

# print review

For Affiliates of the Printing Industry Center at RIT

## Emerging Global Print Markets: Brazil and Mexico

This PrintReview is based on *Emerging Global Print Markets: A Five-Country Comparative Study* (PICRM-2006-06), by RIT Professors Stan Widrick and Frank Cost. This monograph focuses on the current state and near-term growth trends of the printing industries in five countries with emerging market economies: Brazil, China, India, Mexico and Russia. This quarter, we focus in on Brazil and Mexico.

### **Introduction: Brazil**

Brazil is the largest and most populous country in South America. Its natural resources have provided the fuel that has driven Brazil's economy. These resources include large and well-developed agricultural industries, which have made success possible in the manufacturing and services sectors. Agriculture and agribusinesses that produce sugar cane, coffee, fruits, cattle, forest products, and related crops, make up approximately 30% of Brazil's GDP and 40% percent of its export earnings.

Industrial activity accounts for about 40% of GDP, and includes the manufacture of automobiles, machinery and equipment, steel, textiles, cement, petrochemicals, and consumer durables. Brazil also has the largest rainforest in the world, and has the advantage of being a leader in the production of hydroelectric power.

Similar to the government of China, Brazil's current political leadership has made economic growth and poverty alleviation top priorities. The government's macroeconomic policies have laid the foundation for a sustained recovery in growth, a control of inflation, and a decline in poverty.

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### **RESEARCH**

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Emerging Global Print Markets: Brazil and Mexico

# Final 2006-2007 Monograph Released

The Printing Industry Center at RIT released *Emerging Global Markets: A Five-Country Comparative Study* (PICRM-2006-06) on November 5, 2007. The monograph is co-authored by Stanley Widrick, Ph.D., Senior Associate Dean of the E. Philip Saunders College of Business at RIT, and Frank Cost, Associate Dean of the College of Imaging Arts and Sciences at RIT and the author of *The New Medium of Print*.

The report covers the emerging markets of Brazil, China, India, Mexico, and Russia from the perspective of doing business in each country, and includes appendices about the state of the printing and publishing market within each country. An analysis of each country's suitability for investment and market potential is also provided.

Key findings include:

- In each of the countries studied, a new industry is coming into existence that is quite separate from the indigenous

one. New printers have emerged that execute world-class projects for a global client base, producing deliverables that are on par with the rest of the world.

- Newspaper readership trends in China and India are atypical of most developed economies. Circulation has increased from 2000 to 2005, as has consumer spending on newspapers, books, magazines, and stationery.
- China and India are the number one and number two markets for the printing industries. Russia, Mexico, and Brazil will have similar levels of GDP and likely demand for printing. However, any specific printing firm or supplier can earn a healthy market share and profits in any of these countries. 

The report is available for download as a PDF from <http://print.rit.edu/research> under the 2006-2007 research heading.

## 2007 Symposium & Planning Meeting

The annual meeting of the Printing Industry Center was held November 13-15, 2007. Nearly 80 participants—representatives from Industry Partner companies and their guests, RIT faculty and staff, and RIT graduate students—came together to learn about the research that was conducted over the past year.

Research topics in 2007 included:

- Print Productivity: A System Dynamics Approach

- Creativity in the Printing Industry: The Context of Organizational Change
- Minding the Gap: Evaluating the Image Quality of Digital Print Technologies Relative to Traditional Offset Lithography
- Survey of Digital Press Manufacturers: Critical Paper Requirements
- An Analysis of Web-Enabled Print Architectures

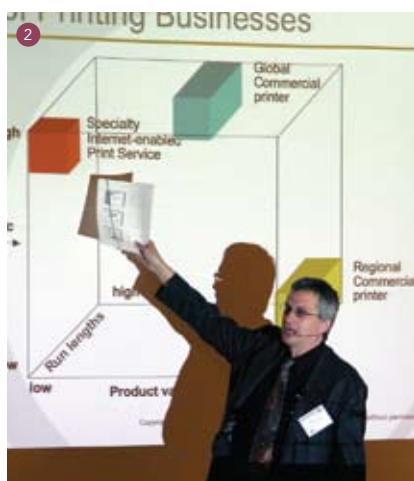
- Upstream Database and Digital Asset Management in Variable Data Printing
- Print Advertising Media Substitution, and
- Benchmarking Insert Advertising Effectiveness Metrics.

On the second day of the event, RIT researchers presented their proposed research plans for the coming year, and Industry Partner companies had the

opportunity to provide feedback. This collaboration in developing the research agenda results in rich and relevant inquiries into the printing industry. Based on these discussions, a Center plan of work for 2008-2009 will be released to the community in January.

Descriptions of the research and the principal investigators involved are posted on the Center web site. [\[link\]](#)

More on Center research is available at <http://print.rit.edu/research/>



#### **Image 1. Discussion during presentations**

Industry partner representatives discuss completed 2006-2007 research during the presentations by the researchers.

#### **Image 2. Frank Cost**

Frank Cost, Co-director of the RIT Printing Industry Center, presents on Adam Dewitz's monograph, *An Analysis of Web-to-Print Architectures*.

#### **Image 3. Connecting with researchers**

Howard Vogl and Dr. Twyla Cummings, both professors in the RIT School of Print Media, discuss their research proposal one-on-one with an industry partner representative.

## Emerging Global Print Markets *continued*



Brazil is strengthening its trade relationships with the countries of MERCOSUR, a customs union that includes Argentina, Brazil, Paraguay, and Uruguay. Chile and Bolivia are slated to join the union in the near future. MERCOSUR was established in 1991, with the goal of increasing regional economic cooperation among member countries. To increase exports, the government is seeking expanded trade relationships with countries such as China, Mexico, and Canada. Brazil has also become increasingly involved in international economic and trade policy discussions, as shown in its leading role in the World Trade Organization (WTO) Doha Round talks.

### Economic Overview: Brazil

The Brazilian economy came under considerable stress in 2002 and 2003. A volatile external environment and concerns about the continuity of macroeconomic policies following the change in government led to a sharp

decline in foreign direct investment (FDI), with inflows dropping to \$31.2 billion in 2003. In that year, real GDP growth declined sharply to 0.5%, and inflation rose to 14.8% as a result of the continued depreciation of the Brazilian real.

Inflation control became a problem during 2002 and 2003, with the inflation rate hitting nearly 15%. Even though spread of inflation has been checked by the current government, overall inflation during the last few years has been much higher than that in developed economies. The Industrial Production Index has increased only modestly, with a 4.8% cumulative growth between 2000 and 2004. The economic challenges that faced Brazil in the years following 2000 have resulted in continued low levels of FDI in Brazil. Foreign firms have gravitated toward more lucrative countries with lower investment risks.

The balance of trade for Brazil has steadily improved between 2000 and 2004. In 2004, exports reached \$108.85 billion, while imports were \$80.65 billion. A substantial proportion of exports are concentrated in transport equipment, iron ore, soybeans, footwear, coffee, and automobiles. Many (perhaps most) of these exports do not include substantial packaging and printing. Data from the International Monetary Fund reveals that Brazil accounts for slightly greater than

Table 1. Macro-economic overview of Brazil

Measure	2000	2001	2002	2003	2004	2005
Total GDP (billions of U.S. dollars)	602	508	461	506	604	796
Real GDP growth	4.40%	1.30%	1.90%	0.50%	4.90%	2.30%
GDP at PPP (billions of int'l dollars)	1,253	1,300	1,348	1,383	1,489	1,577
Annual rates of inflation	7.0%	6.8%	8.5%	14.7%	6.6%	6.8%
PPP (R\$ per international \$)	0.87	0.91	0.99	1.11	1.17	1.2
Industrial Production Index (1995 = 100)	109.7	111.5	114.1	114.7	116	--
FDI inflows (billions of U.S. dollars)	32.8	22.5	16.6	10.1	18.1	--
Exports (billions of U.S. dollars)	55.1	58.2	60.4	73.1	96.4	118.3
Imports (billions of U.S. dollars)	58.6	58.4	49.7	50.9	66.4	77.6
Annual lending rates	56.8%	57.6%	62.9%	67.1%	54.9%	55.4%
Tax rates on businesses	--	--	--	--	15%	--
Exchange rates (R\$ against U.S. dollar)	1.83	2.36	2.92	3.08	2.93	2.44

one-third of the GDP of Latin America (including Mexico and the Caribbean).

On a favorable note, macroeconomic stability appears to have been restored in 2004 and has been maintained through strong macroeconomic policies and the pursuit of tax and pension reforms, along with bankruptcy legislation. Consumer confidence increased and the business climate improved. Real GDP grew by 4.9 percent in 2004, but had fallen back to 2.3 percent in 2005.

### **Commercial Infrastructure: Brazil**

As an indicator of the potential of an economy to support growing business interests in the area, commercial infrastructure details the adoption of communication technologies by the population. While there has been a very small growth in telephone landlines from 21.22 to 23.04 lines per 100 habitants, there has been an explosion in cell phone subscription rates over the study period. Cell phone subscriptions have increased from 16.30 to 60.80 per 100 habitants, which represents a substantial 373% growth rate that reflects the global migration to cellular telephony. The number of television sets per 1000 people has steadily decreased over the study period, from 957.1 to 950.6. This is a slight downward trend, but should be monitored by companies that leverage television services and advertisements as part of their business model.

The use of personal computers has increased from 8.5 million in 2000 to 22.2 million in 2005, which is an average annual increase in excess of 20%. By 2005, 78.2% of Brazilian households with a PC were online. The number of Internet users continues to explode, and as of 2005 included almost 40 million people – approximately 22% of the total population. This may account for some of the decline in newspaper and magazine readership.

The IT infrastructure for Internet

use has increased over this time period. The number of Internet hosts has roughly doubled, from 9,324 to 18,953 per million people. The number of Internet users in the country is growing rapidly, and the demand may outpace the bandwidth necessary for a growing user base. The number of PCs grew from 6.12% of the population in 2001 to 10.52% of the population in 2005.

### **The Brazilian Printing Industry**

The Brazilian printing industry has been affected by some of the forces of change common to other industrialized markets in the country. These include consolidation of the industry, increasing competition, and erosion of profit margins. As of 2005, the industry was reported to have the following characteristics:

- 15,500 printing and printing-related establishments
- 202,000 employees
- \$5.5 billion in revenues

Graphic communications represents 1% of Brazil's gross domestic product\*

\*Two printing experts in Brazil suggest that that printing growth is believed to be directly relational to the growth in GDP. GDP for Brazil has slowly increased over the last six years.

Sixty percent of the industry is concentrated in the southern and southeast regions of the country, in cities such as Rio de Janeiro, São Paulo, and Menaus. The northeast and northern regions are poorer than the rest of the country. These regions are experiencing faster economic growth than the south, but are starting from a smaller economic base.

Brazil is a large country lacking a sufficient transportation infrastructure. Therefore, as regions become wealthier, the local printing industries will grow to serve local and regional markets.

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## Emerging Global Print Markets *continued*

This may be an opportunity for digital printing systems, as content could be generated in centers like São Paulo, then transmitted to remote regions for local production.

### Brazilian Printing Industry Segments

#### Consumer Packaging

Consumer packaging production in Brazil was directly responsible for 1.3% of Brazilian GNP in 2003 at a value of \$17.8 billion. This segment has shown sustained growth in both in volume and value terms over the last five years. The continuing devaluation of the Brazilian real against the U.S. dollar (approximately a 70% decrease between 1998 and 2002), combined with the low costs of manufacturing and materials in Brazil, have made local packaging products economically competitive in the global marketplace, stimulating exports of both packaging materials and packaging products.

The increase in single-occupant dwellings in Brazil over the survey period paired with an increasingly young consumer base have led to an increase in the consumption of single-serve packaging. Convenience has become an increasingly important factor in consumers' purchasing decisions in recent years. This trend has greatly benefited rigid plastic and flexible packaging.

**Table 2. Brazilian printing segment sales in billions of dollars**

Industrial Segment	2003	% Share	2004	% Share
Publishing	1.14	25.2%	1.35	24.5%
Packaging	0.92	20.3%	1.15	20.9%
Business Forms	0.75	16.6%	0.92	16.7%
Office & School Supplies	0.46	10.2%	0.60	10.9%
Advertising Printing	0.49	10.8%	0.58	10.5%
Calendars & Letterhead	0.25	5.5%	0.30	5.5%
Prepress	0.14	3.1%	0.15	2.7%
Misc. Other	0.38	8.4%	0.45	8.2%
<b>TOTAL</b>	<b>4.53</b>	<b>100.0%</b>	<b>5.50</b>	<b>100.0%</b>

#### Books

Hamilton Terni Costa provides us with the following insight: "1998 was the peak year for book production in Brazil. Brazil produced about 390 million books in 1998. We were anticipating an increase through 2000-2002 as the number of students in school reached an all-time high. If we projected the number of books that would be produced to keep up with the rate of growth of students, we would have predicted almost 1.5 to 2 times the number produced in 1998. But we never reached the 1997-98 numbers again."

The Brazilian book publishing market ended 2005 with 20% growth over 2004 figures, ending years of crisis. According to Sérgio Vaz, director with Votorantim Celulose e Papel (VCP), government purchases totaled 61 million units in 2005.

#### Industry Trends

##### Decreasing Newspaper and Magazine Consumption

Newspaper circulation in Brazil has followed the general trend of most of the rest of the world, dropping from 7.88 million daily newspapers in 2000 to 7.12 million in 2005. This means that the average person of any age (including children) read just 14.3 issues per year in 2005, as compared to 16.9 issues in 2000. However, since newspapers are read by multiple persons within a household, the number of papers read by an average person per year cannot be calculated in this way.

Magazine readership appears to have followed a similar pattern, with a decrease to 406 million issues printed in 2004 from 446 million issues in 2000. On a per capita basis, this is equivalent to a decrease to 2.27 issues read per year in 2004, down from 2.62 magazine issues read

per year in 2000. It was estimated that Brazilians read an average of 1.8 books per year in 2002. As books are also read by multiple persons, it is unclear how much this may have changed in the last three years. Regardless of these trends, consumers are spending more on newspapers, magazines, books, and stationery due to inflation. In 2000, expenditures were about \$2.81 billion, while in 2005 spending increased to \$4.97 billion.

### Introduction: Mexico

Mexico is among the world's most open economies, but it is dependent on trade with the U.S. Exports to the U.S. represent almost one-quarter of the country's GDP. Top U.S. exports to Mexico include electronic equipment, motor vehicle parts, and chemicals. Top Mexican exports to the U.S. include petroleum, cars, and electronic equipment. There is considerable intra-company trade.

**Table 3. Brazilian newspaper and magazine consumption**

Measure	2000	2001	2002	2003	2004	2005
Population (millions)	170.1	172.4	174.6	176.9	179.1	181.3
Adult literacy rate (% of population aged 15+)	85.2%	85.6%	86.0%	86.4%	86.7%	--
Annual daily newspaper circulation (millions)	7.88	7.67	6.97	7.18	7.10	7.12
Annual newspapers per capita	16.9	16.2	14.6	14.8	14.5	14.3
Magazine circulation (millions)	446	454	436	413	406	--
Annual magazines per capita	2.62	2.63	2.50	2.33	2.27	--
Consumer expenditure on newspapers, magazines, books and stationery (billions of U.S. dollars)	2.811	3.136	3.512	3.968	4.421	4.968

**Table 4. Brazilian paper production**

Measure	2000	2001	2002	2003	2004	2005
Production of newsprint	266	230	230	163	133	113
Production of paper and paperboard	6,473	7,354	7,354	7,811	8,221	8,736
Production of printing and writing paper	2,100	2,150	2,150	2,272	2,369	2,442

### Fluctuating Paper Production

Paper production provides another perspective on printing industry growth rates, through increases in supply chain activity (see Table 6). The annual production of paper and paperboard in 2000 amounted to 6.47 million metric tonnes, and increased to 8.74 million tonnes in 2005. (One metric tonne is equivalent to 1,000 kilograms, which is about 2,200 pounds). A similar pattern was observed with the production of printing and writing paper: 2.10 millions tonnes were produced in 2000, while 2.44 millions tonnes were produced in 2005. Given the previously discussed decrease in newspaper readership, it's not surprising that the production of newsprint declined from 266 thousand tonnes in 2000 to 113 thousand tonnes in 2005.

Mexico's trade regime is among the most open in the world. The country has free trade agreements in place with the U.S., Canada, the EU, and many other countries. Since the 1994 devaluation of the peso, the Mexican government has worked to improve the country's macroeconomic basics. Inflation and public deficits are now under control.

Felipe Calderon took office in December 2006 and is off to a surprisingly positive start. However, his administration has some problems as a result of his weak electoral mandate (less than 1% separating the top two candidates) and a minority position in Congress. This is likely to result in only

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## Emerging Global Print Markets *continued*

modest gains in the competitiveness of Mexico due to an inability to pass legislation without strong opposition. Certainly, the economic performance of Mexico will be closely correlated with the U.S. economic cycle because of the geo-economic ties forged by the NAFTA agreement.

These ties impact Mexico's levels of FDI and international trade.

Foreigners and foreign corporations may invest up to 100% of operating capital in a Mexican corporation, unless the Mexican corporation has an exclusion clause or is involved in a certain economic activity reserved for state ownership. These reserved

activities are similar to those in many other countries, and include oil and petrochemical production, electrical and nuclear energy, seaport and airport operations, as well as industries associated with national defense. These activities are specifically regulated by the legislature, indicating maximum percentages of participation of foreign capital. Of particular interest to printers is the fact that newspapers publication for national circulation can have only 49% non-Mexican ownership.

### Economic Overview: Mexico

Mexico has a free market economy that recently reached a value of one

trillion dollars. The country contains a mixture of modern and established industrial firms as well as agriculture interests, which are increasingly dominated by the private sector. Over the last twenty years, Mexico has expanded its infrastructure in seaports, railroads, telecommunications, electricity generation, natural gas distribution, and airports. Per capita income is one-fourth that of the U.S., with an income distribution that remains highly unequal. With its advantage in cost of labor, trade with the U.S. and Canada has tripled since the implementation of NAFTA (North American Free Trade Agreement) in 1994. Former President Vincente Fox's administration was aware of the need to upgrade infrastructure, modernize the tax system and labor laws, and allow private investment in the energy sector, but was unable to win the full support of the opposition-led Congress.

The inauguration of Felipe Calderón as Mexico's new president on December 1, 2006, was preceded by heavy discontent among both the citizens and legislators of Mexico. Calderón takes over a stable and growing economy, but a political system ripe with conflict. He has been silent on the issue of competition policy and the power of large private enterprises.

Mexico has one-third the population of the U.S., standing at 106 million people in 2005. Its economy is driven by service and industrial production. Mexico leverages national competencies in the production of food and beverages, tobacco, chemicals, iron and steel, petroleum, mining, textiles, clothing, motor vehicles, consumer durables, and tourism. Mexico is also a net exporter of oil, although they are trying to wean themselves from a dependence on oil exports.

Table 5 provides data on the overall economic health of Mexico since 2000. The Mexican economy has shown reasonably steady growth between

**Table 5. Macroeconomic overview of Mexico**

Measure	2000	2001	2002	2003	2004	2005
Total GDP (billions of U.S. dollars)	580.8	621.9	648.6	638.7	683.5	678.4
Real GDP growth	6.6%	0.0%	0.8%	1.4%	4.2%	3.0%
GDP at PPP (billions of international dollars)	874.0	893.5	916.6	948.4	1,015.8	1,072.6
Annual rates of inflation (% growth)	9.50%	6.36%	5.03%	4.55%	4.69%	4.30%
PPP (Mx per international dollar)	6.20	6.41	6.74	7.17	7.49	7.68
FDI inflows (billions of U.S. dollars)	16.8	27.6	15.1	11.4	16.6	--
Exports (billions of U.S. dollars)	180.2	171.1	173.8	177.9	203.4	--
Imports (billions of U.S. dollars)	191.4	185.2	185.9	188.3	216.1	--
Annual lending rates	16.9%	12.8%	8.2%	6.9%	7.2%	--
Tax rates on individuals (% ranges)	40%	--	40%	35%	33%	--
Tax rates on businesses (% ranges)	35%	--	35%	34%	33%	--
Exchange rates against U.S. dollar	9.46	9.34	9.66	10.79	11.29	10.9

**Table 6. Mexican market intensity**

Measure	2001	2002	2003	2004	2005
GNI per capita estimates using PPP (U.S. dollars)	5,580	6,010	6,370	6,930	7,310
Consumer expenditure (billions of U.S. dollars)	437.4	448.0	412.4	422.2	467.1
Private consumption as a percentage of GDP	70.34%	69.07%	64.57%	61.76%	60.78%

2000 and 2005, reaching the trillion dollar mark at PPP in 2004.

The balance of trade for Mexico has remained steady between 2000 and 2004. In 2004, exports reached \$203.4 billion, while imports were \$216.1 billion, creating a trade deficit of \$12.7 billion. Over the last few years, Mexico has run a steady deficit between \$11 and \$13 billion. The major exports of Mexico include manufactured goods, oil and oil products, silver, fruits, vegetables, coffee, and cotton.

As of 2005, the average annual income stands at \$4,542. The average gross annual income has been losing ground against inflation. This loss of purchasing power against inflation was one important factor in the 2006 Mexican elections. Mexico's income levels in U.S. dollars have been flat over the last six years, as is seen when comparing the percentage of families with incomes above \$15,000. In 2000, 37.0% of the population made more than \$15,000, while in 2005 this percentage was 36.8%. As can be seen from Table 6, the gross national income per capita, measured in U.S. dollars at purchasing power parity, increased from \$5,580 to \$7,310. In addition, consumer

expenditure per capita has increased over the study period by over \$30 billion. Like the other macro-economic factors explored for Mexico, the market intensity determinants have increased modestly relative to the other countries in the study.

### North American Free Trade Agreement (NAFTA)

The North American Free Trade Agreement (NAFTA) went into effect on January 1, 1994. The principal purpose of NAFTA is to reduce or gradually eliminate import duties between Mexico, Canada, and the U.S. The mission of NAFTA is to simplify processes and to develop faster procedures for solving controversies and disputes.

- The principal goals of NAFTA are to:
- Gradually eliminate quantitative and qualitative barriers,
  - Avoid the practice of dumping,
  - Increase investment opportunities,
  - Protect intellectual rights, and
  - Promote trilateral cooperation.

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## Emerging Global Print Markets *continued*

NAFTA has had an enormous impact on the volume and nature of trade activities for Mexico's economy in the thirteen years since its inception. Table 7 outlines the import activity of Mexico in the five years since 2001 to illustrate the market's openness to trade. In particular, trade relationships with the U.S. have been generally favorable, and the import volume of U.S. goods to Mexico from 2001 to 2005 increased from \$101.2 to \$120.05 billion. In addition, per capita imports of U.S. goods and services increased by \$116.65, reflecting the importance of trade as a contributor to GDP. Over the 2001 to 2005 time period, the percentage increase for this indicator was a relatively modest 2%.

### Commercial Infrastructure

While landline telephony has become gradually less important to the telecommunication development of much of the rest of the world, Mexico has shown a steady increase in use of this technology, growing from 13.89 to 18.23 mainlines per 100 inhabitants from 2000 to 2005. While cellular technology adoption rates have been somewhat slower than in other developing nations, cellular subscription rates have more than doubled, moving from 21.94 per 100 people in 2001 to 44.34 per 100 people in 2005.

The growth in television sets per 1,000 people has been relatively slow in comparison over the study period, but it has been growing in contrast to many of the other countries examined for

this study. This trend could be partially explained by the proliferation of Spanish language creative content from U.S. media outlets and increasing courtship of the Latin American market in the U.S. and elsewhere.

The use of personal computers has increased from 6.9 million in 2001 to 14.4 million in 2005. By 2005, 87.3% of Mexican households with a PC were online. The number of Internet users continues to explode, and as of 2005 included almost 25 million people, which represents 23.6% of the population. The number of PCs per 100 people nearly doubled from 6.96 to 13.08, while the number of Internet hosts per million people showed an increase of 5,258 hosts to a total of 14,517 hosts per million in 2005.

### The Mexican Printing Industry

The Mexican printing industry has experienced some of the same forces as in industrialized markets. These include consolidation of the industry, increasing competition, and erosion of profit margins. As of May 2006, the printing industry in Mexico is concentrated in Mexico City, Estado de Mexico, Jalisco, and Nuevo Leon, which captures more than 50% of the total market (U.S. Commercial Service).

The graphic arts industry in Mexico supports 140,000 direct employees through more than 17,000 firms. These numbers include all segments of the graphic arts industry, including newspaper, magazines, books, packaging, and advertising/commercial printing.

It is estimated that 70% of these companies have equipment that is at least 15 years old. Even firms with modern equipment lack the training needed to exploit possible

Table 7. Mexican market receptivity

Measure	2001	2002	2003	2004	2005
Imports from the U.S. (billions of U.S. dollars)	101.3	97.47	97.41	110.83	120.05
Per capita imports from the U.S. (U.S. dollars)	1,019.11	966.96	952.20	1,067.73	1,135.76
Trade as a percentage of GDP	28%	27%	28%	30%	30%

opportunities. The lack of trained personnel is pushing some universities to create new degree programs in Engineering in Graphic Arts.

**Table 8. Mexican printing industry structure**

Size	Number of employees	Number of firms
Micro	1-20	14,075
Small	21-100	2,674
Medium	101-200	257
Large	More than 201	138
Total		17,144

## Industry Trends

### Fluctuating Newspaper and Magazine Consumption

As seen in Table 9, newspaper titles in Mexico have followed the general international general trend, falling from 356 newspaper titles in 2001 to 248 titles in 2005. The number of people employed in magazine and newspaper production has also fallen slightly between 2000 and 2004 from 22,181 to 21,548 employees. In contrast, the value

of magazine and newspaper production has increased from \$1,028 million in 2000 to \$1,221 million in 2004.

The number of people employed in book and book-related production fell slightly between 2000 and 2004 from 4,999 to 4,897 employees. The production value of books has remained stable at \$406 million in both 2000 and 2004.

The number of people employed in other printing and binding production has fallen slightly between 2000 and 2004 from 14,933 to 12,382 employees. The value of the production of other printing and binding has decreased from \$610 million in 2000 to \$586 million in 2004.

In total, the total number of people employed in magazine, newspaper, books, other printing and binding production has fallen between 2000 and 2004 from 41,198 to 38,827 employees. In contrast, the value of total production has increased from \$2,044 million in

**Table 9. Mexican newspaper and magazine consumption**

Measure	2000	2001	2002	2003	2004	2005
Population (millions)	97.9	99.4	100.8	102.3	103.8	105.7
Adult literacy rate	91.4%	91.7%	91.9%	92.2%	92.5%	91.4%
Annual daily newspaper circulation (million copies)	--	--	8,734	--	--	--
Newspaper titles	--	356	310	300	276	248
Book titles published	7,095	7,179	7,306	7,424	7,539	7,586
Magazine & newspaper, production value (millions of U.S. dollars)	1,028	1,082	1,107	1,134	1,221	--
Books and similar, production value (millions of U.S. dollars)	406	430	413	400	406	--
Printing & binding, production value (millions of U.S. dollars)	610	597	578	580	586	--
Total market value of production (millions of U.S. dollars)	2,044	2,109	2,098	2,114	2,213	--
Magazine & newspaper, people employed	22,181	22,607	22,402	21,774	21,548	--
Books and similar, people employed	4,999	4,995	4,862	4,844	4,897	--
Printing & binding, people employed	14,933	14,423	13,530	13,090	12,382	--
Total printing, people employed	41,198	42,025	40,794	39,708	38,827	--
Consumer expenditure on newspapers, magazines, books and stationery (billions of U.S. dollars)	3.952	4.280	4.324	4.010	4.093	4.569

**Table 10. Mexican paper production**

Measure	2000	2001	2002	2003	2004	2005
Production of newsprint	246	239	186	193	252	257
Production of paper and paperboard	3,865	4,056	3,987	4,149	4,391	4,535
Production of printing and writing paper	575	639	507	589	601	614

2000 to \$2,213 million in 2004.

Measuring consumer expenditure on newspapers, magazines, books, and stationery reveal expenditures of \$3,952 million in 2000, with an increase to \$4,569 million in 2005.

### Increasing Paper Production

Another way to gain a perspective on the Mexican printing industry is to look at paper production (see Table 10). The annual production of paper and paperboard in 2000 amounted to 3.87 million metric tonnes, which increased to 4.54 million tonnes in 2005. (One metric tonne is equivalent to 1,000 kilograms, which is about 2,200 pounds.) A similar pattern was observed with the production of printing and writing paper, where production increased from 0.575 millions tonnes in 2000 to 0.614 millions tonnes in 2005. Newsprint production also increased from 246 thousand tonnes in 2000 to 258 thousand tonnes in 2005. ☐

The full research monograph is available here:

[print.rit.edu/pubs/picrm200606.pdf](http://print.rit.edu/pubs/picrm200606.pdf)



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Rochester Institute of Technology (RIT) was selected by the Alfred P. Sloan Foundation in 2001 to join the family of Sloan Industry Centers located at prestigious universities across the U.S. The Printing Industry Center at RIT is a joint program of the School of Print Media and RIT's College of Business, emphasizing Sloan's long-standing tradition of applying a broad multidisciplinary approach to industry investigations and findings.

Dedicated to the study of major business environment influences in the printing industry brought on by new technologies and societal changes, the Printing Industry Center at RIT addresses the concerns of the printing industry through educational outreach, research initiatives, and print evaluation services. The Center creates a forum for printing companies and associations worldwide to access a neutral platform for the dissemination of knowledge that can be trusted by the industry, to share ideas, and to build the partnerships needed to sustain growth and profitability in a rapidly changing market.

With the support of RIT, the Alfred P. Sloan Foundation, and our Industry Partners, it is our mission to continue to develop and articulate the knowledge necessary for the long-term economic health of the printing industry.

More information on the Printing Industry Center at RIT and its research activities can be found online at <http://print.rit.edu>.

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# print review

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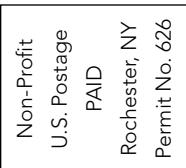
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