

# BULLETIN

OF INDUSTRIAL CONJUNCTURE

MARCH 2013







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## PRESENTATION

The Brazilian Industrial Development Agency (*Agência Brasileira de Desenvolvimento Industrial – ABDI*), entity linked to the Ministry of Development, Industry, and Foreign Trade (*Ministério do Desenvolvimento, Indústria e Comércio Exterior – MDIC*), was created in December 2004 with the mission of promoting the implementation of the Brazilian Industrial Policy in accordance with the Foreign Trade, and Science and Technology policies (Law 11.080/2004). It is mainly focused on programs and projects established by the Brazilian industrial policy. The Agency (ABDI) is also an integral part of *Plano Brasil Maior* Executive Group, being responsible for articulating and consolidating its programs and actions, as well as its monitoring.

Aiming at following the Brazilian industry evolution, ABDI develops a set of industrial intelligence studies and researches that guides its work and helps the Brazilian government define and develop actions within the industrial policy. One of these studies is the Bulletin of Industrial Conjunctionure, which provides information and analysis on the Brazilian industry evolution, highlighting the main difficulties faced and the acceleration opportunities of its development.

The Bulletin, released on a quarterly basis, has been developed in a partnership with the Industrial Economics and Technology Center (*Núcleo de Economia Industrial e da Tecnologia – NEIT*) of the State University of Campinas Economics Institute (*Instituto de Economia da Universidade Estadual de Campinas – IE-UNICAMP*). Its first part shows the discouraging Brazilian economy growth and the concerning reduction of gross fixed capital formation in the fourth quarter of 2012. The persistence of the

government's and families' consumption expansion and the maintenance of its importance for the – though modest – positive performance of the Brazilian economy activity during the analyzed period is observed. The investment rate's descendant behavior is highlighted as an obstacle to the Brazilian industry and economy recovery. Physical industrial production's retraction/low growth is also observed in most use categories and in great part of the industrial subsectors, as well as the industrial employment's shrinkage in the fourth quarter of 2012, resulting in a modest job creation in the industrial sector in last year's accrual. The Brazilian foreign trade was characterized by an increase in imports in last year's last quarter compared to the third quarter, raising the pressure on the trade balance. Brazilian exports are still suffering, mainly basic goods, with the foreign demand's loss of dynamism, in spite of the more favorable exchange rate.

The second part of the Bulletin analyzes sectoral gains resulting from the reduction in the electricity tariff, which became effective as of late January 2013. The analysis conducted shows that several extraction and transformation industries' segments will really benefit from the change on tariff level, because a major part of its industrial operation costs is related to electricity expenses. Based on the growing expenses of industrial companies with electricity used in production, a potential average tariff cut of 20% tends to result in an economy of a few billions of dollars per year by the industry in general. Without taking into consideration potential multiplying effects, the fact that such an action shall have an important impact on the Brazilian industry's competitiveness is supported.

# 1. BRAZILIAN ECONOMY AND INDUSTRY IN THE FOURTH QUARTER OF 2012

## 1.1. DEMAND COMPONENTS AND INVESTMENT RATE BEHAVIOR

The Brazilian economy has experienced a weak growth of 0.9% in 2012, in an evident deceleration path of its Gross Domestic Product (GDP) at market prices which was observed due to its excellent performance of 7.5% in 2010 and modest raise of 2.7% in 2011 (Table 1). National Accounts System (*Sistema de Contas Nacionais* – SCN/IBGE) data has shown a Brazilian product growth of 1.4% in the fourth quarter of 2012, compared to the same period in 2011. A slow movement of the Brazilian economy's quarterly growth

recovery was observed throughout 2012. It reached 0.5% in the second quarter and 0.9% in the third quarter of the year, compared to the same periods in 2011. Data has also evidenced a slight acceleration of the Brazilian product growth to 0.6% in the fourth quarter, compared to the third quarter of 2012, in seasonal effects-free series, following the marginal raise of 0.1% in the first quarter, 0.3% in the second, and 0.4% in the third of 2012 (Bulletins of Industrial Conjuncture, September and December 2012).

**Table 1 – GDP Variation Rate by Activity and by Demand Component (in %)**

	Accrued rate in year		Quarterly rate against the same quarter of previous year		Quarterly rate against immediately preceding quarter (*)	
	2011	2012	3T12	4T12	3T12	4T12
Agriculture	3.9	(2.3)	3.6	(7.5)	2.1	(5.2)
Industry	1.6	(0.8)	(1.0)	0.1	0.8	0.4
Mineral Extraction	3.2	(1.1)	(2.8)	(1.9)	-	-
Transformation	0.1	(2.5)	(1.8)	(0.5)	-	-
Civil Construction	3.6	1.4	1.2	(0.2)	-	-
Energy, gas, and water	3.8	3.6	2.1	4.1	-	-
Services	2.7	1.7	1.4	2.2	0	1.1
GDP at base price	2.5	0.8	0.8	1.1	0.3	0.7
GDP at market prices	2.7	0.9	0.9	1.4	0.4	0.6
Families' consumption expenditure	4.1	3.1	3.4	3.9	1	1.2
Public administration's consumption expenditure	1.9	3.2	3.2	3.1	0	0.8
Gross fixed capital formation	4.7	(4)	(5.6)	(4.5)	(1.9)	0.5
Goods and services exports	4.5	0.5	(3.2)	2.1	0.3	4.5
Goods and services imports (-)	9.7	0.2	(6.4)	0.4	(7.5)	8.1

(\*) With seasonal adjustment. Note: Data include the analysis of the historical series conducted and disclosed by IBGE. Therefore, there may be differences regarding data analyzed in the previous Bulletins of Industrial Conjuncture. Data from the fourth quarter of 2012 is preliminary.  
Source: NEIT/IE/UNICAMP, based on the National Accounts System (SCN)/IBGE.



The Brazilian industry's performance is still a concern for the government and entrepreneurs regarding the difficulty in recovering its dynamism. The Brazilian industry has shown a negative performance in 2012 (-0.8%), to which transformation and extraction industries' shrinkage (-2.5% and -1.1%, respectively) contributed in the same period (Table 1). Among the economic activities considered, agriculture underwent the greatest setback last year (-2.3%). Services activity, on the other hand, was able to positively contribute (1.7%) to the modest raise in the Brazilian product in 2012, when the analysis is conducted based on the supply side. This data contrasts with the one presented in 2011, when agriculture led the Brazilian product's growth and the industry maintained a positive performance, even if in a weaker way than the services activity.

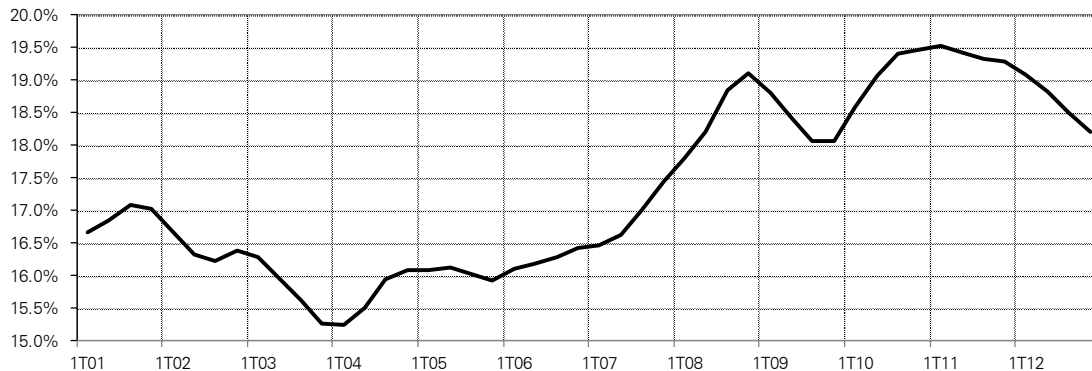
When comparing the fourth quarter of 2012 with the same period in 2011, the Brazilian industry presented a weak growth (0.1%), repeating the behavior observed in the first quarter of 2012, after shrinking in the second (-2.4%) and third (-1%) quarters, compared to the same periods in 2011 (Table 1). Last quarter of 2012, therefore, showed a slight recovery of the negative industrial performance presented in the previous quarters. The Brazilian industry's discouraging behavior in the fourth quarter of 2012 was influenced by the transformation, extraction and civil construction industries' descendant movement (-1.9%, -0.5% and -0.2%, respectively), which was able to overshadow the electricity, gas and water activities' growth (4.1%) in the same period. The services activity presented a slight growth acceleration (to 2.2%) in the fourth quarter of 2012, compared to the same period in 2011. Agriculture itself was the responsible for the negative highlight. It underwent a significant decrease in the last quarter of 2012, compared to the same period in 2011 (-7.5%). Trends indicated are confirmed comparing data from the fourth quarter with the third one of 2012 – in deseasonalized series – because there was a reduced marginal growth (0.4%) in the industry, an improved services performance (1.1%), and a significant

agriculture shrinkage (-5.2%).

With respect to local demand's components, families and public administration's consumption growth (3.1% and 3.2%, respectively) was observed, but there was a concerning reduction of gross fixed capital formation (GFCF), leading to the modest Brazilian product growth (0.9%) in 2012 (Table 1). Families' consumption kept powering the Brazilian product, corresponding to 89.6% of its growth in the 2011-2012 biennium, while the government consumption was responsible for 21.9%, and the GFCF for only 2% of this growth in the same period (calculation based on SCN/IBGE data). A similar behavior can be observed in the comparison of data from the last quarter of 2012 with the same period in 2011, and in quarterly variations compared to the immediately previous quarters. It is worth noting the negative behavior of investments (GFCF) in the fourth quarter of 2012, which presented a reduction when compared to the same period in 2011 (-4.5%), following the movement observed in four consecutive quarters. A tempting – though modest – growth of investments can be observed when comparing to the third quarter of 2012 (0.5%, in a seasonal effects-free series), reverting the negative marginal behavior observed since the last quarter of 2011.

The Bulletin of Industrial Conjunctionure, December 2012, analyzed the GFCF evolution and the Brazilian investment rate (GFCF/GDP) throughout the 2000s. The document highlighted that the Brazilian post-2009 investment rate recovery lasted only five quarters, sequentially declining since then. The investment rate's 12-month moving average remained positive and growing since the first quarter of 2010 until the first quarter of 2011, when it reached its highest (19.5%), presenting a descendant path from the second quarter of 2011 until the third quarter of 2012, accumulating a reduction of 5.1% from its peak quarter until the last considered quarter. Data from the fourth quarter of 2012 confirms the 12-month moving average's descendant path of the Brazilian investment rate, which has reached a 18.2% baseline in the last analyzed quarter (Graph 1).

**Graph 1 – Brazilian Investment Rate**  
(1T01 to 4T12)  
(12-month moving average – in %)



Source: NEIT-IE-UNICAMP, based on National Quarterly Accounts/IBGE.

This investment rate's behavior has been a major concern, especially for the Brazilian government, since its increase is essential for the recovery of a sustained growth cycle of the Brazilian economy. As highlighted in the Bulletin of Industrial Conjuncture, December 2012, investments have been facing difficulties to recover due to an uncertain environment concerning local growth and an international crisis persistence. Meanwhile, some governmental policies and measures have been extended and renewed aiming at setting an environment that best stimulates consumption and investment<sup>1</sup>.

Measures adopted and reinforced by the Brazilian government to stimulate investments and local consumption, and specifically the Brazilian industry, have not shown effects on a more incisive way yet. Uncertainty perpetuation on the global demand recovery, especially in Europe, and maintenance of aggressive strategies by international competitors have also caused deleterious effects on the Brazilian industrial activity. It is expected that adopted measures contribute to bringing investments and the Brazilian industry's dynamism back in the near future. However, it is necessary to maintain the concern with the investments and the industry's performance, in view of its essential incentive role to other economic activities with significant linkage effects to the rest of the Brazilian economy.

Following the analysis of the local demand's components, it is worth noting the change in behavior of Brazilian imports

in 2012, specifically in the last quarter of the year. Imports presented meaningless growth in 2012 (0.2%), in contrast to its significant growth presented in 2011 (9.7%) (Table 1). Comparing imports data from the last quarter of 2012 with those from the same period in 2011, a modest growth (0.4%) was observed, after the contraction verified in the third quarter of 2012, compared to the same period in 2011 (-6.4%). This change in behavior of imports has, in a certain way, eased the negative pressure on the Brazilian production and trade balance.

Concluding the Brazilian product analysis, it is worth highlighting the foreign demand's performance showed by Brazilian goods and services exports. In 2012, there was a slightly higher exports growth (0.5%) when compared to imports growth (0.2%) (Table 1). Exports started to grow again in the fourth quarter of 2012, compared to the same quarter in 2011 (2.1%), after having presented a reduction in the second (-2.5%) and third (-3.2%) quarters of 2012, compared to the same periods in 2011. When considering the third quarter of 2012 – not considering seasonal effects –, there was a major increase in Brazilian exports in the fourth quarter last year (4.5%), after the meaningless marginal growth, or even the marginal contraction, observed in the other quarters of the year (Table 1). This last data certainly shows a positive performance of Brazilian foreign sales, which, however, should be compared to the robust marginal growth of imports in the same period.

1. For a more detailed list of measures, see the Bulletins of Industrial Conjuncture, September and December 2012.

## 1.2. INDUSTRIAL PHYSICAL PRODUCTION ANALYSIS

Monthly Industrial Research - Physical Production (*Pesquisa Industrial Mensal - Produção Física – PIM-PF/IBGE*) data enables detailing the Brazilian industry's behavior in the fourth quarter of 2012. A shrinkage path of the Brazilian industry's physical production was verified when observing the 12-month accrued variation rates' evolution. In 2012, physical production's contraction of the general industry (-2.7%) was observed as a result of the decrease in transformation and extraction industries production (-2.8% and -0.4%, respectively) (Table 2). Comparing data from the fourth quarter

of 2012 with those from the same quarter of 2011, it is also possible to observe the modest retraction (-0.6%) in the industrial physical production related to the shrinkage verified especially in the transformation industry (-0.7%), which was able to overshadow the weak growth of the extraction industry's physical production (0.5%) in the same period. The encouraging fact is that the contraction of the transformation industry's production in the last quarter of the year was slightly lower than the ones observed in the other quarters of 2012, compared to the same periods in 2011.

**Table 2 – Brazilian Industrial Production Variation Rate (1T12 to 4T12) (in %)**

Activities	1T 2012	2T 2012	3T 2012	4T 2012
<b>Variation rate cumulated in the last four quarters</b>				
<b>General Industry</b>	(1.0)	(2.3)	(3.1)	(2.7)
Extraction Industry	1.3	0.7	0.1	(0.4)
Transformation Industry	(1.2)	(2.5)	(3.2)	(2.8)
<b>Quarterly variation rate compared to the same quarter in the previous year</b>				
<b>General Industry</b>	(3.2)	(4.4)	(2.6)	(0.6)
Extraction Industry	(0.2)	0.3	(2.1)	0.5
Transformation Industry	(3.4)	(4.7)	(2.6)	(0.7)
<b>Quarterly variation rate compared to the immediately previous quarter (with seasonal adjustment)</b>				
<b>General Industry</b>	(0.8)	(0.8)	1.0	(0.3)
Extraction Industry	(4.0)	2.1	(1.5)	4.1
Transformation Industry	(0.5)	(1.1)	1.1	(0.6)

Note: The data incorporates the eventual review of figures previously disclosed by IBGE. Therefore, there may be differences regarding data contained in the previous Bulletins of Industrial Conjecture.  
Source: NEIT-IE-UNICAMP, based on Monthly Industrial Research-Physical Production (PIM-PF)/IBGE.

Additionally, a modest reduction in physical production of the transformation industry (-0.6%), and consequently, of the general industry (-0.3%), was observed in the fourth quarter, compared to the third one of 2012 – in a seasonal effects-free series – unlike the behavior observed in the extraction industry at the same period (4.1%). Therefore, the marginal contraction path of the transformation industry's physical production was confirmed – even if in modest levels – in the first and second quarters of 2012, with a brief interruption in the third one. The Brazilian industrial

production's recovery – much anticipated for the last quarter of 2012 – has, therefore, failed to materialized, even considering the adoption of incentive measures to investment and to the Brazilian industry, fact that has reasserted the distrust concerning a more expressive recovery of the industrial activity in 2013.

However, data from January 2013 – recently disclosed by IBGE – has shown an important growth of 5.7% of the industrial physical production, compared to January 2012, interrupting two consecutive months of negative rates, compared to previous

years' months (-0.8% in November and -3.5% in December) (PIM-PF/IBGE). In January 2013, the industrial production grew 2.5%, compared to the immediately previous month – in seasonal influences-free series – after recording shrinkage in November (-1.3%) and a small positive variation in December (0.2%), compared to the previous months. Data from January 2013 revived recovery expectations of the Brazilian industrial production throughout the year, but it should be handled with caution, especially if the reference is from last year, since it was certainly favored by the lower comparison basis in 2012, when the Brazilian economy presented serious recovery difficulties.

In the industrial production evolution's analysis by use category, capital goods and durable consumer goods' behavior was negatively highlighted, which ended up reacting more intensively to the economic activity deceleration in 2012.

There was an expressive contraction

of capital goods' physical production in 2012 (-11.8% – Table 3), with significant participation of the shrinkage in production of trucks and buses (-36.2% – PIM-PF/IBGE, data by industrial subsector), strictly associated to retraction in gross fixed capital formation (-4,0% – Table 1) in the same period. Capital goods have also had a significant drop in its physical production in the fourth quarter of 2012, compared to the same period in 2011 (-9.7%), accounting for five consecutive quarters of reduction in physical production of this use category. This negative behavior, however, was a bit milder than the one presented in the other quarters of 2012. For the negative performance of capital goods' production in the last quarter last year, retraction in physical production of trucks and buses (-30.7% – PIM-PF/IBGE, data by industrial subsector) has, once again, significantly contributed. This production showed a persistent and an increased contraction since the first quarter of 2012, compared to the same quarters of 2011.

**Table 3 – Industrial Production Variation Rate by Use Category (1T12 to 4T12) (in %)**

Use categories	1T 2012	2T 2012	3T 2012	4T 2012
<b>Variation rate cumulated in the last four quarters</b>				
Capital goods	(2.0)	(5.6)	(9.7)	(11.8)
Intermediate goods	(0.5)	(1.5)	(1.7)	(1.7)
Durable consumer goods	(6.0)	(7.5)	(7.0)	(3.4)
Non-durable and semi-durable consumer goods	0.1	(0.3)	(0.7)	(0.3)
<b>Quarterly variation rate compared to the same quarter in the previous year</b>				
Capital goods	(13.4)	(11.8)	(12.2)	(9.7)
Intermediate goods	(1.4)	(3.3)	(1.4)	(0.4)
Durable consumer goods	(11.5)	(7.0)	0.1	5.6
Non-durable and semi-durable consumer goods	1.1	(1.6)	(1.4)	0.8
<b>Quarterly variation rate compared to the immediately previous quarter (with seasonal adjustment)</b>				
Capital goods	(11.8)	3.1	0.2	(2.0)
Intermediate goods	(0.9)	(0.7)	1.2	(0.3)
Durable consumer goods	(1.1)	0.2	5.0	(0.1)
Non-durable and semi-durable consumer goods	1.5	(2.4)	1.1	0.4

Note: The data incorporate the eventual review of figures previously disclosed by IBGE. Therefore, there may be differences regarding data contained in the previous Bulletins of Industrial Conjunctionure.

Source: NEIT-IE-UNICAMP, based on Monthly Industrial Research-Physical Production (PIM-PF)/IBGE.

Difficulties faced by capital goods' production can also be observed in its behavior in the fourth quarter, compared to the third one of 2012 (-2,0% in diseasonalized series), showing, once again, a margin retraction, which was observed in the last quarter of 2011 (-3.4%) and in the first one of 2012 (-11.8%) (Table 3). In the marginal comparison, behavior of capital goods' production seemed more promising in the second and third quarters of 2012, which eventually did not become reality.

The negative behavior of capital goods' physical production has shown difficulties faced by investments, which have received a special treatment by the Brazilian government – that was worried about setting off public and private investments. The future of Brazilian capital goods' production is uncertain, strictly related to the investments' and the local industrial production's response to recurrent stimuli from the government, amidst a not very dynamic international economic environment.

Recent data from January 2013 – disclosed by IBGE – showed an extremely positive and encouraging response of capital goods' physical production: growth of 17.3% in January 2013, compared to January 2012; and increase of 8.2% in January 2013, compared to December 2012, in diseasonalized series (PIM-PF/IBGE). It is worth highlighting that, however, the January 2013 expansion was strictly related to the increase in capital goods' production to transport (61.3% over January 2012). Production of trucks and buses – which are included in this category – presented an expressive growth of 206.4% compared to January of 2012, when sales were practically paralyzed due to implementation of new technical rules, causing anticipation of sales to 2011, given that new – more efficient and less polluting – vehicles are also more expensive. Additionally, other capital goods' segments presented a reduction in January 2013, compared to January 2012, like capital goods for construction (-31.5%), capital goods for non-serial industrial purposes (-21.4%) and agricultural capital goods (-18.5%).

Therefore, the physical production scenario of capital goods is still uncertain for the current year.

Analyzing the behavior of durable consumer goods' physical production, its contraction persistence in the 12-month accrued variation evolution was observed (Table 3). In 2012, there was a retraction of durable goods' physical production (-3.4%), which the decrease in production of automobiles (-1,0%) contributed to, in spite of the record in sales in the same period – automobiles and light vehicles sales reached 3.4 million of units and grew 6.1% last year (Fenabreve). However, recovery in durable goods' production was observed in the fourth quarter of 2012, compared to same period in 2011 (5.6%), considerably enhancing the small growth observed in the third quarter of 2012, compared to the same period in 2011 (0.1%). For such a behavior, growth of automobiles' physical production has contributed in the third and fourth quarters of 2012 (8.5% and 11.4%, respectively), compared to the same periods in 2011 (PIM-PF/IBGE). Comparing the fourth to the third quarter of 2012 – not considering seasonal effects – it is possible to observe a slight reduction in durable consumer goods' physical production (-0.1%), not confirming the significant – though localized – growth presented in the third quarter, compared to the second one of the year (5,0%).

Extension of Federal VAT (*Imposto sobre Produtos Industrializados* – IPI) exemption to automobiles and white-good appliances until July 2013, even if with gradually lower discounts throughout the first semester of the year, as well as the IPI increase on cars imported from outside Mexico and Mercosul, may contribute to stimulate local production of durable consumer goods. However, it is necessary to highlight that purchases/sales incentives may not have direct effects on production. Therefore, last year, for example, high stock (especially automobiles) sales – not followed by equivalent growth of local production – were observed.

Data recently disclosed by IBGE

shows a major growth of durable goods' physical production in January 2013, compared to January (10.3%) and December 2012 (2.5%), after seasonal adjustments (PIM-PF/IBGE). There was an increase in automobiles' physical production in January 2013 over January (39.3%) and December 2012 (4.7%, with seasonal adjustment). Such a behavior was influenced by the need for replacing stocks sold last year. The consumer's behavior was one of purchase anticipation at the end of the year due to expectation of gradual IPI recovery as of January 2013. However, it is worth highlighting the decrease in automobiles and light vehicles' sales in January 2013 over December 2012 (-13.3% – FENABRAVE). Last data available for February over January 2013 has shown, in turn, expressive decreases, both in production of automobiles and light vehicles (-19.4% – ANFAVEA) and in their sales (-25% – FENABRAVE), undoubtedly considering the lowest number of business days in February. Data from the last two-month period aforementioned indicates uncertainty as to the expected behavior of vehicles production and sales, certainly affecting the performance expected from durable consumer goods' production. However, it is not possible to draw a clear picture of industrial durable production in 2013.

Intermediate goods' physical production, in turn, has also reflected the local activity's lack of dynamism, added to setbacks in the maintenance of foreign demand by basic inputs and primary products, which are linked to uncertainties in the international scenario. Contraction of intermediate goods' production was persistent when the evolution of a 4-quarter accrued variation is observed (Table 3).

Comparing the last quarter with the third one of 2012, the fact that intermediate goods followed the marginal contractive behavior of capital and durable consumer goods' production was observed, though more modestly (-0.1%, in seasonal fluctuations-free series). Such a negative marginal performance in the fourth quarter represented a reversal of the behavior observed in the second

and third quarters of the year, compared to the immediately previous quarters, revealing, once again, continuous difficulties faced by intermediate goods' physical production. However, more recent data related to January 2013 showed growth in intermediate goods' physical production regarding both January (4.0%) and December 2012 (0.9%, with seasonal adjustment), indicating a bit more promising beginning of the year for such a use category.

In the case of semi-durable and non-durable consumer goods, less accentuated variations were observed last year, considering its stricter relationship with the population's income level. Some sectors included in this use category, however, have more directly suffered with the effects of international competition. The evolution of semi-durable and non-durable goods' physical production variations accrued in 12 months has also shown contraction movement, though more modest than the one observed in the other use categories (Table 3). Comparing with the previous year's quarters, after undergoing a contraction in its production in the second and third quarters of 2012 (-1.6% and -1.4%, respectively), the analyzed use category presented, once again, a growth in the fourth quarter of the year (0.8%). As to the third quarter of 2012 – not considering seasonal effects –, the last available quarterly data has also indicated an expansion (0.4%), differentiating itself from the other use categories. Such a behavior reveals, once again, the importance of its dependency on local demand, which has supported the Brazilian economic activity, even if in a weaker way than in the post-crisis recovery period. Semi-durable and non-durable goods' physical production has also grown in January 2013, compared to both January (3.0%) and December 2012 (0.2%, after seasonal adjustment) (PIM-PF/IBGE).

Therefore, the physical production analysis by use category highlighted the difficult situation of capital goods' production, especially due to investments' negative performance. The difficulty faced by consumer goods was also highlighted, in spite of the continuous growth of families'

expenses. The concern of the government and of several institutions linked to the Brazilian industry regarding the industrial production's lack of dynamism and the potential overflow of local demand to foreign production is confirmed, justifying the adoption of a series of measures intended to encouraging the Brazilian industrial production.

Observing the physical production's behavior by industrial activity, it is possible to assert that most sectors analyzed by the IBGE's physical production research (22, from 27 sectors) have undergone a contraction or small increase in production (from 0.3% to 2.5%) in the fourth quarter of 2012, compared to the same period in 2011. However, a general improvement in the physical production's behavior of several sectors was observed. Among the thirteen (13) sectors which presented a reduction in production in the analyzed period, most of them (10) were able to mitigate the contraction observed in preceding quarters. Two (2) of them presented expressive reduction in production in the analyzed period: office machines and computer equipment (-15.2%), and automobiles (-7.4%). Among the nine (9) sectors which showed a small increase in production, most of them (6) were able to recover its previous negative behavior, while one (1) of them was able to magnify its production growth,

and only two (2) have undergone a loss of dynamism in production. Therefore, although most sectors have undergone contraction or presented a small growth of its production in the last quarter of 2012, they were able to mitigate or reverse previously observed negative performances, considering data from the fourth quarter of 2011 as a reference.

Through the analysis of the physical production's behavior by industrial sector in the fourth quarter, compared to the third one of 2012 – not considering seasonal influences –, it is possible to observe some growth in ten (10) sectors from IBGE research. Those who have shown relevant growth were only the medical, hospital and optical equipment and instruments sector (8.1%) and the extraction industry (4.1%) (PIM-PF/IBGE). The other industrial sectors included in the research (17 sectors) have undergone retraction of their physical production in the period. A relevant decrease in production of the tobacco industry (-11.7%) – which had been highlighted in the previous quarter's marginal growth –; the computer equipment and office machines sector (-7.6%); and the electronic material, communication devices and equipment sector (-5.6%) was observed. There was also a reduction in the production of machines and equipment, though in a mildest way (-1.7%).

### 1.3. INDUSTRIAL EMPLOYMENT EVOLUTION

Difficulties faced by the Brazilian industry were reflected in the industrial employment's loss of dynamism last year, when about 24% of jobs created in 2011 were generated (Table 4). It is worth highlighting that 2011 had already been a deceleration year, representing only 39% of the formal employment volume created in the Brazilian industry in 2010. Employment and Unemployment General Database (*Cadastro Geral de Empregados e Desempregados – CAGED/MTE*) shows net generation of 44,813 formal workstations in 2012, compared to 185,496 in 2011, and 477,791 in 2010. Conducting a comparative analysis from 2009 to 2012 (based on Table 4 data), it is possible to observe that industrial employment generation in 2012 was only

higher than the baseline observed in 2009, when the global downturn's effects were most felt in Brazil. This substantial difference observed in the last analyzed year (2012) reflects the deceleration in the first three quarters pointed in the previous bulletins and the substantial loss of 182,320 formal workstations in the last three months of the year. A negative result is expected in the fourth quarter due to seasonal movements, which can be observed in Table 1. However, the magnitude of the employment drop between October and December 2012 was similar to the same period in 2011, which, combined with the slower generation of workstations between January and September, contributed to the end of the year's result.

**Table 4 – Jobs Creation and Net Hires Payroll  
in the Brazilian Industry  
(1T09 to 4T12)**

Year	Jobs Creation					Net Hires Payroll (in thousands of R\$, Dec/10*)				
	1 <sup>st</sup> quarter	2 <sup>nd</sup> quarter	3 <sup>rd</sup> quarter	4 <sup>th</sup> quarter	Total	1 <sup>st</sup> quarter	2 <sup>nd</sup> quarter	3 <sup>rd</sup> quarter	4 <sup>th</sup> quarter	Total
2009	(146,761)	2,578	203,323	(52,009)	<b>7,131</b>	(308,501)	(153,828)	37,893	(105,773)	<b>(530,209)</b>
2010	199,187	186,139	203,873	(111,408)	<b>477,791</b>	104,290	76,794	92,038	(147,372)	<b>125,750</b>
2011	127,798	117,211	128,704	(188,217)	<b>185,496</b>	46,400	41,794	26,054	(228,229)	<b>(113,981)</b>
2012	53,742	62,892	110,499	(182,320)	<b>44,813</b>	(28,420)	(22,893)	(15,274)	(247,823)	<b>(314,410)</b>

\*Data deflated by IPCA (IBGE).

Source: NEIT/IE/UNICAMP, based on CAGED/MTE.

As explained in previous bulletins, payroll losses in the four quarters of the year are even more worrying than the deceleration of formal employment generation in 2012. There was a net loss of R\$ 247 million of formal workers' payroll in the Brazilian industry in the last quarter of 2012. This result is lower than the one presented in the same period of the three previous years (Table 4). The payroll loss movement repeated what was observed in the three previous quarters, totaling a net loss of more than R\$ 314 million throughout the year. There was no payroll loss observed in all the quarters in any of the three previous years (2009 to 2011). This fact occurred only in 2012. In terms of magnitude, last year's payroll loss was only surpassed by the 2009 shrinkage. It can be observed that, adding the four years which were analyzed, there was a total loss of more than R\$ 800 million, even with a positive generation of workstations, indicating that workers with greater salaries have been replaced by others with lower revenues as a cost-reduction strategy.

Table 5 shows this workstation's loss movement in the fourth quarter of 2012, with a record by industrial sector. In the transformation industry,

only beverages and other transportation equipment manufacturing sector, except automobiles, had a positive performance when generating formal employment between October and December 2012. Manufacturing of food products (loss of 45 thousand workstations); leather and shoes (loss of 32 thousand); coke, oil derivatives and biofuel (loss of 26 thousand jobs); and clothing (loss of 19 thousand jobs) was highlighted due to its negative performance in the last quarter of 2012. In last year's total, leather and shoes sector excelled with the loss of 12 thousand formal employment jobs. In spite of the destruction of 45 thousand jobs in the fourth quarter of 2012, the food products manufacturing sector presented the best result at the end of the year, with the creation of 13 thousand jobs. It is worth highlighting that this sector is the one that most employs in the Brazilian industry, responding to approximately 18% of the total of employment stock in 2011 (RAIS/MTE). Considering the poor performance of the Brazilian industry in terms of formal employment creation last year, this sector responded to almost 30% of the employments generated in 2012.



**Table 5 – Jobs Creation by Industrial Sector  
(fourth quarter of 2012 and total of 2012)**

Industrial Sector	Jobs creation (4T12)	Jobs creation (2012)
Coal Mining	1	109
Oil and Natural Gas	56	799
Metallic Mining	(969)	5,613
Non-Metallic Mineral Mining	(1,160)	2,880
Mining Support Activities	302	3,446
Food Products	(45,212)	13,004
Beverages	2,770	7,148
Tobacco Products	(2,141)	(198)
Textiles	(8,375)	(3,744)
Clothing and Accessories	(18,956)	(3,832)
Leather, Leather Artifacts and Footwear	(32,222)	(12,004)
Wood Products	(7,009)	(5,136)
Cellulose, Paper and Paper Products	(691)	1,996
Printing and Reproduction	(1,730)	(874)
Coke, Oil-Based Products and Biofuel	(26,520)	(2,171)
Chemicals	(1,192)	6,494
Pharmaceuticals and Pharmaceuticals	(382)	3,787
Rubber and Plastics	(3,638)	4,040
Non-Metallic Minerals	(5,725)	2,886
Metallurgy	(3,737)	(5,572)
Metal Products, Except Machines and Equipment	(6,344)	2,598
Computer Equipment, Electronics and Optical Products	(4,692)	(2,462)
Machines, Devices and Electrical Material	(1,623)	4,935
Machines and Equipment	(3,683)	3,064
Automobiles, Tow Trucks and Car Bodies	(4,072)	(3,500)
Other Transportation Equipment, Except Automobiles	1,634	5,906
Furniture	(2,007)	7,451
Others	(4,134)	2,826
Machines and Equipment Maintenance, Repair and Installation	(869)	5,324

\*Data deflated by IPCA (IBGE).

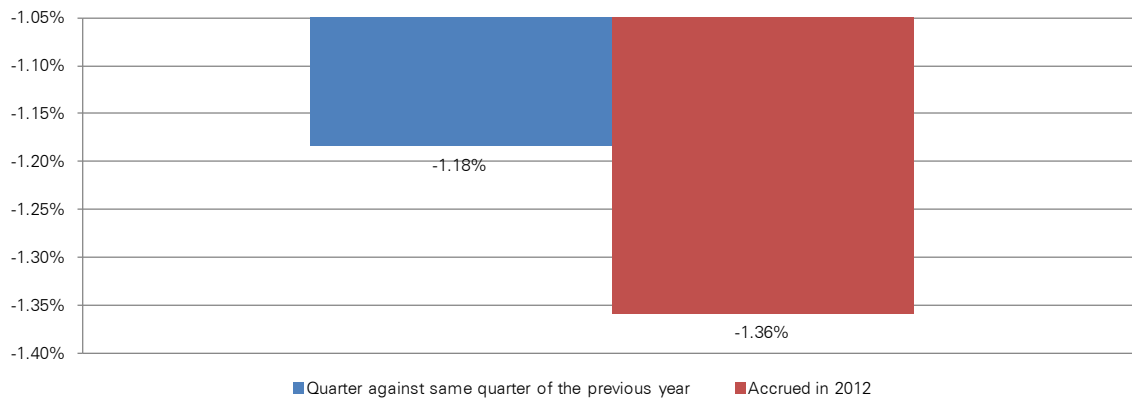
Source: NEIT/IE/UNICAMP, based on CAGED/MTE.

Monthly Industrial Research of Jobs and Salaries (*Pesquisa Industrial Mensal de Empregos e Salários – PIMES/IBGE*)<sup>2</sup> data may be considered to complement the industrial employment behavior analysis in 2012. This research has also revealed one of the worst employment generation performances in

the Brazilian industry in 2012, compared to the previous year (Graph 2). There was a decrease of 1.18% in the Brazilian industrial employment creation in the fourth quarter of 2012, compared to the same period in 2011, while the decrease was of 1.36% in the 2012 accrual, compared to 2011. In spite of the difference in data magnitude of both sources used in this document (CAGED and PIMES), the deceleration of the Brazilian industry employment generation was evidenced in 2012.

2. PIMES/IBGE has a sampling coverage, including companies with five or more employees, while CAGED/MTE presents the results of all companies which have performed hiring/firing of formal employees in the researched period, thus, having census coverage. Therefore, it is possible to find divergent trends in both data sources used, especially in sectors with predominance of small businesses.

**Graph 2 – Brazilian Industrial Employment Variations**  
(fourth quarter of 2012 and total of 2012) (in %)



Source: NEIT/IE/UNICAMP, based on PIMES/IBGE.

CAGED/MTE data for January – which is already available – may be interpreted as an improvement sign for 2013. In that month, more than 45 thousand workstations were generated in the Brazilian industry, compared to 36 thousand in the same month of 2012. As it is the first month of the year, however, it is necessary to wait for the next monthly data in order to be able to catch a glimpse of a recovery trend of the Brazilian industrial employment in 2013.

Previously analyzed information showed that the Brazilian economy presented a disheartening expansion in the fourth quarter of 2012, led by the

growth of families' and the government's consumption in a gross fixed capital formation contraction context. Regarding the industrial production, the contraction/low dynamism, as well as deceleration of industrial employment generation, was highlighted in most use categories and in a wide set of industrial subsectors in the analyzed period. The investment rate's descendant behavior was also pointed out as an obstacle to the Brazilian industry and economy recovery. It is also necessary to mention the difficulties found by the Brazilian foreign trade that will be, therefore, analyzed in details below.

## 1.4. BRAZILIAN FOREIGN TRADE

The Brazilian trade balance was equivalent to US\$ 3.7 billion in the fourth quarter of 2012. This result was lower than the surplus reached in the last quarter of 2011 (US\$ 8.6 billion) and the one reached in the third quarter of 2012 (US\$ 4.6 billion) (FUNCEX). A gradual increase trend of the Brazilian trade surplus was observed until the third quarter last year.

Comparing trade data from the fourth quarter of 2012 and 2011, the Brazilian surplus reduction was a result of the higher reduction intensity of exports value (-6.1%), compared to imports value shrinkage (-1.7%) (Table 6). This reduction in the Brazilian exports value arose from the exported prices decrease (-7.8%) in the analyzed period. The recovery

difficulty of the external demand may have contributed to it. Shrinkage of Brazilian imports' value in the same period was caused by the decrease in imported products' prices (-1.5%), considering the contraction of imported quantities (-4.7%). Concern with the lack of dynamism of the foreign demand and with the international competition intensity – both pointed out in previous documents – should be maintained. Furthermore, attention should be paid to the need for increasing competitiveness of several Brazilian industrial sectors – to beyond the most favorable exchange situation.

A different movement can be found in the fourth quarter, compared to the third one of 2012, because the marginal

decrease of the Brazilian trade surplus has resulted from the reduction in exports value (-2.2%) and from the increase in imports value (6.4%) (Table 6). Shrinkage of Brazilian exports in the same period was due to the decrease of exported products' prices (-1.7%) with less participation of the decrease in exported quantities (-0.5%). Increase of Brazilian imports' value in that period was, on the other hand, leveraged by the raise in imported products' quantities (6.1%), considering the modest increase in prices. It is worth remembering that the undervalued currency exchange and the lack of dynamism of major foreign

markets have contributed to reducing exported products' prices in the analyzed period. Brazilian imports and exports movement from the third to the fourth quarter revealed a marginal deterioration of the Brazilian foreign trade insertion, and it is not possible to ignore the deleterious effects of the difficulty in recovering advanced economies and decelerating emerging economies, like China, followed by a growing pushiness of the international competition.

**Table 6** – Exports Variation Rates by Aggregated Value and Imports Variation Rates by Use Category (in %)

		4T12/4T11			4T12/3T12		
		Value	Price	Quantum	Value	Price	Quantum
<b>Exports</b>	<b>Total</b>	(6.1)	(7.8)	1.4	(2.2)	(1.7)	(0.5)
	Basic products	(13.0)	(10.1)	(3.7)	(9.5)	(2.4)	(7.3)
	Semi-manufactured products	(0.3)	(11.4)	11.8	5.0	(2.1)	7.2
	Manufactured products	0.4	(3.8)	4.2	4.4	(1.0)	5.3
<b>Imports</b>	<b>Total</b>	(1.7)	(1.5)	(0.4)	6.4	0.3	6.1
	Capital Goods	(2.2)	(3.6)	1.3	7.3	(2.5)	9.9
	Intermediate Goods	1.6	(2.7)	4.2	(4.1)	(0.8)	(3.4)
	Durable Consumer Goods	(22.0)	4.3	(25.6)	9.8	(1.0)	10.8
	Non-Durable Consumer Goods	9.3	0.4	8.9	11.7	0.4	11.7
	Fuels	(6.6)	1.7	(8.1)	51.8	7.8	41.1

Source: NEIT/IE/UNICAMP, based on FUNCEX.

Exports data by aggregated factor shows that Brazilian exports' performance in the fourth quarter of 2012, compared to the same period in 2011, was especially affected by the reduction in basic products' foreign sales (-13.0%), followed by semi-manufactured products (-0.3%) (Table 6). As to semi-manufactured and basic products, exports have mainly suffered with the decrease in exports prices. Taking only manufactured products into consideration, there was an increase in the exported value leveraged by the exported quantum. This was also steeper than the reduction in exports prices, differentiating its behavior from the other types of products.

Considering the third quarter of 2012 as a reference point, exports data

by aggregated factor revealed a more encouraging movement of Brazilian foreign sales based on the increase in exports of manufactured (4.4%) and semi-manufactured products (5.0%), led by the growth of their exported quantities, in view of the reduction in their exports prices due to the aforementioned reasons (Table 6). Basic products presented a different behavior due to the retraction of their exports in the analyzed period, leveraged by the decrease both in exports quantities and prices. This behavior is still influenced by the difficulty faced by Brazilian basic products in the international market, due to the deceleration in the emerging markets' demand.

Analyzing the imports performance by use category, contraction of imported

values – guided by the imported quantities' shrinkage – of durable consumer goods and fuels was evidenced in the fourth quarter of 2012, compared to the same period of 2011 (Table 6). Decrease in imports value of durable consumer goods (-22.0%) was, once again, highlighted – exclusively caused by contraction in imported quantities. This declining behavior of durable consumer goods' imported quantities in the fourth quarter repeated what has been happening since the second quarter last year. Fuels have also presented lower imported values in the same period (-6.6%), leveraged by the decrease in imported quantities. Capital goods have presented a similar behavior to the other use categories: reduction in imported values (-2.2%) but guided by the decrease in prices (-3.6%). The exception, therefore, was the growth of non-durable consumer goods and intermediate goods' imported value in the fourth quarter of the year (respectively, 9.3 and 1.6%), leveraged by imported quantities.

A decrease in imported values of only intermediate goods (-4.1%) was observed in the marginal comparison of the fourth with the third quarter of 2012 (Table 6). The other use categories showed an increase in imports leveraged by the imported quantum. There was, as a result, an increase in Brazilian imports (6.4%) in the same period. The increase in foreign purchases was greater than the shrinkage in exports, contributing to reducing the Brazilian trade surplus – in the margin – in the fourth quarter last year.

Imports data from last year's fourth quarter hinted an increase of foreign purchases' pressure on the Brazilian trade balance. However, it is worth highlighting, once again, the impacts of the developed economies' recovery difficulty and of the emerging economies' deceleration on the Brazilian foreign trade, without mentioning the aggressive international competition,

being possible to decrease trade gains deriving from local currency devaluation.

Summarizing the information contained in this document, the low growth of the Brazilian economy – led by the increase in families' and the government's consumption in a context of investment contraction – is highlighted in the fourth quarter of 2012. The contraction or the small elevation of the physical production to a wide set of industrial subsectors is emphasized, as well as the formal employment's shrinkage in the Brazilian industry in the same period. As to the Brazilian foreign trade, exports difficulties associated to the alarming foreign demand scenario persist, though in a more favorable exchange rate situation.

As highlighted in the Bulletin of Industrial Conjunction, December 2012, changes observed throughout the last periods, either in the international or local scenario, have resulted in an uncertainty environment, hampering private investments' decisions. The fact that the return of gross capital formation's growth is essential both to maintain families' consumption growth robust in the long term and to increase the industrial sector's productivity is, once again, underlined. The wide set of stimulus measures – especially interest reduction, exchange rate's most devalued baseline, payroll exoneration, creation of space for private investment in infrastructure area, and finally, reduction in electricity costs – is essential to place the Brazilian economy and industry in a growth path again. Those measures undoubtedly opened several opportunities for private investment and, currently, it is worth waiting for its use by the productive sector.

Considering the current debate regarding the effects of the reduction in electricity costs in the Brazilian industrial sectors, this issue will be dealt with more details in the next section.

## 2. SECTORAL IMPACT OF THE DECREASE IN ELECTRICITY COSTS

Long ago, the Brazilian industrial entrepreneurs' representative entities used to request adjustments in the country's electricity tariff. Indeed, according to Oliveira (2012), changes in the electrical system's regulation in the late 90s caused a strong increase in tariffs applied in Brazil, especially in those charged from the industry, gradually making them more expensive than the ones paid by the country's trade partners, for example, USA, France, Germany, and Norway. For the author, this situation would be paradoxical, because, even though Brazil has a low-cost electrical system, the Brazilian economy would have applied non-competitive tariffs (OLIVEIRA, 2012). In late January 2013, however, the electricity tariff reduction<sup>3</sup> (announced in 2012) became effective. It can reach 32% to industrial consumers.

Although climate conditions have temporarily limited the forecasted gains of that measure due to the need for activating thermoelectric plants, which have a relatively high production cost – transferred to industrial customers who resort to the electricity free market

(BRITO, 2013) –, it is important to analyze sectoral gains arising from this electricity tariff reduction that, after all, has a structural character, since it decreases costs for a long period.

In order to point the sectors which most benefited from the reduction in electricity costs and its importance for the Brazilian industry, Table 1 shows sectoral participation in the Brazilian industry's Industrial Transformation Value (*Valor da Transformação Industrial – VTI*), according to data from 2010 IBGE Annual Industrial Research (*Pesquisa Industrial Annual – PIA*), as well as the relative importance of production electricity expenses in the Industrial Operation Cost (*Custo de Operações Industriais – COI*) for each sector. Due to database restrictions, only results from industrial companies with 30 or more employees – probably the industry share which takes advantage of the greatest energy efficiency – are assessed, grouped by the National Economic Activities Classification (*Classificação Nacional de Atividades Econômicas – CNAE*) divisions.

3. Law 12.783, that anticipated the renewal of hydroelectric concessions under the condition of reducing the electricity price.

**Table 1** – Sectoral Composition of the Brazilian Industry's Industrial Transformation Value and Weight of Electricity Expenses Used in Production in Industrial Operation Costs by CNAE Division (version 2.0) (2010)

Description	Participation in Industry VTI (%)	Electricity used in production/ total cost (%)
<b>Industry</b>	<b>100.0</b>	<b>3.1</b>
<b>Extraction Industry</b>	<b>8.2</b>	<b>9.5</b>
05 Coal mining	0.1	5.6
06 Oil and natural gas	0.1	3.2
07 Metallic mining	6.7	11.2
08 Non-metallic mining	0.6	8.6
09 Mining support activities	0.7	0.5
<b>Transformation Industry</b>	<b>91.8</b>	<b>2.9</b>
10 Food products	14.3	1.8
11 Beverages	3.4	2.4
12 Tobacco products	0.6	1.1
13 Textiles	1.7	7.5
14 Clothing and accessories	1.6	2.0
15 Leather, leather artifacts and footwear	1.5	2.8
16 Wood products	0.8	8.5
17 Cellulose, paper and paper products	3.0	6.0
18 Printing and reproduction	0.7	2.8
19 Coke, oil-based products and biofuel	14.7	0.9
20 Chemicals	6.8	3.8
21 Pharmsochemicals and pharmaceuticals	2.5	2.0
22 Rubber and plastics	3.2	5.0
23 Non-metallic minerals	3.4	7.4
24 Metallurgy	5.8	7.4
25 Metal products, except machines and equipment	3.1	2.9
26 Computer equipment, electronics and optical products	2.4	0.5
27 Machines, devices and electrical material	2.7	1.8
28 Machines and equipment	4.4	1.4
29 Automobiles, tow trucks and car bodies	10.7	1.3
30 Other transportation equipment, except automobiles	1.6	1.2
31 Furniture	1.0	2.3
32 Others	0.8	3.4
33 Machines and equipment maintenance, repair and installation	0.9	1.0

Source: NEIT-IE-UNICAMP, based on Annual Industrial Research (PIA) (30 or more employees)/IBGE.

Among the 29 divisions taken into consideration, nine (9) showed a proportion of 5.0% or more of the COI allocated for electricity expenses. These divisions (marked on the table) would have covered a little more than 25% of the Brazilian industry's VTI in 2010 (7.4% belonging to the extraction industry and 18.0% related

to the transformation industry). With a slightly less degree of importance, six (6) sectors, which represented 13.0% of the Brazilian industry's VTI, revealed a still relevant weight of the electricity expenses in COI (between 2.5% and 5.0%) in the analyzed year. In other words, fifteen (15) industrial sectors will have their costs

significantly affected – comprising nearly 40% of the Brazilian industry's VTI.

Practically all extraction industry's segments will quite benefit from the change on the tariff level – in average, 9.5% of their industrial operations' costs refer to electricity expenses. The least affected will be the Oil and Natural Gas Extraction segment (3.2% of its costs come from electricity expenses) and, especially, extraction-related services (0.5%). The segment that will most benefit will be the Metallic Minerals Extraction (11.2%), with significant weight of iron ore extraction (and processing), followed by Non-Metallic Minerals Extractions, that comprises extraction (and processing) of aluminum, tin, manganese, precious metals, radioactive minerals (with, in average, 8.6% of industrial costs related to electricity expenses). If, on the one hand, this set of segments comprises only 7.5% of the Brazilian industry's VTI, on the other hand, besides being a net exporter, it supplies important inputs for the local transformation industry, and may boost demanding segments' competitiveness if it transfers gains to other sectors.

The average impact of the tariff reduction on the transformation industry – which comprised nearly 92% of the Brazilian industry's VTI generation in 2010 – is still, in turn, lower than the one observed in the extraction sector – only 2.9% of the transformation industry's COI represents electricity expenses.

Among the 24 transformation industry's segments pointed on Table 1, six (6) maintain the electricity purchase weight in 5.0%, or more, of industrial operation expenses. Among segments with the greatest potential for savings, the Wood Products (8.5% of COI refers to electricity expenses), Textile Products (7.5%) and Non-Metallic Mineral Products Manufacturing (7.4%), and Metallurgy (7.4%) segments are highlighted. The first two produce end goods. As they have been suffering with the strong international competition, including in the Brazilian market, the reduction in electricity expenses may contribute to easing foreign competitive pressures. In Non-Metallic Mineral Products Manufacturing, production of Cement, and Concrete and Cement Artifacts, as well as

China, is highlighted. The high impact of the reduction in electricity costs in Non-Metallic Minerals Extraction, as well as in their industrial transformation, enables the possibility – in the event of transfer – of Civil Construction cost containment, for instance. Similarly, the decrease in Metallurgy (which adds approximately 5.8% of value in the Brazilian industrial transformation) costs can also favor the economy in other industrial transformation steps.

Paper and Cellulose (6.0% of COI), and Rubber and Plastic Material manufacturing segments (5.0%) come next, with a slightly lower degree of importance of electricity expenses on industrial operation costs. The former is an important net exporter and the latter covers both end goods and inputs production to other segments of the Brazilian industry itself and of the Civil Construction.

Besides the Oil and Natural Gas activity (3.2%), Chemical Products Manufacturing (3.8% of COI), major input supplier of the Brazilian industry; Miscellaneous Products Manufacturing (3.4%); Metallic Products Manufacturing, except Machines and Equipment, another major industrial supplier (2.9%); Leather Preparation, and Leather Artifacts, Travel Artifacts and Shoes Manufacturing (2.8%); and Engraving Print and Reproduction (2.8%), all maintain the electricity expenses between 2.5% and 5.0% of industrial costs.

According to the National Electricity Agency (*Agência Nacional de Energia Elétrica* – ANEEL)<sup>4</sup>, reduction in tariffs became effective as of January 24, 2013 and will have total impact on consumers' expenses only after a complete billing cycle under the new tariffs (around 30 days). As it has already been explored, the agency highlights the structural effect of this reduction, as it promotes a permanent change on the tariff level. It should also be emphasized that the impact on consumers will not be linear, because ANEEL determines a different tariff for each dealer – due to each concession's peculiarities.

In nominal terms, in 2010 (last available

4. Available at: <[http://www.aneel.gov.br/aplicacoes/noticias/Output\\_Noticias.cfm?Identidade=6426&id\\_area=90](http://www.aneel.gov.br/aplicacoes/noticias/Output_Noticias.cfm?Identidade=6426&id_area=90)>. Accessed on: February 27, 2013.

result), extraction industry's companies (with 30 or more employees) spent R\$ 1.9 billion with electricity used in production. Transformation industry's companies, in turn, spent R\$ 26.8 billion, totaling R\$ 28.7 billion for the Brazilian industry as a whole – approximately 3.7% of VTI or 3.1% of COI of that year. In values corrected by INPC for December 2012, there would be a total electricity expense of R\$ 32.3 billion in the Brazilian industry, which, considering the possibility of an average cut of 20%, could guide the economy to near R\$ 6.5 billion per year.

Without taking into consideration potential multiplying effects, it is possible to assert that this measure will have an important impact on the Brazilian industry's costs structure. This impact may be, in turn, translated into better competition conditions, compared to the international competition within the local market, and/or better competitiveness in the international market. Additionally, since this is a structural change, it can move future profitability forecasts of companies and sectors, helping recovering productive investments.



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