ABDI
Agência Brasileira de Desenvolvimento Industrial

BULLETIN

OF INDUSTRIAL CONJUNCTURE

SEPTEMBER 2012

Agência Brasileira de Desenvolvimento Industrial

BULLETIN

OF INDUSTRIAL CONJUNCTURE

SEPTEMBER 2012

Brazilian Industrial Development Agency – ABDI
Mauro Borges Lemos
President

Maria Luisa Campos Machado Leal
Director

Clayton Campanhola
Director

Otávio Silva Camargo
Chief of Staff

Rogério Dias de Araújo
Coordinator

Carlos Henrique de Mello Silva
Technician

Technical Team

Brazilian Industrial Development Agency - ABDI
Rogerio Dias de Araújo – *Competitive Intelligence Coordinator*
Carlos Henrique de Mello Silva – *Technician*

State University of Campinas, Economics Department - IE/UNICAMP
Fernando Sarti – *Director*

Center for Industrial Economics and Technology - NEIT/IE - UNICAMP
Fernando Sarti – *Project Coordinator ABDI/NEIT - IE - UNICAMP*
Celio Hiratuka – *Project Coordinator ABDI/NEIT - IE - UNICAMP*
Adriana Marques da Cunha – *Executive Coordinator*
Beatriz Freire Bertasso – *Information Coordinator*
Carolina Baltar – *Researcher*
Fernanda Ultremare – *Researcher*
Lídia Ruppert – *Researcher*
Marcelo Loural – *Researcher*
Marco Antonio Martins da Rocha – *Researcher*
Alessandra Celani – *Research Assistant*
Anna Lígia Pozzeti de Abreu – *Research Assistant*
Marina Segura Zavatti – *Research Assistant*
Murilo Batista – *Research Assistant*
Vanessa Moraes Lugli – *Research Assistant*

Translation
Vernaculum Comunicações Internacionais

Design
Caluh Assessoria e Comunicação

INTRODUCTION

The Brazilian Industrial Development Agency (*Agência Brasileira de Desenvolvimento Industrial/ABDI)*, an organization under the Brazilian Ministry of Development, Industry and Foreign Trade (*Ministério do Desenvolvimento, Indústria e Comércio Exterior/MDIC)*, was established in December 2004 with the mission to promote the implementation of industrial policy in Brazil, in line with foreign trade policies, as well as policies regarding science and technology (Law 11.080/2004). The agency's main focus is on programs and projects established by Brazilian industrial policy. The agency is also part of the Executive Group of the *Brasil Maior* Plan, which is responsible for the coordination and consolidation of their programs and actions, as well as their monitoring.

In order to monitor the evolution of Brazilian industry, the ABDI develops a set of studies and research on industrial intelligence that guides their work and assists the Brazilian government in defining and developing activities within industrial policy. Among these studies, The Industrial Conjuncture Bulletin provides information and analyses on the evolution of Brazilian industry, highlighting the problems faced, as well as the opportunities for accelerating the country's development.

The Industrial Conjuncture Bulletin, published quarterly, has been developed in partnership with the Center for Industrial Economics and Technology (NEIT) of the State University of Campinas Economics Department. The first part of this edition of the Bulletin points out the slowdown in growth of the Brazilian economy and the decreasing trend observed in gross fixed capital formation in the second quarter of 2012. It is worth noting that contraction in investment rates has intensified, which has created considerable obstacles for the recovery of both Brazilian industry and the Brazilian economy as a whole. However, the Bulletin also highlights the growth of both household and government consumption and the importance of this growth for maintaining the modest positive performance of the Brazilian economy that was seen in the second quarter of 2012. The contraction of Brazilian industry and the recovery of agriculture and livestock activity have been revealed as important factors in the second quarter of the year.

The second part of this Bulletin discusses the question of employment and total wages in Brazilian industry during the most recent period. It highlights the slowdown in industrial job creation, though this slowdown was less accentuated than that suffered by physical production, which was accompanied by the reduction in total wages of net hirings in the second quarter of 2012. The data reveals the reduction in workers' purchasing power, which is likely to negatively affect the business community's expectations of an increase in demand and returns on new investment projects. As a result, Brazil's economic recovery may be weakened.

BRAZILIAN ECONOMY AND INDUSTRY IN THE SECOND QUARTER OF 2012

The second quarter of 2012 was marked by modest economic growth in Brazil, as well as by the negative performance of industrial activity. Gross Domestic Product (GDP) at market prices rose only 0.4% compared to the first quarter of 2012 after seasonal adjustments (Table 1). There was a small increase (0.5%) compared to the same period in 2011, a result which reaffirms the trend toward the slowdown of production growth in Brazil. This slowdown has been observed since the second quarter of 2010 after taking into account the same quarters in previous years. In addition, accumulated growth over the last four quarters ending in July 2012 was reduced to 1.2%, results which once again revealed the loss of dynamism in the Brazilian economy that has been seen through the data accumulated over twelve months since the fourth quarter of 2010.

Table 1 - GDP Variation Rate for Activities and Components of Demand (IQ 2012 and 2Q 2012) (%)

	Quarterly rate versus previous quarter (*)		Quarterly rate versus same quarter of previous year		Accumulated rate over the past four quarters	
	1Q/2012	2Q/2012	1Q/2012	2Q/2012	1Q/2012	2Q/2012
Livestock	(5.9)	4.9	(8.5)	1.7	0.8	1.5
Industry	1.7	(2.5)	0.1	(2.4)	0.7	(0.4)
Mining	-	-	2.2	(1.8)	2.9	1.7
Manufacturing	-	-	(2.6)	(5.3)	(1.1)	(2.9)
Civil Construction	-	-	3.3	1.5	3.1	2.9
Electricity, Gas, and Water	-	-	3.6	4.3	3.5	3.7
Services	0.6	0.7	1.6	1.5	2.2	1.6
GDP at base price	0.1	0.4	0.6	0.4	1.7	1.1
GDP at market price	0.1	0.4	0.8	0.5	1.9	1.2
Household consumption expenditure	0.9	0.6	2.5	2.4	3.2	2.5
Government consumption expenditure	1.6	1.1	3.4	3.1	2.3	2.2
Gross fixed capital formation	(1.5)	(0.7)	(2.1)	(3.7)	2.1	(0.3)
Goods and Services Exports	(0.3)	(3.9)	6.6	(2.5)	5.1	2.8
Goods and Services Imports (-)	(0.4)	1.9	6.3	1.6	8.2	5.0

(*) Taking seasonal adjustment into consideration. Note: Data includes the revision of the historical series executed and distributed by the IBGE. Therefore, there may be differences in relation to the data analyzed in previous editions of The Industrial Conjuncture Bulletin. Data from the second quarter of 2012 is preliminary. Source: System of National Accounts (SCN/IBGE).

Brazilian industry suffered a reduction in the second quarter of 2012 compared to the first quarter of the year (-2.5%) after having stood out ahead of other economic activities in the first quarter of 2012 relative to the last quarter of 2011 (1.7%), with seasonal adjustments always taken into account (Table 1). The deterioration in the behavior of Brazilian industry is also evident through a comparison to the second quarter of 2011 (-2.4%) and through the accumulated value over four quarters ending in June of 2012 (-0.4%). The manufacturing industry played a decisive role in the negative growth of Brazilian industry as a whole. Once again, it hindered the positive performance of civil construction during the periods in question. In the accumulated value over twelve months ending in June 2012, the worrisome reduction in the manufacturing industry stands out (-2.9%). The mining industry was not able to maintain the growth it experienced in the first quarter of 2012. It suffered a decrease in the period from April to June compared to the same period in 2011 (-1.8%). Additionally, mining presented slower growth over the four quarters ending in June 2012 (to 1.7%).

As the previous editions of The Industrial Conjuncture Bulletin (March and June 2012) pointed out, there is continued worry within the Brazilian government over the performance of industry, which has been negatively affected by the difficulty in recovering investments and increasing internal consumption, as well as by the difficulties faced during a time of uncertainty in the global economy (particularly in Europe). These difficulties are in addition to the more intense competition from foreign producers, which have become more aggressive in the battle for foreign markets. It is important to point out that the government has sought to create and reinforce a wide variety of incentives, including stimulus credits and tax credits for Brazilian industry after considering the industry's positive effects on other economic activities. There is hope for more promising performance from Brazilian industrial activity in the second half of the year in response to these measures, which were recently announced by the government.

However, agricultural activity has recovered – it has gone back to presenting growth in the second quarter of 2012 compared to the same quarter in 2011 (1.7%) and also to the first quarter of 2012 (4.9%) after seasonal adjustments (Table 1). This consistency reflects a reversal of agricultural activity's negative performance in the first quarter of 2012, which was due to the losses caused by droughts in the Northeast region of the country, as was highlighted in The Industrial Conjuncture Bulletin of June 2012. Brazilian agriculture and livestock production presented a modest increase over twelve months ending in June 2012 (1.5%), which can be seen as a indication of this sector's recovery.

In the details of the components of internal demand, growth in both government consumption (1.1%), and household consumption (0.6%) was observed, data which sustains the modest performance of Brazilian production (0.4%) in the second quarter compared to the first quarter of 2012 after seasonal adjustments (Table 1). When compared to the second quarter of 2011, both government consumption and household consumption presented growth (3.1% and 2.4%, respectively), though these rates are more modest than those seen in the first quarter of the current year when it was compared to the same period in the previous year. Government consumption was more important in sustaining internal demand in the first two quarters of 2012 compared to the same quarters in 2011. Based on the data accumulated over twelve months ending in June 2012, both government consumption and household consumption presented positive variation rates, though on a trajectory of deceleration (2.2% and 2.5%, respectively). The data shows that household consumption has surpassed government consumption in sustaining internal demand during the entire period after the international financial crisis.

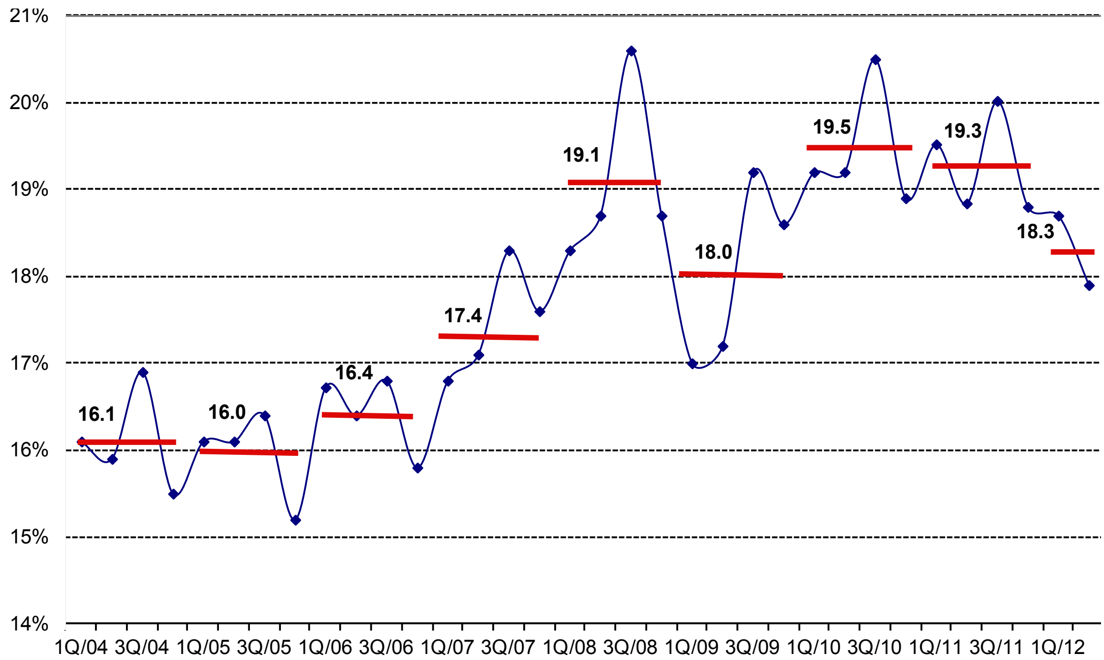
It is also important to point out the growth in imports in the second quarter of 2012 compared to the first quarter (1.9% growth, with seasonal adjustments), an amount which surpassed all other components of internal demand (Table 1). As for the second semester of 2011, growth in imports was relatively modest

(1.6%), but it led the increase accumulated over four quarters ending in June 2012 (5.0%). It stood out ahead of household and government consumption during the same period. Therefore, there is still worry over the effects of increased international competition, and also of the persistent arrival of imported products in the Brazilian market, some of which win out over domestic products.

Investment performance has continued to be a main source of worry in 2012. Gross fixed capital formation once again exhibited more negative behavior that resulted from the components of internal demand. For the fourth consecutive quarter, investment decreased compared to the previous quarter after seasonal adjustments (-0.7% in the second quarter of 2012). It also decreased for the second consecutive quarter compared to the same periods of the previous year (Table 1). These results highlight the negative performance of investments in the second quarter of 2012 compared to the same period in 2011 (-3.7%). This negative performance was outdone only by the trend toward reduction seen in the first quarters of 2009 compared to the same periods in 2008. Over the twelve months ending in June 2012, there was a decrease in gross fixed capital formation (-0.3%), which had last been observed between January and December 2009.

The significant reduction in the Brazilian investment rate in the second quarter of 2012 (to 17.9%) puts it closer to the average levels seen in 2009 (Graph 1). The downward trajectory of the investment rate, which began in the last quarter of 2011, increased at an alarming rate, a change which put important limits on the future performance of the Brazilian economy. Investments have been negatively affected by the continued international crisis, and also by uncertainty over future domestic growth. The reduction in gross fixed capital formation has contributed to the increase (albeit a modest increase) in Brazilian internal production. It has resulted in a decreased Brazilian investment rate over the last few quarters.

Graph 1 - Investment Rate Growth
(1Q/2004 to 2Q/2012) (%)



Note: Data includes the revision of the historical series executed and distributed by the IBGE. Therefore, there may be differences in relation to the data analyzed in previous editions of The Industrial Conjuncture Bulletin. Data from the second quarter of 2012 is preliminary.
Source: System of National Accounts (SCN)/IBGE.

Contributing to the configuration of an environment of consumer and investment stimulus plans, there are, among other policies and government measures: i) the continued policy of a gradual decrease in basic interest rates and the devaluing of the national currency; ii) a decrease in the Tax on Credit Operations, Exchange and Insurance (IOF), which is applied to consumer credit operations; iii) exemptions or reductions (some of which are extended) of Brazil's Industrialized Products Tax (IPI) for specific products, such as furniture, white goods (household appliances), and automobiles; iv) extension of payroll tax relief to a larger number of sectors; v) the availability of and reduction of interest on special lines of credit from BNDES, including the FINAME program for financing machinery and equipment and the Investment Maintenance Program (PSI); vi) incentives for governmental purchases with preferential margins for domestic producers (including the PAC-Equipamentos growth acceleration program); vii) efforts to accelerate investments in infrastructure through, for example, the creation of the Planning and Logistics Company (EPL) and the Investments in Logistics Program, which includes concessions for highways and railways for the private sector; and vii) more recently, a reduction in the costs of electricity. There is hope that this current set of consumer and investment stimulus plans will be able to serve as an impetus for Brazil's economic recovery in general and, in particular, for the recovery of industry in the country in the near future.

As for the behavior of external demand, there was a significant reduction in Brazilian exports in the second quarter compared to the first quarter of 2012 (-3.9% after seasonal adjustments) and also compared to the second quarter of 2011 (-2.5%, data for both shown in Table 1). Over the twelve months ending in June 2012, a clear loss in momentum of growth in exports was noted (this growth reached 2.8%). This change accentuated the trends of economic slowdown that began in the first quarter of 2011. Therefore, this data reaffirms the known and persistent difficulty faced by the main developed consuming nations in recovering demand, as well as the challenges posed by the increased competition for international commercial transactions, both of which are reflected in the adverse effects on the performance of Brazilian exports. Finally, it is important to note that the drop in exports and the growth in imports both contributed significantly to weak Brazilian production growth during the period under analysis.

Data from the Monthly Industrial Survey of Physical Production (PIM-PF/IBGE) details the performance of Brazilian industry in the second quarter of 2012. A comparison of the data from the second quarter of 2012 to the data from the second quarter of 2011 shows a trend toward increased reduction in physical production from the manufacturing industry (to -4.8%) as well as from overall industry (to -4.5%), results which are consistent with the insufficient growth in mining production (0.3%, all results shown in Table 2). Over the twelve months ending in June 2012, there was also a greater decrease in physical production from the manufacturing industry (-2.5%) as well as from overall industry (-2.3%), results which overshadow the slight increase in mining production (0.7%). In the first two quarters of 2012, this trend of slower growth, which was substituted by a decrease in physical production from Brazilian industry, has been occurring since the last quarter of 2010, according to the twelve month cumulative variation rates, which were calculated at the end of each quarter of the year. There was a decrease in physical production from the manufacturing industry (-1.4%) and, consequently, from overall industry (-1.1%) in the second quarter compared to the first quarter of 2012, after seasonal adjustments (Table 2). The manufacturing industry also suffered higher marginal reductions from the first quarter to the second quarter of 2012, with seasonal adjustments. The positive result from physical production from the mining industry during the same period (2.0%), however, eased the negative performance of Brazilian industrial production, though it was not enough to make up for the slowing trends in production from the manufacturing industry.

The most recent data available (from

July 2012) shows a modest increase in physical production from both overall industry and the manufacturing industry (0.3% for both), as well as a slight decrease in production from the mining industry (-0.1%) when compared to the month of June 2012 with season adjustments (PIM-PF/IBGE). Thus, the latest rates of monthly variations available for physical production from Brazilian industry reveal a reversal of the negative behavior of industrial production, which is likely to be more carefully observed and more carefully analyzed in the near future.

Table 2 - Variation Rates of Brazilian Industrial Production (3Q/2011 to 2Q/2012) (%)

Sector	3Q 2011	4Q 2011	1Q 2012	2Q 2012
Quarterly variation rate over the previous quarter (seasonally adjusted)				
Overall Industry	**(0.6)**	**(1.8)**	**(1.1)**	**(1.1)**
Mining	0.4	1.4	(3.3)	2.0
Manufacturing	(0.8)	(1.9)	(0.8)	(1.4)
Quarterly variation rate over the same quarter of the previous year				
Overall Industry	**0.2**	**(1.9)**	**(3.1)**	**(4.5)**
Mining	0.2	2.4	(0.2)	0.3
Manufacturing	0.2	(2.1)	(3.3)	(4.8)
Variation rate accumulated over the past four quarters				
Overall Industry	**2.5**	**0.4**	**(1.0)**	**(2.3)**
Mining	5.1	2.1	1.3	0.7
Manufacturing	2.4	0.2	(1.2)	(2.5)

Note: This data incorporates a revision of the figures previously released by the IBGE. Therefore, it's possible that there are differences in the data analyzed in previous Industrial Conjuncture Bulletins.
Source: Monthly Industrial Survey of Physical Production (PIM-PF) / IBGE.

In a detailed analysis of the performance of industrial production by category of use, one can observe the significant decrease in the production of capital goods in the second quarter of 2012 compared to the second quarter of 2011 (-11.7%), though it was a smaller decrease than that which was seen between the first quarter of 2012 and the first quarter of 2011 (-13.3%, data for both in Table 3). The monthly drops seen in May (-12.0%) and June (-15.2%) of 2012 compared to those same months in 2011 led the decrease that was seen in the second semester (PIM-PF/IBGE). Over the twelve months ending in June 2012, one can also note the decrease in the production of capital goods (-5.5%), which also accentuated the slowing trend previously seen over the twelve months ending in March 2012 (-2.0%). There has been a reversal in the positive and relatively unique performance that the production of capital goods had in the last three quarters of 2010 and in the first three quarters of 2011 compared to the other categories of use. The difficulties faced by investments have contributed to this negative behavior in the physical production of capital goods, both in the comparison to the last year and in the data accumulated over twelve months.

Table 3 - Variation Rate of Industrial Production by Category of Use (3Q/2011 to 2Q/2012) (%)

Category of Use	3Q 2011	4Q 2011	1Q 2012	2Q 2012
Quarterly variation rate over the previous quarter (seasonally adjusted)				
Capital Goods	0.6	(4.2)	(11.5)	3.6
Intermediate Goods	(0.9)	(0.5)	(1.2)	(0.9)
Durable Consumer Goods	(2.2)	(3.8)	(1.6)	0.4
Semi-Durable and Non-Durable Consumer Goods	0.6	(1.0)	1.6	(3.0)
Quarterly variation rate over the same quarter of the previous year				
Capital Goods	4.0	(1.5)	(13.3)	(11.7)
Intermediate Goods	(0.4)	(0.8)	(1.5)	(3.4)
Durable Consumer Goods	(2.2)	(9.5)	(11.6)	(7.1)
Semi-Durable and Non-Durable Consumer Goods	0.3	(1.0)	1.4	(1.8)
Taxa de variação acumulada nos últimos quatro trimestres				
Capital Goods	5.4	3.2	(2.0)	(5.5)
Intermediate Goods	1.4	0.3	(0.5)	(1.5)
Durable Consumer Goods	0.8	(2.0)	(6.1)	(7.6)
Semi-Durable and Non-Durable Consumer Goods	0.7	0.0	0.1	(0.3)

Note: This data incorporates a revision of the figures previously released by the IBGE. Therefore, it's possible that there are differences in the data analyzed in previous Industrial Conjuncture Bulletins.
Source: Monthly Industrial Survey of Physical Production (PIM-PF) / IBGE.

One must also consider, however, the recovery of physical production of capital goods in the second quarter of 2012 compared to the first quarter (3.6%, with seasonal adjustments) after two consecutive quarters of worrisome marginal contraction (Table 3). The most recent data available from July 2012 compared to June 2012, with seasonal adjustments (1.0%) confirms (albeit modestly) the growing trend of physical production of capital goods (PIM-PF/IBGE). It is only through a marginal comparison, therefore, that the behavior of the production of capital goods seems to be more promising. Over the remaining quarters of the year, it will be important to pay attention to the response of investments and of domestic capital goods production to the recent incentives that have been adopted by the Brazilian government.

The data also reveals the decrease in physical production of durable consumer goods in the second quarter of 2012 compared to the second quarter of 2011 (-7.1%), despite having reached a variation rate that was lower than the one observed in the first quarter of 2012 compared to the first quarter of 2011 (-11.6%, data in Table 3). If one considers the increase in the values accumulated over twelve months ending in the last month of each quarter of the year, one can initially see slower growth in the production of durable goods that has been occurring since 2010. This slowdown, followed by a decreasing trend that was first seen in the accumulated values from 2011 and which is likely to intensify, led to a significant reduction in the production of durable goods (-7.6%) over the twelve months ending in June 2012. This cumulative behavior of durable consumer goods production reflects the difficulties faced by passenger motor vehicle manufacturing, a sector which experienced a significant decrease in production (-12.5%) over the four quarters ending in June 2012.

However, modest growth can be seen in the case of the physical production of durable consumer goods in the second quarter of 2012 compared to the first quarter, after seasonal adjustments (0.4%), after four consecutive quarters of marginal negative growth (Table 3). The performance of the production of motor vehicles contributed to this growth. This production experienced significant recovery in the second quarter of 2012 compared to the first quarter, with seasonal adjustments (8.7%). Thus, it overcame two consecutive quarters of marginal negative growth and, more specifically, it reverted the significant reduction that had been seen in the first quarter of 2012 compared to the last quarter of 2011 (-19.2%). The data confirms the expansion of durable goods production in July 2012 compared to June 2012 (0.8%), results which are consistent with the positive performance that was verified in June compared to May of 2012 (4.8%), with seasonal adjustments. In the case of this expansionary trend, it is important to highlight the increase in motor vehicle production in July 2012 compared to June 2012 (4.9%), results which reinforced the positive behavior seen in June 2012 compared to May (3.0%), with seasonal adjustments (PIM-PF/IBGE). Data released by Brazil's National Association of Motor Vehicle Manufacturers (ANFAVEA) showed record vehicle production levels – automobiles, light commercial vehicles, trucks, and buses – in August 2012 (329,300 units). These levels represent an increase of more than 10% over the month of July, which led automakers to reach record levels of monthly production in August 2012 (ANFAVEA, September 2012).

The Brazilian government's adoption of new tax and credit laws, such as the reduction of Brazil's Industrialized Products Tax (IPI) and the cuts in the Tax on Credit Operations, Exchange and Insurance (IOF) for consumer credit operations has certainly benefited sales and the production of motor vehicles and white goods (household appliances). These changes have contributed to the recovery of durable consumer goods production. It is expected that these stimuli for the production of durable goods will be maintained through the continuation of these recently-adopted government measures, which will ideally accentuate recovery in this category of use in 2012.

However, the performance of Brazilian intermediate goods production depends on continued external demand for raw materials and products from the primary sector, as well as on the resumption of domestic economic activity. External demand has been negatively affected by developed economies' difficulties in recovering economic growth, as well as by the drop in economic activity in developing countries, such as China. Furthermore, modest growth within the Brazilian economy itself has not been enough to sustain internal demand for intermediate goods. As a consequence, there was a more significant contraction in physical production in the second quarter of 2012 compared to the second quarter of 2011 (to -3.4%, Table 3). The variation rate accumulated over the four quarters ending in June 2012 also showed a decrease in production (-1.5%). Though there was an increased marginal trend in the production of capital goods and durable goods between the first and second quarters of 2012 after seasonal adjustments, there was a decrease in intermediate goods production during the same period (-0.9%), a result which maintains the reductions in marginal behavior seen in this category of use over the previous quarters. However, it is important to note the slight positive variation in the production of intermediate goods between June and July 2012 (0.5%), an increase which undid the marginal decrease that has been seen monthly since March 2012, after seasonal adjustments (PIM-PF/IBGE).

The production of semi-durable and non-durable consumer goods, which has historically been dependent on the behavior of both income and internal demand, also experienced a decrease, though it was more modest than that seen in other categories of use in the second quarter of 2012 compared to the second quarter of 2011 (-1.8%) and also in the values accumulated over the twelve months ending in June 2012 (-0.3%). These results signify a reversal in the positive behavior presented by semi-durable and non-durable goods in the first quarter of 2012 (Table 3). The production of semi-durable and non-durable goods has been consistent with the behavior of intermediate goods, though to a greater extent. This production decreased in the second quarter of 2012 compared to the first quarter, after seasonal adjustments (-3.0%). The behavior of this category of use reflects the recent drop in Brazil's economic activity and internal demand. It is also important to remember that certain sectors, including those in the aforementioned category of use, have directly been suffering from the adverse effects of competition from imports. This change is shown by the fact that the contraction in the category's physical production has been accompanied by an increase in its import volume. Recent government measures have been directed toward increasing the sales and production of semi-durable and non-durable goods, including (as listed in the previous Bulletin) an increase in the reach of payroll tax relief and delayed tax revenues from certain sectors belonging to this category of use, such as the textile sector and the footwear sector.

According to the details from the data provided by the Monthly Industrial Survey of Physical Production (PIM-PF) from the IBGE, the majority of industrial sectors (23 of the 27 sectors that were included) experienced either a contraction or reduced growth (between 0.3% and 2.8%) in physical production between the second quarter of 2012 and the second quarter of 2011. The tobacco sector experienced the worst performance among all of the industrial sectors that were analyzed (-22.2%), followed by the sector for the production of communication equipment, electronic material, and devices (-20.5%) and then by automakers (-15.8%), who haven't yet fully responded to the stimulus-related government measures. In the second quarter, the machines and equipment sector maintained its decrease in physical production, which had been seen in the first quarter of 2012 compared to the first quarter of 2011 (repeating the quarterly decrease of -3.7%). Only four (4) industrial sectors that were included in the IBGE survey (out of the 27 sectors that were analyzed) experienced slightly more significant growth in physical production in the second quarter of 2012 than in the second quarter of 2011: other transportation equipment (8.4%); wood (6.0%), fragrances, soaps, detergents and cleaning products (5.6%) and beverages (3.6%) (PIM-PF/IBGE).

The analysis of physical production by category of use and by industrial subsectors in the second quarter of 2012 revealed an overall decrease when the base for comparison is the previous year. This result reflects a decrease in gross fixed capital formation, reduced levels of growth and of both household and government consumption, and, in some cases, a slowdown in external demand or the even greater difficulty in resuming economic growth. This data reinforces the need for the recovery of both investments and industrial and economic activity in Brazil in the face of uncertainty over the evolution of large centers of production and world consumption, and also considering increased international competition, which has brought about constant strife between imported and domestic products in the domestic market. These changes have affected the performance of domestic production. Brazilian government initiatives have been focused on reinforcing incentives for investment and industrial production in an attempt to improve the country's economic growth.

The details of the way trade behaves in Brazil may contribute to an understanding of overall behavior of Brazilian production, and also of the specific difficulties faced by industrial production.

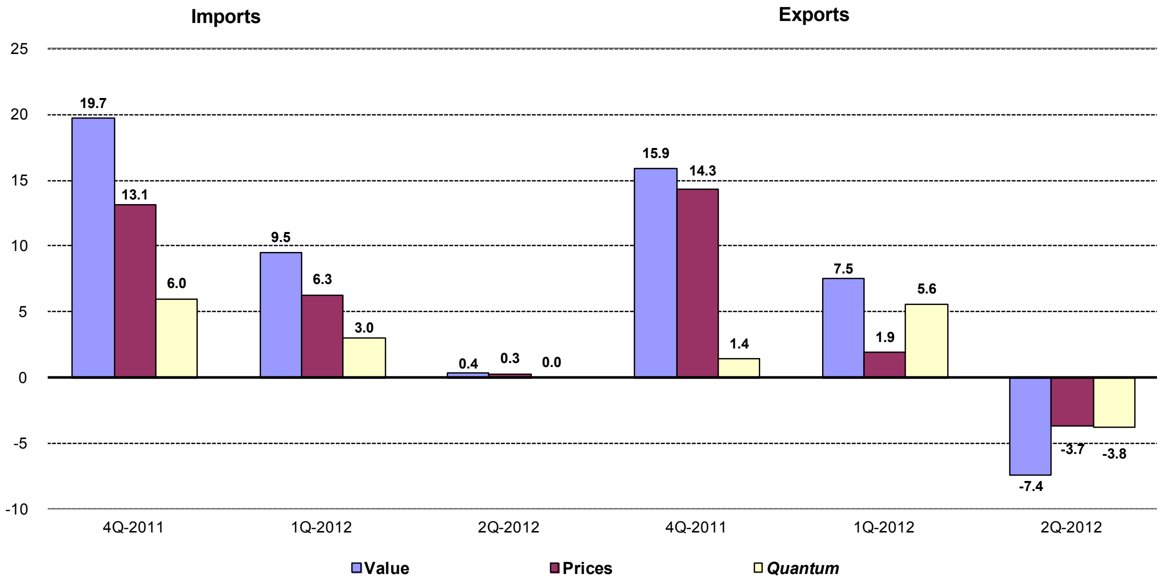
Trade in Brazil experienced a surplus of US$4.6 billion dollars in the second quarter of 2012, which was much lower than the amount reached in the second quarter of 2011 (US$9.8 billion) (FUNCEX). These results are due to the significant drop in exports (-7.4%), along with the slight growth in imports (0.4%) during the same period (Graph 3). Drops in both export volume (-3.8%) and export prices (-3.7%) contributed to the decrease in export volume during the period in question. A modest increase in the price index (0.3%) and stagnant import volume contributed to the increase in import values during the same period. The difficulty in recovering external demand, along with a more intense international competition and the problems of competition faced by a variety of Brazil's industrial sectors, have all contributed to the negative behavior of

Brazilian exports in the second quarter of 2012. Slower production growth in Brazil was accompanied by the recent positive performance of Brazilian imports. The trend toward currency depreciation has not been able to help the trade balance in Brazil, particularly in light of the still unfavorable international scene.

The most recent data available on foreign trade, which was made available in June 2012, confirms a downward trend of the trade surplus when compared to June 2011 (-8.3%). Both exports and imports decreased by approximately 5% compared to the same period in 2011 (FUNCEX). In a more localized way, the strikes among auditors from the Secretariat of the Federal Revenue of Brazil (the Receita Federal) and also among employees from the Brazilian Health Surveillance Agency (ANVISA) may have contributed to these results.

The slowing behavior of exports in the second quarter of 2012 was different from that seen in both the last quarter of 2011 and the first quarter of 2011 compared to the same periods in previous years, when there was an increase in export values of 15.9% and 7.5%, respectively (Graph 2). In the last quarter of 2011, the increase in Brazilian exports had been led by the higher prices of exportation (14.3%), with modest involvement from the volume that was exported (1.4%). In the first quarter of 2012, it was led by the increased amount of exports (5.6%), with less involvement from the prices of exported products (1.9%). Data on exports from the second quarter of 2012, therefore, shows a worrisome reversal of the positive behavior seen among Brazil's external sales during this recent period.

Graph 2 - Quarterly Variation Rate of Brazilian Exports and Imports: Value, Volume, and Price (compared to the same quarter of the previous year) (%)



Source: FUNCEX with data from SECEX.

All categories of use experienced drops in exports in the second quarter of 2012 compared to the second quarter of 2011. Capital goods and durable consumer goods led the decrease in export values (-13.7% and -12.2%, respectively), which was exclusively caused by decreased quantities of exports (-15.7% and -16.4%, respectively), taking into account the increase in their export prices during the same period (FUNCEX). This behavior can also be seen in the case of fuels, because the reduction in the amount of fuels exported (-10.7%) also led the decrease in the product's export value (-7.4%) during the period under analysis. Similarly, the increase in export prices of fuels was not able to balance out the drop in export volume, a situation which also occurred in the case of capital goods and durable goods. This trend of decreases in the case of exports from specific categories of use is different from that which was seen in the first quarter of 2012, when there was an overall increase in exports experienced by all categories of use (The Industrial Conjuncture Bulletin, June 2012).

As was highlighted previously, the specific case of Brazilian imports was found to have a slight increase in import values (0.4%) due to the combination of a modest increase in prices of imports (0.3%) and stagnant volume of imports during the period between March and June 2012 compared to the same period in 2011 (Graph 2). This behavior from imports in the second quarter of 2012 also differed from that which was reported for both the last quarter of 2011 and the first quarter of 2012 in comparison to the same periods in previous years, when there was a significant increase in import values (19.7% and 9.5%, respectively). This increase in import values was largely caused by price increases (13.1% and 6.3%, respectively), but there was also a relevant contribution from the amount of imports (6.0% and 3.0%, respectively). Data on imports from the second quarter, therefore, shows an interesting cool-down in the trend toward more Brazilian external purchases during this period, which may be related to the country's lower production growth, as well as to currency depreciation.

It is important to add that the slight increase in import values in the second quarter of 2012 compared to the second quarter of 2011 resulted in very different behaviors among the categories of use under analysis. While fuels, capital goods, and, to a lesser extent, non-durable consumer goods all experienced significant increases in their import values (17.3%, 5.2%, and 4.5%, respectively), which were led by higher amounts of imported goods, durable consumer goods and intermediate goods were found to have important reductions in their import values (-13.4% and -5.5%, respectively). These results all reflect the behavior of import volume, the decrease of which was more accentuated in the case of durable goods (-16.8%) (FUNCEX). Therefore, it's worth highlighting the positive loss in the dynamism of imports and of durable consumer goods in the second quarter of 2012, as was observed in the first quarter of the year. This data confirms a reversal of the behavior seen in the last quarter of 2011, when durable goods worryingly followed fuels in leading imports.

Even in a time of currency depreciation and a loss of momentum in the case of durable consumer goods imports, it is important to insist on the need for monitoring the activity of Brazil's imports; in the case of some categories of use, such as semi-durable and non-durable consumer goods, as well as specific products, such as foods and clothing, this activity has been accompanied by a worrisome substitution of domestic production. In the case of semi-durable and non-durable consumer goods as a group, there was an increase in the volume of imports and a drop in physical production in the first quarter of 2012 compared to the first quarter of 2011. The performance of the amount of imports and also the domestic production of semi-durable and non-durable consumer goods in the second quarter of 2012 confirmed the fact that the stimulus for internal demand was partially transferred to foreign production, to the detriment of domestic production. This behavior differed from that seen in the first quarter of 2012, when domestic production had been equally stimulated. There is hope that there will be continued efforts toward easing the difficulties faced by Brazilian production in the face of the aggressive actions taken by foreign producers in international trade transactions in an environment of uncertainty regarding the economic recovery of developed countries.

In this scenario of quarterly slowdowns of the Brazilian trade surplus compared to the same periods in previous years, it is important to point out the high figures of the trade balance reached in the second quarter (US$ 4.6 billion) compared to the first quarter of 2012 (US$2.4 billion), particularly in light of the more significant growth in exports (12.8%) with relation to relatively modest increases in imports (9.2%) from the first to the second quarter of 2012 (FUNCEX). In spite of noticeable seasonal effects in the second quarter of each year, the increase in the trade surplus between April and June of 2012 led to improved expectations from the government and the business community regarding the trade balance for the year 2012. Even so, this year's annual result of Brazil's trade surplus is expected to be much weaker than that of last year, which reached US$29.8 billion.

The previously analyzed data shows, on the one hand, a significant decrease in industrial activity that has been seen since the end of 2011. On the other hand, more recent information has also begun to indicate a marginal improvement, though still at low levels. There is hope that the recently announced set of measures meant to stimulate productive activity will be able to accelerate the resumption of industrial activity, and particularly the level of investment. A higher level of investment is important both from the perspective of demand and for the ability to change future supply conditions. It would modernize productivity, incorporate new products and productive processes, and remove impediments to infrastructure, all of which would result in more competition and a higher level of productivity.

ANALYSIS OF RECENT INCREASES IN EMPLOYMENT AND TOTAL WAGES IN BRAZILIAN INDUSTRY

This section of the Bulletin offers a detailed analysis of employment and total wages in Brazilian industry during the most recent period. The loss of economic activity in Brazilian industry has clearly affected its ability to generate new jobs. The data analyzed herein suggests a slowdown in job creation in industry, as well as large drops in terms of total wages.

Brazil's General Employment and Unemployment Database (CAGED/MTE) shows a net creation of 62,892 formal jobs between April and June of 2012, surpassing the 53,742 jobs created between January and March by just over nine thousand units. In a comparison between the second quarters of the last three years, only the year 2009 presented lower levels of job creation in industry (Table 1). It is important to point out that the first quarter of 2009 experienced a concentration of the effects of the international financial crisis. From April to June of 2010 and 2011, there were more than 100,00 jobs created in Brazilian industry, a figure which reached almost 190,000 in 2010. However, job creation slowed to approximately 117,000 in 2011, a trend which was seen again in 2012. In relative terms, there was a 37% reduction in job creation in industry between April and June 2011 compared to the same period in 2010, and there was a 46% reduction when the same period in 2012 was compared to the period in 2011. Over the total of the six first months of 2012, there were 116,634 jobs created, which was less than the amount of jobs created in Brazilian industry in the second quarter of 2011 alone.

Table 1 - Job Creation and Net Hiring Wages in Brazilian Industry (1Q/2009 to 1Q/2012)

Year	Jobs Created					Wages (Net Hirings) (R$ thousand - Dec '10*)				
	1Q	2Q	3Q	4Q	Total	1Q	2Q	3Q	4Q	Total
2009	(146,761)	2,578	203,323	(52,009)	**7,131**	(308,501)	(153,828)	37,893	(105,773)	**(530,209)**
2010	199,187	186,139	203,873	(111,408)	**477,791**	104,290	76,794	92,038	(147,372)	**125,750**
2011	127,798	117,211	128,704	(188,217)	**185,496**	46,400	41,794	26,054	(228,229)	**(113,981)**
2012	53,742	62,892	-	-	**-**	(28,420)	(22,893)	-	-	**-**

* Data deflated using Brazil's official inflation index -- IPCA (IBGE).
Source: Produced by NEIT/IE/UNICAMP based on data from the CAGED/MTE.

Despite the slowdown seen in the comparison between the figures from previous years, it is important to note that job creation in industry in the second quarter of 2012 surpassed that of the first quarter, an event which hadn't happened in recent years. It may be a sign of more promising perspectives for the near future. As per usual, the third quarter presented more significant results in terms of job creation in industry. Thus, the performance of Brazil's industrial job market over the next few months is likely to be crucial for identifying the existence of a path to recovery. The data from the CAGED referring to the month of July 2012 has already been made available by the Brazilian Ministry of Labor and Employment (MTE), and it reports the creation of 26,516 new formal jobs in Brazilian industry. In July of 2011, just under 25,000 jobs were created. July 2012's performance is the third best of the year thus far, behind only those of January and April. July is the only month in which more jobs were created in 2012 than in the same month in 2011, a result which contradicts the slowing trend seen in the first two quarters of 2012.

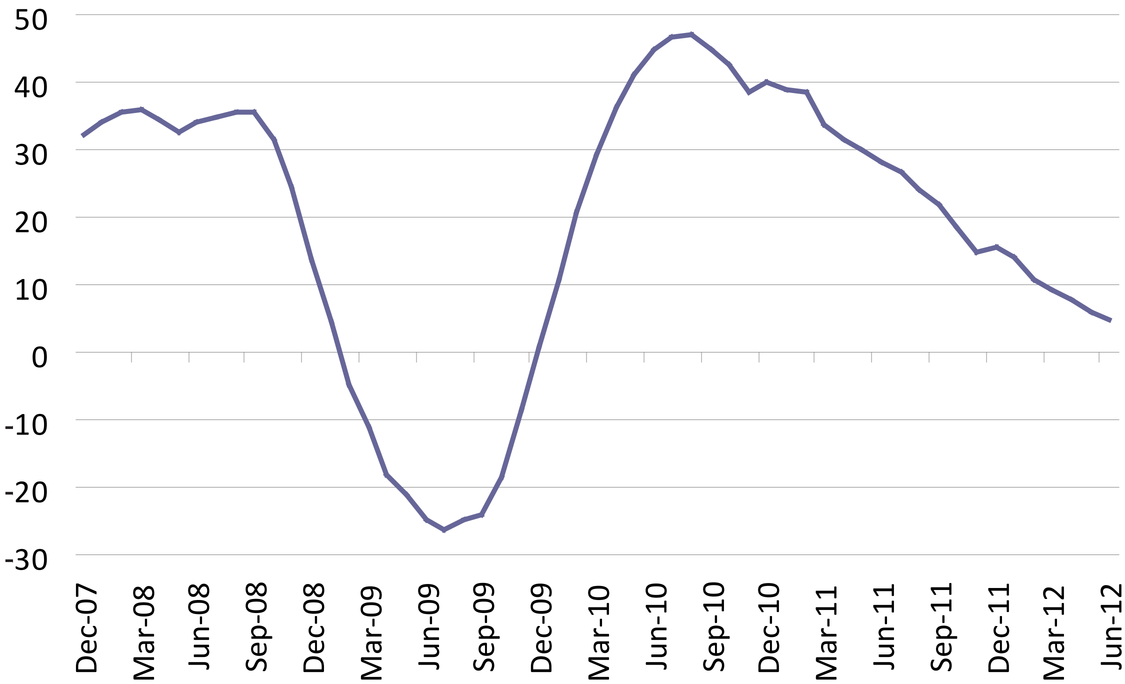
Though the term used to characterize the behavior of job creation in Brazilian industry has been a "slowdown" to describe net total wages (total wages of those hired minus total wages of those fired) for industrial workers, the correct term would be "negative growth."

There was a drop in total wages in both the first quarter (just over R$28 million) and the second quarter (just over R$23 million) of 2012, an event which had not occurred since 2009, when the adverse impacts of the world financial crisis were very severe against total wages of Brazilian industrial workers (Table 1). As was seen in the case of job creation, there were also slower increases to total wages between 2010 and 2011 when the first quarters of each year were considered; however, a positive variation was still seen. The drop in total wages in the first quarters of 2012 reflects the trend of companies firing workers with higher salaries and hiring workers with lower salaries as a way to reduce costs. For this reason, reduction trends are generally much more abrupt in cases of total wages than those seen for levels of employment. If the first six months of 2012 are considered as a whole, despite the creation of more than 116,000 formal jobs in Brazilian industry, there was a loss of more than R$51 million in terms of total wages.

Even though more jobs were created in Brazilian industry in July 2012 than in July 2011, total wages did not follow the same pattern. There was a loss of more than R$10 million in wages in July 2012. However, in July of 2011, this result was positive by more than R$4 million; that means that even though job creation may lead to better results over the next few months, an evaluation of total wage performance does not result in an optimistic scenario. For total wages to begin to increase again, the recovery of industrial activity must materialize and gain strength.

The Industrial Conjuncture Bulletin of June 2012 highlights the slowdown in job creation in industry, and analyzes the moving average (over twelve months) of net hirings in Brazilian industry. Following that analysis, it becomes clear that the trend of drops in the moving average, which began in the first two quarters of 2010, continued through June 2012 (Graph 1). In absolute terms, an average of 4,756 formal jobs were created between June 2011 and June 2012. Therefore, job creations slowed – a worrisome average of almost 45,000 fewer jobs were created per month between July 2009 and June 2010. The average was slightly higher than the 28,000 per month seen between July 2010 and June 2011, though that value itself was much higher than recent figures.

Graph 1 – Moving Averages(1) of Net Hirings in Brazilian Industry (Dec/2007 to Jun/2012) (in thousands of jobs)



(1) Moving average over twelve months.
Source: Produced by NEIT/IE/UNICAMP based on data from the CAGED/MTE.

After considering general trends, it is important to discuss trends by industrial sector. The data referring to the formal job inventory in 2010 and the flow of net hirings in the first six months of 2011 and 2012 shows a slowdown in job creation or a loss of jobs in most industrial sectors in the first two quarters of 2012; in some cases, the figures even undid the positive variation seen in the first two quarters of 2011 (Table 2). However, a slightly more detailed analysis of certain industrial sectors is necessary.

The food product manufacturing sector is particularly intriguing, because it employs the greatest volume of the labor force in Brazilian industry: 18% of industrial employment in 2010, with more than 1.4 million employees. This sector experienced a clear slowdown in the first two quarters of 2012, when almost 6,000 jobs were created. In the same period in 2011, that figure had reached close to 30,000; that is to say, almost six times more jobs than in 2012. A certain level of comfort can be found in the fact that the data from July 2012 shows that this sector generated more than 6,000 new jobs, a figure which surpassed the total number of the first two quarters of the year, as well as the figure from the same month of 2011. The automotive sector also deserves to be mentioned here. It is very present in terms of job volume: it was responsible for 6.5% of industrial employment in 2010 (just over 500,000 workers). In this sector, more than 20,000 jobs were created in the first two quarters of 2011, while almost 6,000 jobs were lost in the sector during the same period in 2012. Other sectors also reported job losses in the first six months of 2012: beverages, wood products, printing and recorded productions, and IT equipment, electronics, and optics manufacturing. However, these sectors do not have the same level of representation in terms of total job volume created by Brazilian industry.

In contrast, some sectors that were important for job creation presented behavior that differed from the average, as well as better performance in the first two quarters of 2012 than in the first two quarters of 2011. The leather and footwear sector, which is responsible for more than 5% of employment in the industrial sector, created 14,000 jobs in the first six months of 2011, and 15,000 during the same period in 2012. The textile sector, which represents 4% of industrial employment, created 4,600 jobs in the first two quarters of 2012, while it created just over 1,200 during the same period in 2011. The chemical manufacturing sector, which is responsible for 3.5% of industrial employment, created just over 4,000 jobs in the first two quarters of both 2011 and 2012.

It is important to highlight the biofuels and petroleum derivatives sector. Though it is not very strong in terms of employment volume in Brazilian industry (just under 2% in 2010), and though it has slowed down in the first two quarters of 2012 compared to the same period in 2011, it was the only sector to generate more than 20,000 jobs in the first six months of 2012.

Table 2 – Job Inventory (2012) and Job Creation per Industrial Sector in the First Two Quarters of 2011 and 2012

Industrial Sector	2010 (inventory)	2011 (1Q & 2Q)	2012 (1Q & 2Q)
Coal Mining	5,418	27	135
Petroleum and Natural Gas	29,294	704	688
Ore Mining	65,572	6,178	4,544
Non-Metallic Mineral Mining	85,285	3,474	2,886
Activities to Support Mining	25,647	1,672	1,871
Food Products	1,400,852	29,885	5,652
Beverages	126,398	(1,126)	(897)
Tobacco Products	15,608	14,904	11,431
Textiles	312,690	1,239	4,636
Clothing and Accessories Manufacturing	706,125	13,138	6,623
Leather and Footwear	419,973	14,582	15,621
Wood Products	204,350	(390)	(27)
Paper and Cellulose	173,219	2,522	183
Printing and Recorded Productions	123,095	962	(193)
Coke, Biofuels, and Petroleum Derivatives	150,674	26,341	21,737
Chemicals	271,120	4,012	4,302
Pharma Chemicals and Pharmaceuticals	92,472	3,570	3,094
Rubber and Plastics	446,369	8,581	4,528
Non-Metallic Minerals	413,722	13,718	5,771
Metallurgy	254,037	9,502	147
Metal Products (excluding Machines and Equipment)	526,202	16,936	4,524
IT Equipment, Electronics, and Optics	165,056	10,440	(381)
Electric Machines, Devices, and Materials	212,780	6,728	3,271
Machines and Equipment	373,660	14,124	4,112
Automotive	506,160	20,389	(5,911)
Other Transportation Equipment (excluding Motor Vehicles)	93,313	3,071	2,809
Furniture	256.352	6,606	6,249
Others	135,371	6,239	4,823
Machine and Equipment Maintenance, Repairs, and Installation	137,525	6,981	4,406

Source: Produced by NEIT/IE/UNICAMP based on data from the CAGED/MTE and RAIS/MTE.

In terms of total wages, the data indicates a net loss in almost all sectors of the manufacturing industry in the first six months of 2012, which did not occur in any sectors of the mining industry (Table 3). In any case, in all industrial sectors from both manufacturing and mining, there was a trend of firing employees with high salaries in order to hire other employees at lower salaries. This phenomenon can be seen through negative differences between the average calculated salaries of those hired and the salaries of those fired from January to June 2012. There is one exception: the other transportation equipment manufacturing sector (which does not include motor vehicles), figures which were largely represented by the aircraft industry.

Table 3 – Creation of Net Wages by Industrial Sector in the First Two Quarters of 2011 and 2012 and the Average Salary Differential in 2012 (reais*)

Industrial Sector	Net Wages 2011 (1Q & 2Q)	Net Wages 2012 (1Q & 2Q)	Average Salary Differential 2012 (1Q & 2Q)
Coal Mining	(42,419)	31,999	(227,58)
Petroleum and Biofuels	3,889,031	2,439,021	(289,42)
Ore Mining	12,082,035	6,696,510	(431,09)
Non-Metallic Mineral Mining	2,191,171	1,973,926	(54,79)
Activities to Support Mining	375,534	2,578,064	(622,49)
Food Products	242,392	(2,685,888)	(22,63)
Beverages	(2,978,919)	(3,863,771)	(124,42)
Tobacco Products	8,287,256	7,053,514	(348,84)
Textiles	(6,496,118)	(3,546,886)	(105,07)
Clothing and Accessories Manufacturing	1,897,276	125,368	(26,05)
Leatherworks, Craft Manufacturing, Travel Items, and Footwear	5,965,453	8,978,750	(21,03)
Wood Products	(2,606,228)	(1,831,554)	(34,34)
Paper and Cellulose	(2,825,566)	(6,488,715)	(213,13)
Printing and Recorded Productions	(1,958,915)	(4,149,133)	(160,48)
Coke, Biofuels, and Petroleum Derivatives	32,434,950	16,867,600	(71,08)
Chemicals	(5,269,690)	(8,019,079)	(303,51)
Pharma Chemicals and Pharmaceuticals	1,538,456	4,066,794	(171,47)
Rubber and Plastics	(81,503)	(6,751,472)	(109,44)
Non-Metallic Minerals	4,665,609	(4,268,641)	(88,16)
Metallurgy	1,394,277	(12,637,876)	(363,21)
Metal Products (excluding Machines and Equipment)	3,390,936	(11,905,395)	(121,88)
IT Equipment, Electronics, and Optics	6,715,210	(5,485,052)	(141,24)
Electric Machines, Devices, and Materials	2,605,987	(3,479,346)	(155,76)
Machines and Equipment	7,020,898	(6,076,527)	(148,23)
Motor Vehicles (the Automotive Sector)	9,100,293	(28,965,349)	(296,63)
Other Transportation Equipment (excluding Motor Vehicles)	1,401,945	5,844,876	59,94
Furniture	1,600,267	1,357,741	(57,73)
Others	2,672,145	924,815	(105,62)
Machine and Equipment Maintenance, Repairs, and Installation	982,221	(97,233)	(93,09)

* Prices from December 2010.
Data deflated using Brazil's official inflation index -- IPCA (IBGE).
Source: Produced by NEIT/IE/UNICAMP based on data from the CAGED/MTE.

In this aspect, it is important to once again highlight the automotive sector, which experienced a drop in net wages of almost R$29 million over the first two quarters of 2012. During the same period in 2011, the sector had an increase of R$9 million. One factor that strongly contributed was the difference in salaries, which was close to R$300 in monthly averages.

The chemical manufacturing sector, one of the few that did not experience a slowdown in job creation, performed very differently in terms of salaries. It had a high difference (R$300) and a loss of R$8 million in terms of net wages over the first two quarters of 2012. Other sectors that stood out in a negative way were metallurgy (net loss of almost R$13 million) and metal product fabrication (excluding machines and equipment), which had a net loss of almost R$12 million. The average salary differential presented by metallurgy was the highest among the sectors from the manufacturing industry.

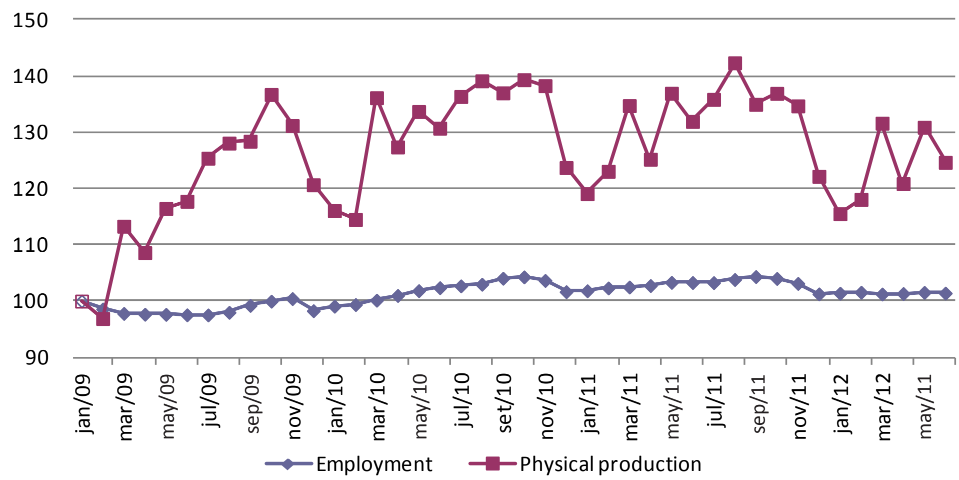
Conversely, three industrial sectors maintained positive representation in the net creation of total wages: other transportation equipment fabrication, except motor vehicles (net gains of just under R$6 million), leather and footwear (R$9 million), and especially the petroleum derivatives and biofuels sector, which had almost R$17 million of net wages created between January and June of 2012.

Finally, it is important to note that sectors from the mining industry presented negative and extremely elevated average salary differentials, but they still experienced gains in net wages. This fact is due to effective job creation in these sectors during the period under analysis (Table 3).

To complete the analysis, the data from the Monthly Industrial Survey of Jobs and Salaries (PIMES/IBGE)[1] also reveal a slowdown in job creation in Brazilian industry. A comparison between the data from the PIMES/IBGE and the Monthly Industrial Survey of Physical Production (PIM-PF/IBGE) can provide certain relevant conclusions.

On the one hand, one can see that the oscillations in physical production are much greater than those of industrial employment, which varied very little between 2009 and 2012 (Graph 2). On the other hand, one can also see the drop in economic activity in both physical production and industrial employment in the variation figures accumulated thus far in 2012 and also over twelve months ending in June 2012 (Graph 3). In the case of physical production, the drop was more intense during the period under analysis.

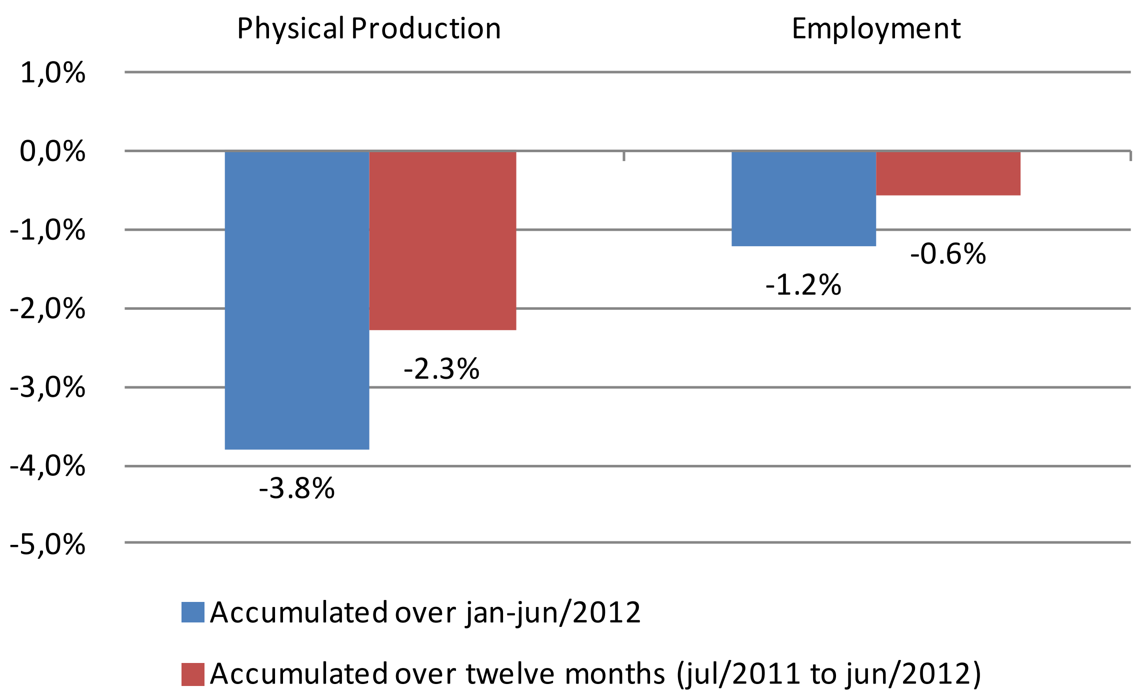
Graph 2 – Changes in Physical Production and Industrial Employment (Jan/2009 to Jun/2012) (indexed numbers – Jan 2009 = 100)



Source: Produced by NIET/IE/UNICAMP and based on data from the PIMES/IBGE and PIM-PF/IBGE.

1. The PIMES/IBGE relies on samples and includes companies with five or more employees, while the CAGED/MTE presents the results from all businesses that experienced hiring/firing during the period under analysis and therefore relies on the census. Thus, one can find divergent trends in these two sources of data used, mainly in areas with a predominance of small and medium businesses.

Graph 3 – Variation in Physical Production and Industrial Employment (%)



Source: Produced by NIET/IE/UNICAMP and based on data from the PIMES/IBGE and PIM-PF/IBGE.

To summarize, the data from the CAGED and the data from the PIMES show the same result: there has been a slowdown in job creation in Brazilian industry. However, the trend toward job creation has been maintained, albeit in a more modest way, and this slowdown has been less abrupt than that which was seen in the case of physical production. As for total wages, there have been significant decreases in Brazilian industry. The data indicates a reduction in workers' purchasing power, which may make economic recovery difficult and which may negatively affect the business community's expectations of an increase in demand and returns on new investment projects. In this case, the effects on employment will certainly be more serious in the future.

REFERENCES AND INFORMATION SOURCES

Brazilian Industrial Development Agency (ABDI) / Center for Industrial Economics and Technology (NEIT) / State University of Campinas (UNICAMP). **The Industrial Conjuncture Bulletin**. March and June 2012.

Brazil's National Association of Motor Vehicle Manufacturers (ANFAVEA). **ANFAVEA Newsletter**, number 316, September 2012.

The Brazilian Foundation for Export Research (Fundação Centro de Estudos para o Comécio Exterior/FUNCEX). **Boletim de Comércio Exterior.** Several issues.

Brazilian Institute of Geography and Statistics (Instituto Brasileiro de Geografia e Estatística /IBGE). **Source: Monthly Industrial Survey of Physical Production (PIM-PF) / IBGE**.

Brazilian Institute of Geography and Statistics (Instituto Brasileiro de Geografia e Estatística /IBGE). **System of National Accounts**. Quarterly Accounts.

Brazilian Ministry of Development, Industry and Foreign Trade (Ministéio do Desenvolvimento, Indútria e Comécio Exterior/MDIC). **Bureau of Foreign Trade (Secretaria de Comécio Exterior /SECEX). Foreign Trade Statistics**. Various years.

Brazilian Ministry of Labor and Employment (Ministéio do Trabalho e do Emprego/MTE). **Brazil's General Employment and Unemployment Database** (Cadastro Geral de Empregados e Desempregados /CAGED).

Brazilian Ministry of Labor and Employment (Ministéio do Trabalho e do Emprego/MTE). **Annual Report of Social Information (RAIS).**