2	3	2	1	3	2		15
Peru				4	4	2	5		15
Uruguay	1	4	10	2			6	6	29
Venezuela		2	10		4	7	9		32
TOTAL	87	69	76	31	38	40	56	18	**415**

Source: The authors from Bloomberg, 2006

With the purpose of studying the size of the bond market for each Latin American Country, we took the weight of each country in the JP Morgan Emerging Markets Bond Index Global (EMBI Global). This index is a reference of the bonds stock for market-makers, financial researchers and policy makers, which are, for each country, placed in the secondary market.

The countries that are included in the index were low/middle income countries (as defined by the World Bank) for two consecutive years. Concerning the characteristics of the securities, only bonds that have an issue size higher than $500 million and a maturity of at least 2.5 years are incorporated[23]. As JP Morgan Securities (2004) notes, "the weight of each instrument in the EMBI Global is determined by dividing the issue's market capitalisation by the total market capitalisation for instruments in the index". Therefore "country weights for the EMBI Global are easily calculated by aggregating the weights of the instruments for each country".

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paper, municipal bonds, mortgage-backed issues, remarketed issues, repackaged bonds, variable principal redemption issues, variable interest equity-linked issues, and credit linked notes, selling group agency issues, strips, units, warrants".

[22] Indeed, the number of Lead Managers used today for most of the Latin American Emerging Bond Issues is two.
[23] For a more detailed description of the construction of that index, see *JP Morgan Securities* (December 2004).

In Figure 1 we have the market weight of the three principal Latin American countries that compose that index today. Brazil and Mexico are by far the largest Latin American Bond Issuers (nearly 35 per cent of the total index). Indeed, they represent more than 60 per cent of the Latin American Weight of the Index. Argentina nearly disappeared after 2001 and its massive default but one year before it was still a major heavyweight, representing nearly a quarter of the total index.

Figure 1

EMBI Global Market Weight (%)

Source: JP Morgan, 2006
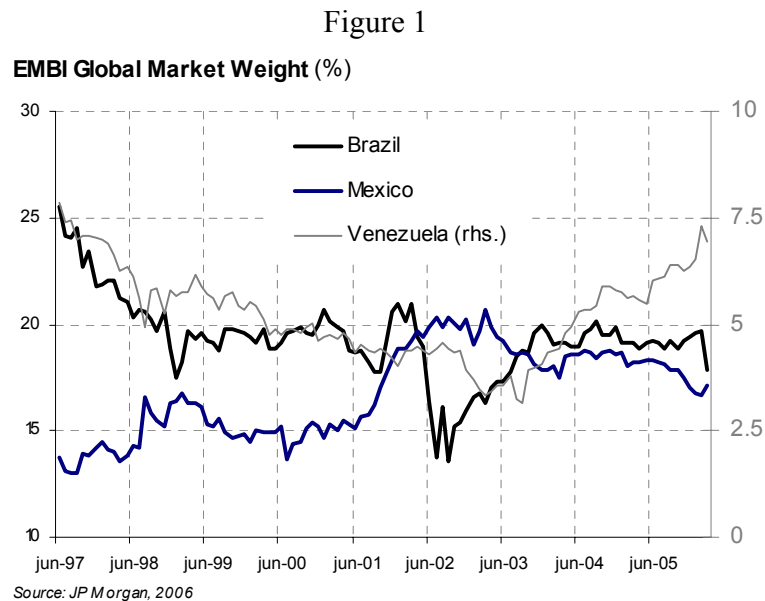
To calculate the perception of investors towards country credit risk, we employed the spread of the EMBI Global which is measured as the credit risk premium over US Treasury Bonds and is calculated as the difference between the yield to maturity bond and the yield to maturity of the corresponding point on the US treasury spot curve. For the country weights and the spreads we had information on a monthly basis from 1997 until August 2006 for the most important bond issuers in the region. In contrast, for Chile, the Dominican Republic and Uruguay the period starts in June 1999, October 2001 and June 2001 respectively.

With the aim of studying the impact of investment banks' recommendations on capital flows, we have used the database created by the Boston-based private consulting firm *Emerging Portfolio Fund Research* which is constituted by the percentage allocated to each emerging country by funds[24]. We then possess information on the country average weightings of all funds that invest in Latin American Equity and Bond Markets. The most important advantage of this database is that it contains information on a monthly basis about what differs with respect to other databases, such as the CPIS (Coordinated Portfolio Investment Survey sponsored by the IMF)[25] that includes portfolio investment assets on an annual basis and is produced by multilateral organisations (Bank

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[24] See http://www.emergingportfolio.com for a detailed description of that database.
[25] For more information about this database see http://www.imf.org/external/np/sta/pi/cpis.htm

for International Settlements -BIS-, the International Monetary Fund -IMF-, the Organisation for Economic Cooperation and Development -OECD- and the World Bank -WB-).

For equity flows, the period we used starts in July 1997 and ends in December 2005 for most of the Latin American countries of our sample[26]. In contrast, the bond flows database begins only in April 2002 but also ends in December 2005[27].

In order to test the impact of investments banks' recommendations on capital (bond and equity) flows, we have used some macroeconomic and financial variables as control variables. These variables are available on a monthly basis: economic activity growth, inflation rate, short-term interest rate, exchange rate, the spread of the EMBI Global, equity return, US industrial production and the US Federal rate. The sources of information of these variables are *Bloomberg* and *Financial Thomson Datastream*, and cover the period June 1997 – December 2005.

In the case of economic activity growth, for some countries (e.g. Brazil and Colombia), for which there is no monthly indicator of economic activity, we have taken as proxy industrial production due to the strong relationship between this variable and GDP. For the case of Venezuela, given the lack of a robust monthly indicator we have transformed GDP (that is calculated on a quarterly basis) on a monthly basis. For that, we have used Boot, Feibes, and Lisman (1967) methodology consisting of minimising the sum of squares of the second differences. Concerning the other macroeconomic variables we have used the most relevant indicator for each country[28].

IV. Investment banks' business and research publications

As we have noted in the previous sections, banks are faced with a trade-off concerning recommendations. Indeed, while sell side or brokerage activity give accurate and fit information in order to build reputation in the long term, information transmitted to investors could be biased with the purpose to obtain short term profits and to recommend optimistically the assets which banks are underwriters in an IPO.

In this section we are interested to analyse if investment banks recommendations are related to the business of these banks. We give some preliminary results in order to understand whether banks' advice to investors is biased. For that, we first analysed the recommendations given by underwriters during the announcement date of an IPO, we then studied the possible impact that the market size of an emerging country could have on the recommendation given by banks.

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[26] For Ecuador and Panama, we have information only from February 2005 and for Dominican Republic and Uruguay there is no information for equity flows.
[27] For Dominican Republic the information provided for bond flows only starts in July 2004.
[28] For the case of interest rate, for instance, we have used for Argentina *Prime rate 30 dias*, For Brazil *Selic rate*, for Chile *Tasa de Politica Monetaria*, for Colombia *DTF*, for Mexico *Cetes 28 dias*, for Peru *Interbank Interest Rate* and finally for Venezuela *TAN*.

The results given in this section are preliminary in the sense that we have in part neglected the role of the recommendations in the sell side long term business[29]. Indeed, further research must be done concerning the performance of these recommendations in terms of investment value and to contrast them with the underwriting activity[30].

IV.1 Underwriters' recommendations: a descriptive analysis

With the aim of investigating possible incentives that investment banks could have to concede a favourable recommendation to a specific emerging country, we have studied the behaviour of investment banks during sovereign bond issues. More specifically, we have integrated underwriters of the Latin American bonds issues with their recommendations, in order to analyse their recommendations in an IPO.

Our database is composed of 160 underwriters' recommendations over approximately seven years (January 1999-July 2006). By giving the value of 1 to overweight recommendations (buy advices), 0 to neutral recommendations (maintain the same percentage of an asset in the portfolio) and -1 to underweight recommendations (sell advices), we have constructed a database that allows us to give a first preliminary result on whether investment banks' recommendations are biased and therefore dependent on the IPOs business. As we have noted before, given portfolio restrictions, these recommendations can not be overweight for all countries; a favourable recommendation for one country has to be compensated with a pessimistic view of another country.

Table 3
Underwriters' recommendations (Announcement date of the issue)
Jan. 1999 - July 2006

	OVER. (%)	NEUTRAL (%)	UNDER. (%)	OBSERV.
Argentina	0.0	66.7	33.3	9
Brazil	59.5	40.5	0.0	37
Chile	20.0	60.0	20.0	5
Colombia	35.5	64.5	0.0	31
Dom. Rep.	0.0	100.0	0.0	2
Ecuador	50.0	50.0	0.0	2
Mexico	29.0	54.8	16.1	31
Panama	0.0	71.4	28.6	14
Peru	46.2	38.5	15.4	13
Uruguay	0.0	100.0	0.0	1
Venezuela	66.7	26.7	6.7	15
TOTAL	**38.0**	**52.0**	**10.0**	**160**

Source: The authors from Investment Banks' recommendations
and Bloomberg, 2006

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[29] In this section we have just analysed assets' credit risk and therefore it must be completed by other determinant variables such as returns and correlation of assets.

[30] For that it is necessary to compare the investment return obtained from brokers' recommendations with the optimal risk-adjusted return of a portfolio composed by emerging market class. For this kind of research, first it is essential to obtain all recommendations given to emerging countries and then take into account buy side business data (a proxy could be the size of the secondary market), underwriting activity data and finally data relative to sell side business (yields, spreads, variances and covariance of assets).

In Table 3, we present the recommendations given by banks that have been underwriters for Latin American sovereign bond issues. The most important and relevant result is that 90 per cent (i.e. 144 of 160) of the underwriters recommend, at the announcement date of the issue, to buy or to maintain in their portfolio the bonds issued by the countries where they are acting as lead managers. Indeed, given that only 10 per cent of the recommendations are negative, we could observe that banks' recommendations appear to be biased.

On analysing each Latin American country, all of them (except Argentina and Panama) have a higher percentage of optimistic underwriters' recommendations than pessimistic recommendations.

The Argentinean case is very useful, interesting and special case. All the issues that we have included were prior to the 2001 Argentinean Default and some of them just a few months before the crisis. It is worth pointing out that even if we have not noted an overweight recommendation, 67 per cent of the recommendations were to maintain the positions in Argentinean External Debt, even in the months before the default. Indeed, some of the comments given by banks months before the crisis were, at the least, unrealistic and biased, given that macroeconomic perspective was unsustainable[31].

By analysing the first three countries for which we have the highest number of observations (Brazil, Colombia and Mexico) or underwriters' recommendations, we note that for all of them brokers tend to have a positive view about the country (100 per cent for Colombia and Brazil, and 84 per cent for Mexico). A detailed analysis of brokers' recommendations shows that Brazil and Colombia have never obtained a pessimistic view (even though Colombia once lost its investment grade and Brazil experienced major financial turbulences in 2002). In Mexico fewer than 2 out of 10 recommendations were pessimistic. Therefore, we could point from empirical evidence that during the last years banks' recommendations were favourable to the country for which they acted as underwriters.

What is the incentive for underwriters to give a favourable recommendation at the announcement date of an issue? Firstly, positive recommendations could have an impact on the success of the "book-building" process in which underwriters are designated by

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[31] Here we impart some of the biased views concerning the Argentinean Crisis. Credit Suisse First Boston: "Argentina. Remain market-weight. We believe the expected debt exchange will be a key driver of Argentine asset prices during the month".… "Over the next month we expect to see many more specifics of the economic program, both on the fiscal side – to be released in the IMF Letter of Intent – as well as on the deregulation front, which should reduce uncertainty." CSFB May 2001 and "The successful debt exchange in Argentina should give the market some stability in the near-term horizon, which should be most beneficial to Brazil." CSFB June 2001. Salomon Smith Barney: "The successful implementation of the IMF support package — with the associated debt management transactions — and the change in the global outlook probably increases the chances that economic activity will pick up in the second half of the year. We therefore recommend a neutral position in external bonds and local currency instruments." Salomon Smith Barney January 17, 2001 JPMorgan: "Argentina: Marketweight. Favorable technicals underpin our portfolio allocation this month." JP Morgan 5 April 2001 and "Argentina: Marketweight. The improved near-term outlook appears mostly priced in, although we like the short end of the curve from a relative value perspective." JP Morgan 8 February 2001. Morgan Stanley: "We are maintaining our Market Perform recommendation on Argentine bonds.…Relaxation of fiscal targets and an innovative IMF-led financial package from creditors both improve Argentina's credit outlook. Argentina needs to raise an estimated $2.6 billion to fulfil its first quarter financing requirements. New issues are expected to total $5.6 billion in 2001. Growth and fiscal performance are becoming the focus of investors' attention." Morgan Stanley January 26, 2001.

governments to place the bonds through institutional investors. If your view is positive, or at least neutral on a given country, your likelihood of getting a future mandate will probably increase. The refutation of this hypothesis would be if investment banks that recommend selling a sovereign continued to get underwriting mandates.

Secondly, because one of the roles of underwriters is to participate in the secondary market to stabilise the price and avoid volatility of the new issue[32], by giving favourable advice to investors regarding external debt issued, underwriters could send positive signals about that country and thus avoid a decrease in the price[33].

In order to study information structure in the IPO market and to analyse whether investment banks' recommendations could depend on the underwriting business, it would be interesting to compare underwriters' recommendations with recommendations given by other investment banks (namely no-underwriters recommendations) during the announcement date of the issue of a bond.

As shown in Figure 2, on average (period 1999-2006), for all countries underwriters' recommendations to Latin American countries are higher than or at least equal to no-underwriters' recommendations. Additionally, by taking the weighted average, underwriters' recommendations are 25 per cent larger (0.3 vs. 0.2) with respect to those of No-Lead managers. This is particularly the case for Colombia, Ecuador, Peru and Venezuela. Interestingly, in the case of Brazil, the biggest and most liquid market, such a bias is less marked, while in the case of Mexico it is the opposite.

Figure 2

Underwriters vs No-Underwriters' recommendations
(Announcement date, Average 1999-2006)

Source: The authors, 2006

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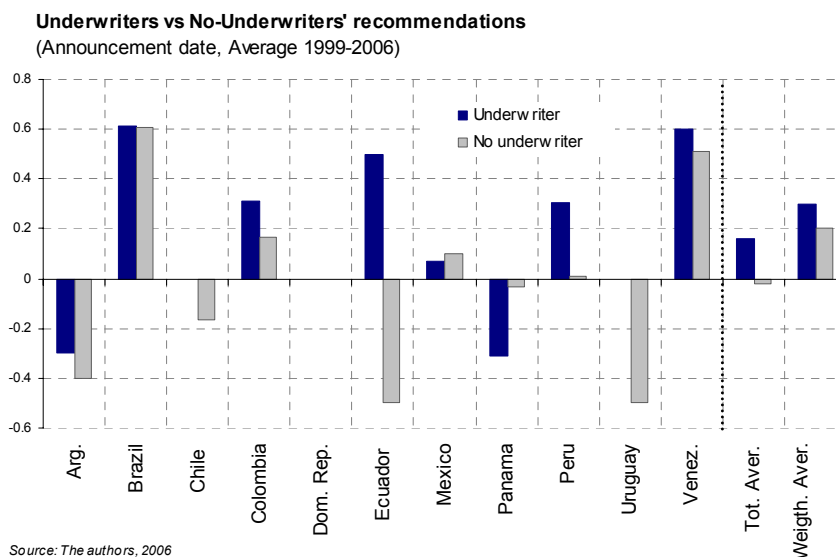
[32] As it is noted on the prospectus of the bonds, although the underwriter is not obligated to make a secondary market for the bonds, it plans to make one: "Brazil (the issuer) has been advised by the underwriters that the underwriters intend to make a market in the global bonds but are not obligated to do so and may discontinue market making at any time without notice. No assurance can be given as to the liquidity of the trading market for the global bonds." Prospectus supplement of US$750,000,000. Federative Republic of Brazil. 10.5% Global Bonds Due 2014. July 7, 2004.

[33] It would be interesting to analyse the impact of recommendations on the secondary market price of sovereign bonds. As noted in the section 2, with respect to that subject some important studies have been developed in the US equity market.

Moreover, by comparing the recommendation made at the announcement date, by underwriters and no-underwriters, we discovered that 75 per cent of the lead managers' advice was higher than or equal to that made by other investment banks during 1999-2006 and for a sample of 149 recommendations[34]. In particular, as we can see in Table 4, for all countries excluding Panama, with respect to no-underwriters' recommendations, the percentage of higher (i.e. more positive) underwriters' recommendations was superior to lower (i.e. negative) underwriters' recommendations.

Table 4

Underwriters' recommendations vs.
Other investment banks' recommendations (1999-2006)

	HIGHER (%)	EQUAL (%)	LOWER (%)	OBSERV.
Argentina	20.0	80.0	0.0	5
Brazil	38.9	33.3	27.8	36
Chile	20.0	60.0	20.0	5
Colombia	27.6	62.1	10.3	29
Dom. Rep.	0.0	100.0	0.0	2
Ecuador	100.0	0.0	0.0	2
Mexico	39.3	28.6	32.1	28
Panama	7.7	46.2	46.2	13
Peru	53.8	7.7	38.5	13
Uruguay	100.0	0.0	0.0	1
Venezuela	53.3	26.7	20.0	15
TOTAL	**36.0**	**39.0**	**25.0**	**149**

Source: The authors from Investment Banks' recommendations
and Bloomberg, 2006

By analysing the results presented in the precedent paragraphs we obtained two interesting findings. First, given that a large part of underwriters' recommendations are positive, it suggests that they could be biased and then we cannot reject the hypothesis that they depend on the underwriting business. Second, despite the fact that 75 per cent of the lead managers' recommendations are superior or equal to no-lead managers' advice, that result is less evident than the first finding. Therefore there is a remaining question that is related to the incentive that no-underwriters could have to give an equal or better recommendation than underwriters. For that we have analysed the structure of the underwriter market in Latin America.

In Table 5 we present the participation of the underwriters in the Latin American Sovereign Bond Market. As noted before, the number of underwriters in the Sovereign Bond Market is small. Indeed, for most of the Latin American countries, during 1999-2006, 90 per cent of the issues were realised by 10 investment banks. However, from the point of view of governments, we observe a diversification in the choice of underwriters, which results in a change over time of the underwriters with the purpose of reducing the dependence to a single Lead Manager. In the major countries' issuers (Argentina, Brazil,

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[34] This sample is less than this one used for total recommendations (149 vs. 160) because in some bond issues (mostly at the beginning of the period) we obtained only the recommendation of the underwriter and not those of other investment banks.

Colombia, Mexico, Uruguay and Venezuela), the market share of a lead manager does not exceed 30 per cent, indicating no specific leader in the underwriter market, at least for the most important countries' issuers. It also indicates that major sovereign countries tend to diversify the allocation of their mandates for bond issuances, and avoid being dependent, when they can, on a sole underwriter.

Table 5
Participation (%) of the underwriters in Latin American Countries (Jan. 1999-July 2006)

	# Issues	ABN	BARCLY.	CITI	CSFB	DB	GS	JPM	ML	MS	UBS	TOTAL
Argentina	53	1.0	1.4	7.7	9.9	17.3	6.2	19.2	2.3	17.6	0.0	82.7
Brazil	53	0.9	0.4	10.9	4.2	9.4	12.0	16.9	9.1	12.9	5.1	81.7
Chile	7	0.0	0.0	31.2	0.0	25.1	0.0	37.0	6.7	0.0	0.0	100.0
Colombia	42	3.8	0.0	13.9	11.4	3.8	13.4	22.1	11.8	11.6	4.8	96.6
Dom. Rep.	3	0.0	0.0	21.4	0.0	0.0	0.0	50.0	0.0	28.6	0.0	100.0
Ecuador	1	0.0	0.0	0.0	0.0	50.0	0.0	50.0	0.0	0.0	0.0	100.0
Mexico	35	0.0	6.0	9.9	7.1	4.9	17.1	28.7	1.0	12.1	4.1	90.9
Panama	11	0.0	0.0	39.9	0.0	5.0	3.5	16.9	0.0	34.6	0.0	100.0
Peru	10	0.0	0.0	24.0	4.8	13.5	0.0	41.8	4.8	3.8	7.2	100.0
Uruguay	19	1.3	0.0	22.3	6.2	16.7	0.0	11.9	10.7	7.1	19.5	95.7
Venezuela	17	20.6	3.4	2.9	20.6	14.0	0.0	14.9	3.4	0.0	9.7	89.5

Source: The authors from Bloomberg, 2006

Another way to arrive at a similar conclusion is by analysing the concentration of the underwriting market (table 6).

Table 6
Concentration (Herfindahl-Hirschman Index) in the Underwriting Market

	1999	2000	2001	2002	2003	2004	2005
Argentina	0.14	0.14	0.34				
Brazil	0.18	0.17	0.17	0.18	0.19	0.15	0.12
Chile	0.50		0.50	0.51	0.50	0.50	
Colombia	0.28	0.27	0.11	0.25	0.39	0.54	0.19
Dom. Rep.			0.50		0.50		
Ecuador							0.50
Mexico	0.24	0.29	0.33	0.18	0.22	0.14	0.21
Panama	0.50	0.50	0.53	0.50	1.00	0.50	0.68
Peru				0.38	0.36	0.53	0.22
Uruguay	1.00	0.53	0.14	0.53			0.31
Venezuela		0.50	0.50		0.41	0.20	0.28
Weight. Aver (All)	0.20	0.20	0.26	0.25	0.30	0.24	0.23
Weight. Aver (selected)*	0.22	0.21	0.23	0.20	0.24	0.22	0.20

Source: The authors from Bloomberg, 2006
* By taking only Brazil, Colombia, Mexico and Panama (i.e. countries that we have info.
for each year)

By calculating the Herfindahl-Hirschman Index (HHI)[35] for each Latin American Country during 1999-2005 (see Table 5), we obtained two important results. Firstly, despite the fact that underwriting in the Latin American Bond Market could be considered by the U.S. Department of Justice as highly concentrated[36], given the reduced number of actors, the concentration index is not so high. Not surprisingly the highest ratios are found for countries like Panama and Ecuador, countries with fewer analysts and brokers covering their economies. Secondly, during the last seven years, we note that the concentration has remained stable (around 0.22) and we have seen neither an increase in the number of actors in this game nor an increase in the participation of a single underwriter.

Theoretically, Emerging Sovereign Bond Markets could be characterised by an imperfect competitive market in which underwriters are playing a repeated game. By taking investment banks' recommendations and reports as a marketing product, it is then advantageous to investment banks, given the dynamic of the "underwriting game", to recommend a country (i.e. a client) even if at that period they have not been underwriters. Moreover, given the few and consolidated number of actors in the underwriting market, it is possible that their reputation *vis-à-vis* investors that could be measured by transparent recommendations is not an issue, and on the contrary they have the incentive to send similar signals to the market in order to maintain their respective market share in each country.

Therefore, it is not sure that no-underwriters recommendations could be taken as a control variable to test if underwriters' recommendations are biased. In fact, this may explain why the result shown in Table 4 (underwriters' vs. no-underwriters' recommendations) is less robust than that obtained by analysing the percentage of positive underwriters' recommendations (Table 3). Therefore, we could not reject the hypothesis that recommendations are biased and depend on the underwriting market.

IV.2 Size of the emerging markets and recommendations: empirical evidence and implications

In the last sub-section we studied the relationship between investment banks' recommendations and the process of bond issues in the primary market. Here we study the possible influence of the size of the secondary bond market on investment banks' recommendations.

Indeed, in addition to the underwriting process, part of investment banks' business is also related to the bonds that have already been issued. One of the most

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[35] The Herfindahl-Hirschman Index (HHI) is a standard measure of concentration in Industrial Organization and is defined as:

$$HHI = \sum_{i=1}^{N} x_i^2$$ where x_i is the participation rate of firm i in a market composed by N firms.

[36] The U.S. Department of Justice considers a market with a result of less than 0.1 to be a competitive marketplace; a result of 0.1-0.18 to be a moderately concentrated marketplace; and a result of 0.18 or greater to be a highly concentrated marketplace. See http://www.usdoj.gov/atr/public/testimony/hhi.htm

important aspects for investment banks is the sale of portfolios to a large variety of financial intermediaries (mutual funds, pension funds, commercial banks, insurance companies,…), the stability of asset prices that compose these portfolios is therefore relevant. For that purpose, investment banks' publications may be a useful tool to influence the asset prices.

With Emerging Bond Markets, it is clear that the percentage invested in these portfolios increases relative to the size of each emerging country. In order to calculate the relative size of each Latin American country in the Emerging Bond Markets, we have used the weight of each country in the EMBI-Global (Emerging Market Bond Index) that can be used as the magnitude in the Secondary Bond Market of each Latin American country.

The weight of each emerging country in this database is similar to that obtained in other databases. For example, by comparing the EMBI-Global with the Joint External Debt Hub (JEDH) database[37] which provides the stock of international debt securities, we get a high correlation between both weights for the Latin American Emerging Countries (0.70 and 0.98 by excluding Argentina).

In order to analyse if investment banks' recommendations could be biased and depend on the size of the market of each emerging economy, a first step is to compare the EMBI-Global weight of each Latin American country with the average of the total investment banks' recommendations between July 1997 and July 2006. As shown in Table 7, by realising a simple cross-section analysis, we revealed that, excluding Argentina, there is a high correlation between investment banks' recommendations and the size of the markets (0.8 for 10 Latin American Countries).

Table 7
Recommendations vs. Credit Risk and Size of the Countries (Average 1997-2006)

	Average Recommendation (1:over; 0:neutral; -1:under.)	EMBI-Global country weights (%)	EMBI-Global spreads Basis Points (bp)
Argentina	-0.14	11.1	2536.7
Brazil	0.35	19.3	774.9
Chile	0.00	1.0	139.1
Colombia	0.12	2.2	496.1
Dom. Rep.	-0.01	0.3	656.4
Ecuador	-0.03	1.3	1391.6
Mexico	0.29	16.8	342.0
Panama	-0.03	1.9	376.4
Peru	0.05	1.7	486.5
Uruguay	-0.32	0.7	609.5
Venezuela	0.16	5.3	798.7
Correlation with recomm. (with Argentina)		**0.65**	**-0.30**
Correlation with recomm. (without Argentina)		**0.81**	**-0.04**

Source: The authors, from Investment banks' publications and JP Morgan, 2006

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[37] This database is jointly developed by the Bank for International Settlements (BIS), the International Monetary Fund (IMF), the Organisation for Economic Cooperation and Development (OECD) and the World Bank (WB). See: http://devdata.worldbank.org/sdmx/jedh/jedh_dbase.html

Including Argentina the correlation is lower (0.65) because their size in the market was substantial (11.1 per cent) *vis-à-vis* their recommendations (-0.14). In fact, if we compare the average of the recommendations for Argentina (1997-2006) with the present weight in the EMBI-Global (1.8 per cent in March 2006), the correlation between both variables for the total of Latin American countries is 0.8 (see Figure 3).

Figure 3

Recommendations (1:over.; 0:neutral; -1: under.) **vs. Country weights EMBI Global** (%)   Correlation: 0.8

EMBI Global march-06 (rhs.)
Recommendations Average (1997-2006)

Source: The authors and JP Morgan, 2006
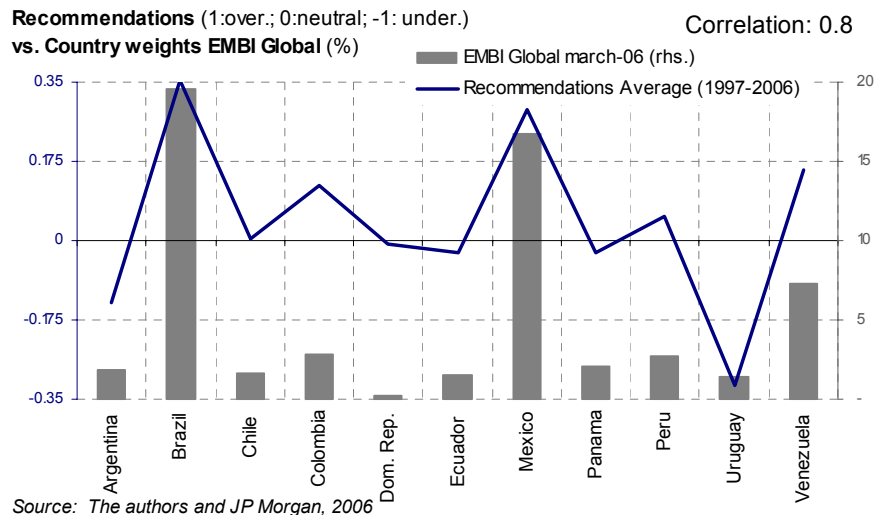
The main result is that, as the size of the market increases, the recommendation tends to become increasingly favourable. That is the case of Brazil and Mexico, whose market share in the Emerging Market Bond Index is the highest for all the emerging countries (19.4 per cent and 16.8 per cent respectively) and consequently their recommendations are the highest of our sample (0.35 and 0.33 respectively). By contrast, for countries which are less relevant in the sovereign bond market, such as Dominican Republic or Uruguay (0.3 per cent and 0.6 per cent respectively of the total Emerging Bond Market), the recommendations are negative or at least neutral (-0.01 and -0.32).

In order to test simply the robustness of this result, a first step is to analyse the relationship between investment banks' recommendations and credit risk[38]. Intuitively, credit risk is one of the relevant aspects to determine if recommendations are objective and appropriate for the allocation of resources in emerging markets assets. Assets that hold a higher credit risk would be recommended less favourable than assets that enjoy a more reduced probability of default. As is shown in Table 7 column 3, we found that there is no correlation between both variables (-0.04 by excluding Argentina and -0.3 by including Argentina).

An interesting case is that of Chile, well known today as an exceptional country from the point of view of macroeconomic soundness and stability. During the period that

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[38] In order to calculate country credit risk, we have taken the spread of the EMBI-Global (JP Morgan), as a proxy of the perception of the market about country credit risk.

we have studied, the spread of the Chilean Bonds were on average 142 basis points over Treasury Bills, the lowest of Latin American countries. By contrast, their recommendations were below those of Brazil, Colombia, Mexico and Venezuela and close to neutral (0.05). The Chilean lower weight in the index might explain this paradox, as well as the fact that Chile has been constantly decreasing the number and size of its bond issuances.

As noted at the beginning of this section the results presented above are preliminary and then open a new research discussion (with considerable policy implications) whether investment banks' recommendations are biased. For that it is necessary to complement this study by calculating the accuracy of these recommendations in terms of investment value.

However, by using simple statistical analysis, we have obtained two main results in this sub-section. First, it seems that country credit risk is not a relevant variable to determine the direction of the recommendations. Indeed, countries which are characterised by a stable and sound macroeconomic policy do not necessarily obtain more favourable recommendations than other economies. Second, we cannot reject the hypothesis that investment banks' recommendations are biased and depend on the relative size of the secondary bond market. By taking as an analogy the famous term of "too big to fail", that refers to the case in which governments will only bail out financial intermediaries which are considered to be of "systematic" importance, we obtained a similar result but in a contrary direction and that we call "too big to underwrite". In fact, investment banks will not send negative signals to investors of countries or governments that could be considered to be too important for their business, given their size in the market.

V. Emerging markets capital flows and investment banks recommendations

In the last section, from a descriptive analysis, we could not reject the hypothesis that investment banks' recommendations are biased and depend on the business of these banks in emerging economies. Therefore, it is crucial to analyse the possible impact that these recommendations could have on emerging economies portfolio flows. In other terms, a remaining aspect is the impact that asymmetric information and imperfect microeconomic factors could have on investors' behaviour.

The direct implication that foreign investors' behaviour could have on emerging countries is measured in the capital account. Following a variety of capital-market crises in emerging economies (Mexico 1994-1995, Asia 1997, Russia 1998 and Argentina 2001), with a different diagnostic of these economies preceding the crises, researchers and policy makers have been interested in the determinants and effects of a cutback of capital flows. The expression employed to describe that event is "sudden stop", which according to Calvo (1998), was inspired by a bankers' adage that "it is not the speed that kills; it is the sudden stop," (quoted in Dornbusch, Goldfajn, and Valdés, 1995).

Although it is difficult to define when an economy is experiencing a "sudden stop" researchers have conceded a quantitative definition. For instance, Calvo, Izquierdo and Mejia (2004) characterise "sudden stop" as when capital flows to a country contain a year-on-year contraction of the capital account two standard deviations below its sample mean[39]. As noted by Calvo (2001) this phenomenon is not "experienced by developed countries, where the crises have been much less severe and in many cases have been accompanied by an expansion of credit, rather than strong contraction as in the case of the emerging economies".

The origin of sudden stops is diverse. They can result from large local shocks, the consequence, for instance, of political turmoil, instability and lack of an adequacy regulation in financial markets or an inadequate monetary, exchange-rate[40] and fiscal policy. They can also originate from external financial and economic conditions, such as international financial liquidity, world economic growth, foreign investors' risk-aversion or market sentiment. There is extensive research that focuses on studying the reasons for a sudden stop. A good survey of recent literature is exposed in Edwards and Frankel (2002) and Eichengrenn, Gupta and Mody (2006). Most of these studies expose the appropriate designing prevention measures to avoid that phenomenon. For instance, Calvo and Talvi (2005), by analysing the impact of the Russian crises in Latin American countries (from Argentina to Chile), present the local and global policies that could reduce the likelihood of systemic financial shocks affecting emerging markets. More recently, Eichengreen et al (2006) study the impact of the IMF-supported programmes on sudden stops and found that this form of insurance reduces the incidence and virulence of this effect and operates more powerfully in countries with strong fundamentals.

In most of the cases[41], one of the characteristics preceding sudden stops is large current account deficits, independently of how they are financed. Indeed, as noted by Calvo (1998) "although debt maturity structure and currency denomination are important, (…) capital-market crises could take place even though most capital inflows took the form of foreign direct investment". By analysing 313 cases of sudden stops Guidotti et al. (2004) found that in 265 cases (or 85 per cent of the cases) capital account contractions required a domestic current account adjustment that improved near to 10 per cent of GDP. Although it is difficult to attribute sudden stop as the key cause of the adjustment[42] for countries with prior large current account deficits, as it is the case of Latin American countries (compared with Asian countries), the adjustment was considerable.

More generally, independently of whether the sample of countries analysed has presented a contraction of the capital account, a large body of the literature has studied the determinants of capital flows to emerging economies. A good description of the review of that literature is found in Jeanneau and Micu (2002) and Prasad et al (2003). By capital flows most of these studies refer to foreign direct investments, foreign banks

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[39] Alternatively Guidotti, Sturzenegger and Villar (2004) define "sudden stop" as capital account contractions larger than one standard deviation below their sample mean and to those countries which the capital account contraction exceeds 5 per cent of GDP.
[40] According with Calvo et al (2004) "real exchange rate fluctuations coupled with domestic liability dollarization are key determinants of the probability of experiencing sudden stops."
[41] As noted by Calvo (1998) there are some exceptions, such as Indonesia, that exhibited before sudden stops low current account deficit and above all Taiwan that presented a large current account surplus.
[42] For a discussion of that point see De Gregorio (2004).

lending and bond or equity flows and take macroeconomic and financial variables as possible explanatory factors. As we note below, the conclusions of these studies differ, which could be explained by the diverse forms of capital flows, the period and sample of countries employed.

A large part of the literature has divided the determinants of capital flows into two components. The first component, called "push" factors, are the global factors that could incite investors to pull investments out of developed economies due to international market conditions. Such factors are related to international economic growth and financial liquidity. Most of the empirical literature of the first half of the 1990s attributes global factors as the main explanatory variables of capital flows. For example, Fernandez-Arias (1996) found that global interest rates account for around 86 per cent of the increase in portfolio flows for the average emerging market country between 1989 and 1993. Calvo et al (1993) established a similar result, by also including US industrial production as a determinant variable.

The second component is known as "pull" factors, and refers to local or specific aspects that incite the entry of capital into emerging economies. For that, the research literature includes macroeconomic variables (such as GDP growth, interest rates, balance of payments variables, quality of the institutions and/or liberalisations and regulations reforms) and financial variables (such as credit risk - measured from rating agencies or bond prices- exchange rates, and/or rate of return of equities)[43].

In contrast to literature from the first half of the 1990s, most of the results in recent literature found that local factors combine with external factors to explain capital flows (see Taylor and Sarno, 1997; World Bank, 2001; Alfaro, Kalemli-Ozcan and Volosovych, 2005).

In addition to "pull" and "push" factors, recent empirical literature has studied the impact of information and distance on capital flows[44]. In particular Portes and Rey (2005) develop an empirical model in which geographical information and transaction technology play a role in determining international equity flows. More precisely, international information flows, which are measured by telephone traffic, number of bank branches and an index of insider trading, are a significant aspect of explaining cross-border equity flows. In fact, as is noted by the authors, information asymmetries heavily influence international transactions.

Our empirical analysis can be seen as complementary to the research presented above. Indeed, by taking into account investment banks' recommendations as an additional factor to explain capital flows, we included an imperfect information variable that it is provided by brokers to capital markets.

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[43] It is important to note the strong relationship that exists between macroeconomic and financial variables. See for example, Grandes (2002) for the case of the spread of bonds with permanent and transitory fundamental variables.
[44] See Ghosh and Wolf (1999), Savastano (2000), Papaioannou (2004) and Portes and Rey (2005).

In order to study the impact of investment banks' outlooks on fund flows, we analysed the most important Latin American economies (i.e. Argentina, Brazil, Chile, Colombia, Mexico, Peru and Venezuela). On a monthly basis, we have taken the average of the recommendations given by investment banks for each Latin American economy and the percentage allocated by funds in these countries with respect to the total amount invested in emerging economies. Indeed, we preferred to use weighted flows instead of nominal or net flows with the purpose of studying the discriminatory role of investors among countries. Concerning the period of the analyses (1997-2005 for equity flows and 2002-2006 for bond flows), as noted by Grandes et al (2005), that is interesting to explore the dynamics and the determinants given the new rules, new actors and new risks that emerging markets face today.

We built a cross-sectional time series analysis that uses, in addition to investment banks' recommendations (that may be considered as a microeconomic variable), some macroeconomic variables studied in previous literature. These macroeconomic variables could de divided into three groups. First, we have taken "pull" variables whose trend can be directly influenced by financial intermediaries and are then defined by capital markets. These variables are the *spread* of Emerging Sovereign Bonds (over US treasury Bills), the exchange rate and the rate of return of equities in local markets. Second, we used "pull" variables whose real sector is determinant to defining their evolution and where financial intermediaries play an indirect role. These variables are economic activity, interest rate and inflation rate[45]. Finally, we used two "push" variables that are US industrial production and US Federal Funds rate.

One of the advantages of using panel data is to reduce multicollinearity; we have thus used VIF (Variance Inflation Factor) as an indicator of this problem. More precisely, by implementing that analysis, we have excluded US Federal Funds Real rate (by subtracting annual Core CPI rate)[46], a Composite Leading Indicator (CLI) provided by the OECD, that is proxy of world economic activity and interest rate differentials (with respect to US Federal rates)[47].

In order to test the impact of recommendations on capital flows (Bond flows and Equity flows respectively), we have used the following two panel data regressions models:

$$Bond_{it} = \alpha + \beta \cdot \mathrm{Re}\,c_{it} + \gamma \cdot Market_{it} + \delta \cdot \mathrm{Re}\,al_{it} + \mu \cdot Push_t + \varepsilon_{it} \qquad \text{(i)}$$

$$Equity_{it} = \alpha + \beta \cdot \mathrm{Re}\,c_{it} + \gamma \cdot Market_{it} + \delta \cdot \mathrm{Re}\,al_{it} + \mu \cdot Push_t + \varepsilon_{it} \qquad \text{(ii)}$$

where $\mathrm{Re}\,c_{it}$ *it* represents investment banks' recommendations given to country *i* in period *t*, *Market*$_{it}$ corresponds to macroeconomic variables defined by capital markets

(exchange rate, spread of sovereign bonds and rate of return of equity indices), $\mathrm{Re}\,al_{it}$ are macroeconomic variables that are strongly influenced by real sector (economic activity, inflation rate and interest rate) and finally $Push_t$ represents country invariant variables which capture global factors (US nominal rates and US industrial production).

We started the estimation technique with the current practice, OLS estimation. Since these are known to deal inadequately with time series and cross-section heterogeneity, we reported also Fixed Effects estimates (FEM estimators). In order to determine if a Random Effects Model (REM) was an adequate econometric model for this analysis we realised the Hausman Test[48]. The null hypothesis underlying the Hausman Test (FEM and REM estimators do not differ substantially) was rejected, so we concluded that REM is an inappropriate model for this analysis.

The results are presented in Tables A1 and A2 (Annex 3 and 4 respectively) for Bond flows and for Equity flows they are reported in Tables B1 and B2 (Annex 5 and 6 respectively). As shown in these tables, in order to avoid problems of endogeneity between independent and dependent variables we have also taken into account the first lag of each of the explanatory variables in the regressions. In fact, by taking the lagged explanatory variable we could solve causality problems which are common to capital flows analysis[49].

Concerning bond flows' pooled and fixed-effects regressions, we found that, by excluding US industrial production and Equity returns, the remaining explanatory variables are statistically significant. First, we obtained that a more favourable recommendation for a given country increases the allocation of bonds in that country. Second, as expected, there is a negative and significant impact of exchange rate depreciations, spreads of bonds and US interest rates on the allocation of bonds[50]. As also expected and consistent with previous works and findings, there is a positive effect of economic activity and local interest rates[51] on bond flows to Latin American economies. Finally, the impact of the local inflation rate has the opposite direction that we would have expected.

By analysing *Push* variables, our results are consistent with Taylor and Sarno (1997) findings. Indeed, "US interest rates explain the dynamics of bond flows better than the growth of US industrial production". With respect to the lack of significance of equity returns to explain bond flows, we obtained the same finding as Warther (1995) who pointed out for the US market that the correlation between stock returns and bond flows is negligible.

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[48] See Hausman (1978).
[49] For instance concerning the relationship between equity flows and stock returns, financial researchers have obtained different conclusions concerning the causality of both variables. For example see Warther (1995) for the case of the US equity market, Bekaert, Harvey and Lumsdaine (2002) for the dynamics of emerging equity flows and finally Froot, O'Connell and Seasholes (2001) for International portfolio flows.
[50] Concerning the exchange rate variable this result is only valid for Pooled regressions.
[51] However t-statistics is not significant for local interest rates in Fixed Effect regressions.

By differentiating between *Market* and *Rec* variables with *Real* and *Push* variables, the most important and relevant results are: (i) *Real* (equations 4 and 10 of Tables A1 and A2) and *Push* (equations 3 and 9 of Tables A1 and A2) variables do not have a prediction capability to explain independently bond flows; (ii) by analysing *Market* and *Rec* variables (equations 5 and 11 of Tables A1 and A2), the prediction power is superior to when we study only *Real* or *Push* variables. This result is similar to that exposed by Fornari and Levy (2000) which found that financial variables have a higher explanatory power than traditional macroeconomic variables.

Finally, the impact of *Rec* on bond flows is important and improves the fit of the regressions. Indeed, by including *Rec* as an explanatory variable of bond flows, the robustness of the results improve considerably when we analyse *Market*, *Real* and *Push* variables simultaneously (by comparing equations 1 and 2, and also 7 and 8 of Tables A1 and A2) as well as when we studied only *Market* variables (by comparing equations 5 and 6, and also 11 and 12 of Tables A1 and A2).

The most important conclusion of bond flows analysis is that investment banks' recommendations are a microeconomic fundamental variable to explain the allocation of bond flows in Latin American economies. Indeed, when we include this variable, among other variables previously studied in the literature, the fit of the regressions improves considerably.

In order to determine if there could be a "spill-over" effect of the recommendations given to sovereign external debt on equity flows we turn now to the second equation presented above.

The first result is that R-squared of the regressions in Pooled and Fixed Effects regressions are less robust than these obtained for Bond flows. However, we have obtained some important conclusions from this analysis.

As is the case of Bond flows, we found that "recommendations" is a positive and significant (in OLS and Fixed Effects regressions and by lagging or not that variable) explanatory variable to determine equity flows. This result is very interesting because it indicates that these recommendations, which are given to sovereign foreign bonds, influence an additional component of capital markets.

As before, US industrial production is not a significant variable to explain equity flows[52] and economic activity, local interest rate and inflation rate have a positive impact on equity flows[53]. By contrast with bond flows analysis, a higher rate of stocks in a country increases the allocation of equities flows in that emerging economy[54].

Exchange rate and spreads of bonds continue to have a negative impact on capital flows. Concerning US interest rates, for OLS regressions, we obtained the same results

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[52] However when we analyse US industrial production at the same time as the dependent variable and in Fixed Effect regressions, there is a significance.
[53] Concerning economic activity variable this result is only valid for Pooled regressions.
[54] Nevertheless this relationship is not always significant.

that we have demonstrated for Bond flows (except when we regress only "push" variables). However, for Fixed Effects regressions, there is a positive and significant relationship between US interest rates and Equity flows. This controversial result could have different explanations.

One possible reason is that we have used the proportion of equity flows invested in an emerging economy (to the total invested in emerging economies) as dependent variable instead of equity flows (in net or nominal terms) that is the standard view of capital flows analysis. It could be possible that the impact of an increase in US interest rates affects further other emerging equity markets (such as Asian markets) given that they could have been more sensitive in the past to US markets than Latin America.

Although *Push* variables are determinant to explain equity flows[55], investment banks' recommendations continue to improve the fit of the regressions. Indeed by including this new variable in the OLS and Fixed Effects regressions, the robustness of the results improves, first when we analyse *Market*, *Real* and *Push* variables simultaneously (by comparing equations 1 and 2, and also 7 and 8 of Tables B1 and B2), and second when we studied only *Market* variables (by comparing equations 5 and 6, and also 11 and 12 of Tables B1 and B2).

From this section we obtained some useful results. First, investment banks' recommendations given to external sovereign debt could be seen as a benchmark for investors concerning the total stock of securities (by including equities, foreign sovereign debt, and private and public local debt) of a country. Indeed, although the result is less robust for the case of equity flows, we could conclude that "investment banks' recommendation" is a determinant variable to explain capital flows. Second, we found that this new microeconomic variable improves considerably the robustness of the regressions if we compare with cases of traditional macroeconomic variables.

VI. Conclusions

Bond financing became a major source of financing for emerging markets, replacing bank loans and other sources. This shift has been particularly impressive in Latin America where the ratio of debt securities to total international credit has been dominant since at least 1995. Analysing the dynamics of these markets is therefore a pressing necessity, particularly for Latin American emerging countries. This paper is a first attempt to enter the matrix.

In order to analyse analysts and to determine the possible macroeconomic implications of investment banks' recommendations we have constructed a unique database covering the period 1997-2006 for all the bond recommendations by the major Wall Street and City investment banks that dominate the emerging bond markets. Indeed, we managed to build the database for 10 brokers, all of them dominant players in

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[55] In particular see Fixed Effect regressions.

emerging bond markets as underwriters and from developed countries' brokerage houses, which are in fact the dominant market makers.

In order to investigate if investments banks' recommendations are biased and are related to the banks' business we have first studied the structure of the primary bond market in Latin American countries and, second, the stock of bonds already issued by these countries and placed in the secondary market. Although the results presented below are preliminary and it is necessary to complement this study by calculating the accuracy of these recommendations in terms of investment value, our findings open a new research discussion (with considerable policy implications) as to whether investment banks' recommendations are biased and constitute a first step to further research on the structure of information in the sovereign emerging bond market.

The most relevant results of this study are first that 90 per cent of the underwriters recommend, at the announcement date of the issue, to buy or to maintain in their portfolio the bonds issued by the countries where they are acting as lead managers. Indeed, given that only 10 per cent of the recommendations are negative, it is not possible to reject the hypothesis that brokers' research is biased and depend on the underwriting process in which investment banks are involved.

Second, investment banks' recommendations are also correlated with the relative size of the secondary bond market, phenomenon that we call "too big to underwrite". Indeed, investment banks will not send negative signals to investors of countries or governments that are considered to be strategic for their business given their size in the market (e.g., Brazil and Mexico vs. Chile or Uruguay). Therefore, it seems that credit risk is not a relevant variable to determine the direction of the recommendations.

Given that these results could not reject the hypothesis that signals sent by investments banks' to investors are imperfect, we have studied a possible effect of these recommendations on emerging economies.

To this purpose, by using a panel data analysis, we introduced recommendations as a new variable that could explain capital flows towards emerging economies. The most important results are as follows. First, the impact of the recommendations given to external public debt goes beyond sovereign bond flows. Indeed, although their influence is minor, these recommendations also affect private equity flows. Second, the impact of investment banks' recommendations on capital flows is positive and significant. Third, this new microeconomic variable improves the fit of capital flows regressions more than some traditional macroeconomic variables such as interest rates, economic growth and inflation rate.

The two major policy lessons that follow from this research are that there is a need for more detailed information disclosure by investment banks in order to determine if past recommendations are related to macroeconomic variables and financial variables or whether they are associated with their business in emerging economies. Second, given that there is a between banks' recommendations and portfolio flows are related, an

international co-operation scheme needs to be established to encourage investment banks to cover more countries.

In summary, investment banks' recommendations are a microeconomic and perhaps an "imperfect" variable that explain, among other variables, capital movements and therefore could affect emerging economies' business cycles. It seems then that this new database is a useful and powerful tool to understand banks' and investors' behaviour. Therefore, it could be used for further research. It would be useful to use such a database in order to assess the impact of political electoral cycles on broker's recommendations. Elections are key institutions of emerging democracies but how are they monitored by bankers and financial markets? Is there a specific pattern around elections that drives brokers and flows up and down, pushes interest rates higher or contributes to slumps in the foreign exchange markets? Has this pattern changed over the years? Some research has already been devoted to these issues (Santiso, 2006) but the new database constructed for this paper introduces many other potential points of analysis.

Another potential line of research would be to focus not only on international emerging bond markets but also on domestic bond markets. In recent years, domestic bond markets became an increasing source of financing for Latin American economies. As a result of this trend, global investors reallocated part of their portfolios towards domestic securities, while local pension and institutional players became increasingly powerful. It would be interesting therefore to pay more attention to the information dynamics of these local bonds markets and check, for example, if the asymmetries found for international ones are replicated at the local level. For that we should complete the broker's database and include the local brokers.

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Annex 1. Description of the investment banks' publications

Institution	Name of the Publication	Periodicity	Start Date
ABN AMRO	Emerging Markets Fortnightly	Bi-weekly	jan-04
BARCLAYS Capital	LatAm Drivers Fortnightly	Bi-weekly	feb-04
Citigroup (Citi-Salomon Brothers)	Economics/Strategy	Monthly	jul-97
CSFB (now Credit Suisse)	Debt Trading Monthly	Monthly	may-01
Deutsche Bank	Emerging Markets Monthly	Monthly	sep-01 to dec-05
Goldman Sachs	Emerging Markets Strategy	Bi-Weekly	aug-01 to aug-03
J.P. Morgan	Emerging Markets Outlook and Strategy	Monthly	jan-01
Lehman Brothers	Emerging Markets Compass	Bi-Weekly	sep-04
Merrill Lynch	Emerging Markets Debt Monthly	Monthly	feb-03
Morgan Stanley	EMD Perspectives Quarterly	Quarterly	1Q-00

Source: The Authors, 2006.

Annex 2. Citigroup Recommendations. March 22, 2006

Emerging Market Recommendations

Figure 39. Emerging Debt and Currency Markets — Local and External Market Recommendations

Country	Local Market Instruments[a]		Sovereign Foreign-Denominated Bonds
	Currency	Interest Rates	
Latin America			
Argentina			Overweight
Brazil	+		Overweight
Chile	−		Underweight
Colombia	+	−	Neutral
Dominican Republic	+		Neutral
Ecuador			Underweight
El Salvador			Neutral
Mexico	+		Underweight
Panama			Overweight
Peru			Neutral
Venezuela			Overweight
Europe			
Bulgaria			Underweight
Czech Republic	+	−	Neutral
Hungary	−	−	Underweight
Poland	+	+	Neutral
Romania	+	−	Neutral
Russia	+		Overweight
Slovak Republic	+	−	NA
Turkey	+		Neutral
Ukraine		−	Underweight
Africa/Middle East			
Algeria			Overweight
Côte d'Ivoire			Underweight
Egypt	+		Neutral
Israel	+	+	NA
Nigeria			Neutral
South Africa			Neutral
Asia			
China			Neutral
India			NA
Indonesia	+		Overweight
Korea	+		Underweight
Malaysia			Neutral
Philippines	−	+	Neutral
Taiwan			NA
Thailand	+		NA
Vietnam			Overweight

[a] For currencies and interest rates; "+" the instrument is likely to outperform forward markets; "−" the instrument is likely to underperform forward markets over the next 3-6 months, where market forwards are available; otherwise the symbols represent directional calls. NA Not Applicable. Source: Citigroup.

Latin America

Argentina. We favor an *overweight* position in sovereign external debt, and move to a *neutral* position on the currency. Tailwinds from the 9.2% GDP growth in 2005 that imply a statistical carry of 3.8% should leave 2006 GDP growth at 7.5 %. Lower February inflation reinforced our view that inflation risks are two-sided for 2006. Several factors could damp inflation, including price agreements, lower wage increases, and a lower-than-expected peso depreciation. Prudent fiscal and monetary policies will also be needed for inflation to surprise lower. Along these lines, the central bank's new sterilization policy should allow interest rates to increase gradually in coming weeks.

Recently, beef exports were banned for 180 days in an effort to reduce local prices. In our view, the measure is likely to be implemented only to a partial degree, but it has added regulatory uncertainty in an economy that is accumulating several micro imbalances that cloud the long-term country outlook.

Citigroup Global Markets

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Impact of Recommendations on Bond Flows: OLS

Dependent variable: Bond	Pooled Regression (2002 - 2005)											
	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII
Recommendations	5.395***				5.206***							
	(10.96)				(9.2)							
Exchange Rate (*Market*)	-0.0056***	-0.0048***			-0.0026***	-0.0022***						
	(-13.16)	(-9.7)			(-9.23)	(-6.98)						
Spread (*Market*)	-0.182***	-0.22***			-0.070***	-0.104***						
	(-10.7)	(-11.24)			(-4.35)	(-5.88)						
Stock (*Market*)	-0.0085	-0.0110			0.0003	0.0011						
	(-1.38)	(-1.52)			(0.06)	(0.16)						
Inflation rate (*Real*)	0.065***	0.056***		-0.022***								
	(7.76)	(5.7)		(-3.51)								
Economic Activity (*Real*)	0.178***	0.266***		0.044								
	(4.21)	(5.47)		(0.87)								
Interest rate (*Real*)	0.224***	0.243***		0.063**								
	(9.99)	(9.25)		(2.4)								
US interest rate (*Push*)	-0.531**	-0.789**	0.071									
	(-1.96)	(-2.49)	(0.19)									
US ind. production (*Push*)	-0.042	-0.179	-0.044									
	(-0.32)	(-1.17)	(-0.24)									
Recommendations -1							5.349***				5.143***	
							(10.87)				(9.09)	
Exchange Rate -1 (*Market*)							-0.006***	-0.005***			-0.003***	-0.002***
							(-12.88)	(-9.59)			(-9.02)	(-6.98)
Spread -1 (*Market*)							-0.173***	-0.210***			-0.066***	-0.102***
							(-10.22)	(-10.84)			(-4.07)	(-5.79)
Stock -1 (*Market*)							-0.0108*	-0.0140*			-0.0004	0.0015
							(-1.72)	(-1.91)			(-0.07)	(0.22)
Inflation rate -1 (*Real*)							0.066***	0.057***		-0.022***		
							(7.75)	(5.76)		(-3.47)		
Economic Activity -1 (*Real*)							0.154***	0.238***		0.053		
							(3.55)	(4.74)		(1.08)		
Interest rate -1 *(Real)*							0.215***	0.231***		0.060**		
							(9.7)	(8.92)		(2.34)		
US interest rate -1 *(Push)*							-0.618**	-0.747**	0.036			
							(-2.27)	(-2.34)	(0.1)			
US ind. production -1 *(Push)*							0.215	0.210	0.123			
							(1.55)	(1.29)	(0.69)			
Cons	7.75***	8.85***	6.26***	5.97***	8.28***	8.89***	7.45***	7.99***	5.92***	5.95***	8.26***	8.88***
	(9.05)	(8.86)	(5.54)	(10.21)	(19.59)	(18.97)	(11)	(10.1)	(7.58)	(10.26)	(19.49)	(18.93)
N (Observations)	322	322	322	322	322	322	322	322	322	322	322	322
Adjusted R-squared	0.54	0.36	-0.01	0.05	0.35	0.17	0.53	0.35	0.00	0.05	0.34	0.17

t-statistics are in parentheses denoting *** 1%, ** 5% and * 10% significance.

Source: The Authors, 2006.

Annex 4. TABLE A2

Impact of Recommendations on Bond Flows: FIXED EFFECTS

Dependent variable: Bond	FIXED EFFECTS (2002 - 2005)											
	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII
Recommendations	1.112***				1.120***							
	(8.08)				(8.35)							
Exchange Rate (*Market*)	0.001***	0.002***			0.002***	0.003***						
	(4.0)	(5.1)			(5.21)	(7.23)						
Spread (*Market*)	-0.078***	-0.103***			-0.066***	-0.093***						
	(-9.48)	(-12.24)			(-9.25)	(-13.17)						
Stock (*Market*)	-0.0004	-0.0014			0.0022*	0.0018						
	(-0.27)	(-0.81)			(1.77)	(1.35)						
Inflation rate (*Real*)	0.021**	0.016		0.007								
	(2.14)	(1.47)		(0.6)								
Economic Activity (*Real*)	0.033***	0.035***		0.036***								
	(3.25)	(3.08)		(3.08)								
Interest rate (*Real*)	0.009	0.000		-0.034***								
	(1.22)	(0)		(-3.87)								
US interest rate (*Push*)	-0.186***	-0.288***	0.071									
	(-2.83)	(-4.05)	(0.83)									
US ind. production (*Push*)	-0.051*	-0.072**	-0.044									
	(-1.66)	(-2.11)	(-1.08)									
Recommendations -1							1.062***				1.095***	
							(7.47)				(7.89)	
Exchange Rate -1 (*Market*)							0.001***	0.002***			0.002***	0.003***
							(4.07)	(5.22)			(5.22)	(7.18)
Spread -1 (*Market*)							-0.072***	-0.096***			-0.062***	-0.088***
							(-8.01)	(-10.38)			(-7.79)	(-11.26)
Stock -1 (*Market*)							-0.002	-0.004**			0.002	0.002
							(-1.35)	(-2.01)			(1.51)	(1.19)
Inflation rate -1 (*Real*)							0.024**	0.024**	0.009			
							(2.45)	(2.24)	(0.75)			
Economic Activity -1 (*Real*)							0.034***	0.037***	0.039***			
							(3.1)	(3.14)	(3.42)			
Interest rate -1 (*Real*)							0.005	-0.005	-0.034***			
							(0.64)	(-0.65)	(-3.9)			
US interest rate -1 (*Push*)							-0.173**	-0.254***	0.036			
							(-2.45)	(-3.35)	(0.44)			
US ind. production -1 (*Push*)							0.026	0.023	0.123***			
							(0.8)	(0.64)	(3.09)			
Cons	5.634***	6.188***	6.264***	6.332***	5.539***	5.393***	5.376***	5.687***	5.921***	6.286***	5.472***	5.332***
	(12.23)	(12.35)	(24.55)	(18.71)	(22)	(19.44)	(13.62)	(13.34)	(33.97)	(19.35)	(21)	(18.76)
N (Observations)	322	322	322	322	322	322	322	322	322	322	322	322
Adjusted R-squared	0.57	0.48	0.01	0.16	0.54	0.44	0.52	0.43	0.03	0.17	0.49	0.39

t-statistics are in parentheses denoting *** 1%, ** 5% and * 10% significance.

Source: The Authors, 2006.

Annex 5. TABLE B1

Impact of Recommendations on Equity Flows: OLS

Dependent variable: Equity	Pooled Regression (1997- 2005)											
	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII
Recommendations	2.334***				2.231***							
	(9.99)				(8.63)							
Exchange Rate (*Market*)	-0.005***	-0.005***			-0.003***	-0.003***						
	(-17.43)	(-15.57)			(-15.83)	(-15.64)						
Spread (*Market*)	-0.144***	-0.166***			-0.069***	-0.095***						
	(-11.59)	(-12.54)			(-5.9)	(-7.85)						
Stock (*Market*)	0.005	0.011**			0.003	0.008**						
	(1.11)	(2.51)			(0.94)	(2.24)						
Inflation rate (*Real*)	0.054***	0.048***		-0.032***								
	(9.31)	(7.66)		(-8.75)								
Economic Activity (*Real*)	0.105***	0.116***		0.070***								
	(4.34)	(4.5)		(2.6)								
Interest rate (*Real*)	0.128***	0.128***		0.063***								
	(9.96)	(9.33)		(4.41)								
US interest rate *(Push)*	-0.262***	-0.205**	0.345***									
	(-3.42)	(-2.48)	(3.97)									
US ind. production *(Push)*	-0.086*	-0.094*	-0.009									
	(-1.7)	(-1.72)	(-0.16)									
Recommendations -1							2.370***				2.276***	
							(10.18)				(8.79)	
Exchange Rate -1 (*Market*)							-0.005***	-0.005***			-0.003***	-0.003***
							(-17.57)	(-15.63)			(-15.75)	(-15.62)
Spread -1 (*Market*)							-0.144***	-0.168***			-0.068***	-0.095***
							(-11.7)	(-12.62)			(-5.79)	(-7.81)
Stock -1 (*Market*)							0.003	0.010**			0.003	0.009**
							(0.81)	(2.49)			(0.92)	(2.47)
Inflation rate -1 (*Real*)							0.057***	0.051***		-0.032***		
							(9.63)	(7.92)		(-8.72)		
Economic Activity -1 (*Real*)							0.116***	0.127***		0.079***		
							(4.8)	(4.89)		(2.94)		
Interest rate -1 *(Real)*							0.131***	0.131***		0.066***		
							(10.24)	(9.55)		(4.64)		
US interest rate -1 *(Push)*							-0.231***	-0.169*	0.308***			
							(-2.8)	(-1.87)	(3.25)			
US ind. production -1 *(Push)*							-0.061	-0.063	0.057			
							(-1.38)	(-1.3)	(1.06)			
Cons	4.820***	5.051***	2.243***	3.188***	5.185***	5.706***	4.594***	4.799***	2.195***	3.113***	5.147***	5.682***
	(12.61)	(12.23)	(5.72)	(10.23)	(24.39)	(26.06)	(12.33)	(11.77)	(6.19)	(9.98)	(24.2)	(25.88)
N (Observations)	657	691	721	714	660	698	650	689	721	713	653	697
Adjusted R-squared	0.48	0.40	0.02	0.12	0.35	0.28	0.49	0.41	0.02	0.12	0.35	0.28

t-statistics are in parentheses denoting *** 1%, ** 5% and * 10% significance.

Source: The Authors, 2006.

Impact of Recommendations on Equity Flows: FIXED EFFECTS

Dependent variable: Equity	FIXED EFFECTS (1997 - 2005)											
	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII
Recommendations	0.518*** (5.9)				0.579*** (6.07)							
Exchange Rate (*Market*)	0.0002 (1.18)	0.0005*** (2.58)			-0.0005*** (-3.01)	-0.0004** (-2.34)						
Spread (*Market*)	-0.031*** (-5.44)	-0.034*** (-5.6)			-0.036*** (-6.88)	-0.043*** (-7.89)						
Stock (*Market*)	0.0039** (2.57)	0.0055*** (3.61)			-0.0009 (-0.74)	0.0003 (0.26)						
Inflation rate (*Real*)	0.013** (2.33)	0.007 (1.26)		-0.005 (-1.05)								
Economic Activity (*Real*)	0.006 (0.67)	0.007 (0.79)		0.022** (2.36)								
Interest rate (*Real*)	0.024*** (3.83)	0.025*** (3.91)		0.018*** (2.96)								
US interest rate (*Push*)	0.307*** (10.39)	0.34*** (11.26)	0.345*** (14.34)									
US ind. production (*Push*)	-0.039** (-2.16)	-0.045** (-2.41)	-0.009 (-0.56)									
Recommendations -1							0.58*** (6.67)				0.640*** (6.72)	
Exchange Rate -1 (*Market*)							0.0002 (1.14)	0.0006*** (2.7)			-0.0006*** (-3.06)	-0.0004** (-2.43)
Spread -1 (*Market*)							-0.032*** (-5.57)	-0.033*** (-5.50)			-0.035*** (-6.71)	-0.042*** (-7.86)
Stock -1 (*Market*)							0.002 (1.37)	0.004*** (2.6)			-0.001 (-0.62)	0.001 (0.90)
Inflation rate -1 (*Real*)							0.016*** (2.92)	0.009* (1.73)		-0.004 (-0.81)		
Economic Activity -1 (*Real*)							0.011 (1.24)	0.010 (1.14)		0.027*** (2.99)		
Interest rate -1 (*Real*)							0.027*** (4.33)	0.026*** (4.06)		0.021*** (3.46)		
US interest rate -1 (*Push*)							0.287*** (9.25)	0.323*** (10.06)	0.308*** (11.9)			
US ind. production -1 (*Push*)							0.015 (0.98)	0.027* (1.65)	0.057*** (3.86)			
Cons	1.729*** (8.09)	1.717*** (7.8)	2.243*** (20.65)	3.303*** (19.94)	3.970*** (33.56)	4.083*** (34.99)	1.570*** (7.55)	1.540*** (7.17)	2.195*** (22.64)	3.216*** (19.55)	3.939*** (33.41)	4.071*** (35.17)
N (Observations)	657	691	721	714	660	698	650	689	721	713	653	697
Adjusted R-squared	0.32	0.28	0.23	0.01	0.13	0.09	0.33	0.29	0.25	0.02	0.14	0.09

t-statistics are in parentheses denoting *** 1%, ** 5% and * 10% significance.

Source: The Authors, 2006.