



Monthly Report
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Pricing and liquidity in the brazilian securities market

SYNOPSIS ANDIMA REPRODUCES IN THIS ISSUE THE TEXT PRESENTED BY ECONOMISTS OF THE ASSOCIATION TO REPRESENTATIVES OF THE IMF – INTERNATIONAL MONETARY FUND ON JUNE 25TH, IN WASHINGTON, USA, AT THE REQUEST OF SUCH ENTITY. THE WORK ANALYSIS THE USE OF THE INDICATIVE PRICES AS REFERENCE TO FEDERAL PUBLIC SECURITIES AND DISCUSSES THE CAUSES FOR THE LOW LIQUIDITY IN THE DOMESTIC SECURITIES MARKET. SINCE 2000, ANDIMA IS THE MAIN PROVIDER OF INDICATIVE PRICES OF PUBLIC SECURITIES NEGOTIABLE IN THE BRAZILIAN SECONDARY MARKET, WHAT ENABLED, IN 2002, THE ALIGNMENT OF THE BRAZILIAN ACCOUNTING STANDARDS TO THE INTERNATIONALLY RECOMMENDED AND ADOPTED PRACTICES OF MARK TO MARKET OF THE PORTFOLIOS. IN 2004, BEGAN THE DISCLOSURE OF INDICATIVE RATES ON A DAILY BASIS TO THE REPRESENTATIVE SAMPLE OF THE SEGMENT OF DEBENTURES. FOLLOWING, THE ENTIRE DOCUMENT.



Recent history

At the end of 1999, the National Treasury and the Central Bank announced a set of 21 measures to increase the liquidity of the Brazilian public securities secondary market. The initiative attempted to align, somehow, the management of national debt in securities to international standards, with the purpose of increasing the liquidity in an environment of economic stability, what was not a reality at that time. One of the measures announced and implemented almost immediately – in January/2000 - attributed to ANDIMA the mission of providing to the market information of prices of public securities, with the purpose of enabling the formation of interest curves at the remuneration categories relevant at the time: short term prefixed papers and those related to the North-American dollar.

In addition to such information, the Association began to disclose also prices to the other public debt securities – connected to prices indexes and floating remuneration (LFT), realigned daily. In such environment, the structure of the public debt presented extremely fragmented, with great concentration at the exchange and floating categories. There was an expressive set of maturities, however its distribution was not homogeneous, what made it hard to form interest curves and a prices appraisal standard based on effective business. Thus, the use of average indicative rates supplied by market agents, mechanism adopted by ANDIMA, was the exclusive manner to define a standard, even if not representing precisely the information of the effective business – that, strictly, were not existent in a short period of time to most maturities.

Such scenery lasted for a long period, in function of the frequent moments of volatility, caused both by international and domestic crisis, in particular in 2002, year of the Brazilian presidential elections and in which began the accounting standard of marking the portfolios to market. In the following years, the improvement of the macroeconomic indicators and the adoption of several measures by the Central Bank jointly with the National Treasury enabled the quality improvement of the indebtedness structure, in order to reduce risks to the Treasury and create a more suitable environment to the business. As measures include:

- 1 – Disclosure, by the primary issuer (National Treasury), of annual targets for the conduction of the debt administration.
- 2 – Previous disclosure of schedule of securities issuance.
- 3 – Intensification of the issuance of inflation-pegged bonds, adopting as reference the consumer prices index, used in the inflation target system.
- 4 – Reduction of the LFT parcel in the public debt.



5 – Reduction of the government exchange exposure, with the interruption of the issuance of dollar related securities.

6 – Consolidation of the structure of offers of securities in primary auctions, with the purpose of concentrating maturities and forming a forward interest rate structure.

7 – Extension of terms of the prefixed parcel, with the creation of assets with intermediary coupons.

8 – Issuance of external debt securities in brazilian currency, constituting reference for issuances of longer prefixed securities (however with small volumes, in order to avoid any possibility of migration from the domestic market).

9 – Incentives to short operations by means of specific regulation; start of liquidity control by means of repo operations of longer terms and Central Bank's securities lending programs.

10 – Exemption of IR [Income Tax] to foreign investors (in March/2008, the Federal Revenue imposed a new taxation).

Throughout 2005, as the inflation expectations began to converge to the target defined by the government, increasing the credibility of the monetary policy, it was observed to be consistent the increase of the participation of the prefixed securities instead of the floating securities related to the very short term rate.

At the end of the year, it was verified that the issuances of inflation-pegged bonds intensified in 2006. The tax exemption for non-resident investors when purchasing public securities, in force as of February of such year, contributed to such movement, as well as the extension of the terms of issuance and of the negotiated assets. It is worth pointing out that as of 2006 the LFT stock was under 50% of the total public debt. For such reason, the period of analysis of the liquidity profile in such study is limited to the years following 2006, including it.

State of the art

An important peculiarity in the distribution of categories of securities available to the negotiation in the secondary market is its fragmentation, despite the advancements observed throughout the years. Such characteristic appears mainly in the class of assets related to the extremely short term rates (LFT, currently with 31 maturities), that also represent a significant parcel of the debt stock. Furthermore, such securities do not contribute to the formation of interest curves and also constitute a restrictive factor to the monetary policy, once its remuneration standard is predominantly in the same direction of the route of the extremely short term interests. Basically, works as hedge given by the



government to the flotation of such rates. Therefore, its negotiation standard represents a reduced parcel of the total volume negotiated of the debt, by the fact that the takers assume the position of carrying the security to its maturity.

Thus, when we deal with negotiations carried out in the public securities secondary market, we restrict, basically, to the stock of prefixed assets and inflation-pegged bonds, which constitute nearly 64% of the debt in securities (R\$ 796 billion).

As it can be verified, the growth of such stock and the extension of the terms of placement enabled that the negotiations also be better distributed with respect to the maturity. However it is also possible to verify that the liquidity of the longer term assets still are very sensitive to the market floats, and that great part of the scope of maturities still presents a low negotiations rate.

Another relevant aspect is the fact that the major participation of prefixed bonds did not represent proportional increase in the negotiation of such assets. Analysts credit such phenomena to the decrease of the LFT stock in the period. In this aspect, it must be considered the restrict investors base of the Brazilian market, its homogeneous behavior and the low appetite for risk. Such movement is explained by the strong tradition of the use of the derivatives instruments in Brazil to hedge portfolios. The volumes operated in the future markets are significant to a set of agreements, such as the exchange, stock indexes and, in particular, of interest rates.

Thus, as the government reduces its participation as primary supplier of hedge for the interest rates floats by means of the decrease of LFT issuances, the private agents appeal to the derivatives markets in order to ensure that the volatility of the portfolios is not intensified and, consequently, meeting the goals that, usually, are pegged to the short term rate (DI). On the other side, there are speculators, arbitrators and hedgers, who assemble its strategies without recurring to the spot market (cash) and from a segment highly liquid to certain maturities. It is important to point out that such maturities usually are those coinciding with government's prefixed bonds, what makes the hedge extremely adjusted. The brazilian economic analysts denominate such operation "synthetic LFT".

An additional incentive to such posture of the managers is the demand of the regulating body (CVM – Securities and Exchange Commission) that the quotas of the funds be disclosed daily to any category of portfolios, as well as availability of



daily liquidity to the majority of the categories. Thus, the perception of the investors with respect to the volatility of its portfolios is very sensitive, stimulating that, in moments with higher floating of prices, the option adopted be the disassemble of positions exposed to prefixed interest rates and the search for security.

In summary, the availability of derivatives instruments performs an important role in the sense of developing the debt profile and reducing government risks, that are being transferred to the private segment. However, the aversion to the risk by the agents holding prefixed securities oversizes this market, once great part of the exposure is sterilized by this mechanism. Additionally, its high liquidity enables that strategies that could be adopted in the spot market, stimulating the liquidity, end up being performed by means of derivatives.

The dynamics to the longer term prefixed securities and that pay intermediary interests (NTN-F) is a little different, as it can be inferred from the relation of the outstanding stock vis-a-vis the derivatives agreements with same maturity (even if not considering the intermediary payments). Such characteristic may be attributed to the bigger diversification of the investors base as of the exemption of taxes for non-residents. These agents hold a representative parcel of such assets, which, in the case of securities with maturities longer than five years, represent 78% of the total (data from the National Treasury) – an expressive figure, although corresponds to a reduced parcel of the outstanding stock. It is important to point out that the negotiations were also affected by the recent volatility and government resistance in the issuance of such securities.

The participation of the non-residents contributed, further, to increase the number of issuances and operations carried out with inflation-pegged bonds – such investors hold 6.7% of the papers with maturity longer than five years. In line with such process, and with a path of reduction of the short term interest rates, the pension entities also allocated an important parcel of their portfolios with such assets in the last years. Brazil became the fourth major inflation-pegged bonds market. The absence of expressive liquidity with respect to the stock is owed to the characteristics of great part of the buyers of such securities – which profile is of pension funds -, allied to the regulation of the pension funds, which induced the participants to purchase the papers directly from primary offers, because they fear to be questioned by the regulator.

For reasons directly opposed to those related to the prefixed category, the access to derivatives is considered a inhibition factor of the negotiations by the



lack of availability of hedge options, since there are no liquid agreements for inflation-pegged assets.

Corporate securities

In addition to a better profile of the government public debt, the macroeconomic stabilization also provided the increase of private issuances, by means of securities and instruments of credit, in particular the debentures in the fixed income market. In the last years, the volume of issuances of such assets grew significantly, despite in the fact that the outstanding stock is small in comparison to the public segment.

With respect to liquidity, the scenery is even more severe than the one related to the public securities. The characteristic of the financial segment of using the short term benchmark (DI), reference to the absolute majority of the issuances of securities of corporate debt, induces to the attitude of holding the bond to maturity. In such case, investor ensures its remuneration in addition to the parcel he aims when purchasing the security – the credit spread. It also affects the liquidity factors such as the lack of standardization of deeds, reduced after the joint effort of ANDIMA with other class associations, and the pricing complexity of some assets.

Why the formation of indicative prices?

Despite the recent evolution of the public debt profile, the negotiation standard of securities in Brazil remains very restrict, concentrating in few maturities throughout the interest curves. The matter of pricing and information dissemination is affected by such characteristic, although the negotiation environments are diversified – by telephone and electronic means, in over-the-counter and at Stock Exchanges.

Still with respect to the dissemination of prices, it is important to point out that the Brazilian market has a central depository, Selic – Special System for Settlement and Custody, which registers and settles all operations carried out with government bonds. Such system enables the availability of the information related to the negotiations carried out, but only in the post-negotiation stage, restrict to the maximum, average and minimum prices and with a delay of one day. The analysis of such data reveals that most of the maturities registers few negotiations,



besides, eventually, presenting market distortions, despite of the substantial increase that the availability of intraday information promoted in the last years.

Other important factors are the existence of an expressive intraday volatility and the lack of market makers, which make the indicative prices credible references to the marking to market of portfolios at the end of the day, minimizing possible effects of transfer of revenue by accounting reasons, in function of market imperfections. Besides, the dissemination of yield curves is a basic parameter for the alignment of reference prices of low liquid assets and its relations with the other vertices.

In view of such scenery, ANDIMA created an information collection system that uses a closed network for the financial system (RTM – Telecommunications Network to the Market) and structured a sample of 45 institutions that inform, at the end of each day, the indicative rates of the assets in which they are specialized. Said sample is comprised by treasuries of banks, portfolio administrators, brokers and distributors active in the segment. The rates received by the Association go through two statistical filters: first, with the function of excluding false information; the second, for the refinement of the resultant average, avoiding eventual attempts of information manipulation.

As pointed out above, the pricing of assets by means of indicative prices is the best alternative in illiquid markets. ANDIMA's experience of almost ten years in pricing of fixed income assets is demonstrating that specific matters must rule and qualify the entire collection process, calculation and disclosure of indicative prices:

1 – The sample of price makers must be representative and capable of reflecting the commitment of such agents with the information provided. Besides, there must be a rigorous monitoring process of the data collected, so that eventual sample deficiencies may be discovered and adjusted. In the case of the illiquid assets, not always the participants of the sample are paying attention to the market changes. In the same way, in moments of high volatility, the dispersion of prices collected makes it difficult the formation of disclosed averages.

2 – The calculation methodology for the disclosure of the average indicative prices must be credible and public.

3 – It must be disclosed dispersion statistics capable of absorbing, within what is considered "fair", different perceptions of prices to a certain maturity, and facilitating the mark to market process by the financial institutions. Besides, the disclosure of historic information assist the compliance and treasury areas in the



formation and individual appraisal of prices practiced by the participant institutions in certain markets.

The consolidation of the process of indicative prices of government bonds in Brazil enabled the creation of references to the pricing of corporate bonds. Based on such experience, ANDIMA developed a calculation methodology and mechanisms for collection and disclosure of prices of debentures that currently reflects nearly 60% of the papers traded in the segment.

ANDIMA's initiatives for the improvement of the indicative prices

As a control instrument, at the end of each month, such institutions are ranked in function of the compliance with the negotiations effectively done – provided that there is a minimum volume of operations - or to the proper indicative average disclosed, depending on the category of securities. The frequency of forwarding of information also constitutes parameter for the classification. At the beginning of each month, ANDIMA discloses, through its communication channels, the five best price makers to each category of securities.

Association also makes available a comparison system of negotiated rates named COMPARE, which enables the analysis of the market prices in D+1 and offers a history of references to the maturities chosen. The comparison standards are the negotiation rates, made available by Selic; the proper indicative rates assessed internally; and references of the arbitration derivatives markets. The disclosure of historic information assists the treasury and compliance areas in the formation and monitoring of prices. Such data are used, further, by authorities, in the inspection of financial operations.

Although already counting with a broad range of historic information, the market still needed reference prices on the same day. From the end of 2006, ANDIMA increased its project of dissemination of information by means of a website, creating the Rates Dissemination System, which consolidates, in one environment, intraday data pre and post-negotiation. Association started collecting and disclosing average indicative spreads to government bonds in two moments of the day: at 11 a.m. and at 03:15 p.m.. Additionally, it started disclosing the result of calls from brokers (firm offers and business carried out), mechanism adopted by financial intermediaries in the over-the-counter market, and consistent in the meeting, in determined periods of the day, of clients interested in



purchasing and selling determined category of securities. Offers and business recorded in electronic markets are disclosed further.

Besides providing the market with negotiation parameters, the information consolidated in price dissemination systems enable a fast control of the sample of price makers and identification of market trends not indicated by the indicative rates. Thus, eventually, when fluctuations not collected on a daily basis are detected, ANDIMA forwards notices to the sample, for a determined participant or the entire group.

The result of these initiatives contributed to reduce the asymmetry of information in the secondary market. It must be pointed out that, despite the benefits registered, a greater information dissemination not necessarily contributed to the increase of liquidity.

Another important aspect of the daily availability of indicative prices is the possibility of creating instruments with the purpose of benefiting indirectly the segment. One of such initiatives, adopted by the Association jointly with the National Treasury, was the development of benchmarks alternative to DI: the IMA – ANDIMA Market Indexes, family of fixed income indexes. Its creation, in 2005, had the intention of supplying longer term parameters and making it clearer to the agents the relation risk versus return. Currently, the product is used by a representative set of pension funds. At the end of 2000, according to data of the CPS – Complementary Pension Secretariat, 43% of the benefits plan already used the IMA and its sub-indexes as benchmarks for the fixed income portfolio.

In parallel, also with the purpose of increasing market transparency and improving the negotiations environment, ANDIMA is strengthening its performance in the self-regulation field of the segment and looking to providing analysis tools in order to disseminate technical information created from the indicative prices disclosed daily. From the second semester of 2008, shall be disseminated the vertices of the forward interest rate structure – the zero coupon curves. After studies done jointly with market representatives, was built a calculation methodology compatible with the models used by Central Banks and financial institutions of developed countries.

Based on the explanatory factors of the interest curves by the Svensson model, it was prepared, further, a strong methodology to estimate and define factual standards for floating of prices in the secondary securities market to D+1. The main goal of such indicative interval is to provide comfort to investors at the



conclusion of business in a determined prices rate; provide technical tools to the regulators for the evaluation of the operations carried out by the institutions; and mainly, to be the basis of a self-regulatory instrument. Therefore, operations out of such interval may be the object of questioning in the future in the scope of the ANDIMA's Operational and Ethics Committee.

Conclusion

The calculation and disclosure of indicative prices by ANDIMA is being extremely important to the improvement of the structure of the Brazilian securities market. The creation of references of prices, in particular to the low liquidity markets, enabled a higher standardization of the mark to market process by the institutions and costs decrease, as of the reduction of the price dispersion verified in the last years. Although it is not a sufficient condition, the price transparency is an important measure for the inclusion of new market participants.

As seen throughout this work, the task of calculating and disclosing indicative prices in a still restrict liquidity market imposes limits to the process, but not disqualifies it. It is, strictly, the starting point so changes can be done concerning the increase of the number of negotiations in the secondary market, by means of the creation of standards providing convergence and negotiability to the outstanding bonds.

As the low liquidity and the concentrated specter of investors generate an environment in which the effective prices do not always reflect the actual negotiation conditions, the concept of fair business price, directing the methodology of the indicative prices, still is the best reference for appraisal in Brazil, constituting a fundamental instrument for the increase of the investors' base.