

For Affiliates of the Printing Industry Center at RIT

## Emerging Global Print Markets: India, China & Russia

### Introduction: India

India is the world's second most populous country, and its economy is the twelfth largest. The country has been moving forward with market-oriented economic reforms that began in the late 1980s. Recent reforms include the liberalization of foreign investment and exchange regimes, reductions in tariff and other trade barriers, modernization of the financial sector, and adjustments in government monetary and fiscal policies. In recent years, India has seen robust economic growth and a burgeoning urban middle class. India's large, skilled workforce makes it a popular choice for international companies seeking to outsource work, and Indian firms now have two-thirds of the global market in offshore information technology services. There also has been a manufacturing boom in recent years, which has been driven by the efficient use of technology as opposed to cheap labor.

Despite impressive achievements in recent years, India's economic growth remains constrained by an inadequate infrastructure, multiple levels of bureaucracy, labor market rigidities, and regulatory and foreign investment controls. The recent economic situation is presenting policy challenges, including rapidly rising domestic demand, a widening trade and current account deficit, and inflationary pressures. Moreover, its huge and growing population poses tremendous challenges for social, economic, and environmental development. Continued efforts are needed

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# Avery Dennison Teams with RIT's Printing Industry Center

Industry partner joins eleven others  
supporting center's operation

The Printing Industry Center at Rochester Institute of Technology announces the addition of Avery Dennison as an industry partner. Avery joins eleven other companies and associations pledging support to the center's operation.


Supported by the Alfred P. Sloan Foundation, the Printing Industry Center at RIT is dedicated to the growth and profitability of the printing field. The center addresses industry concerns thorough research initiatives and educational outreach programs.

"The addition of Avery Dennison as a partner has been greeted with a lot of excitement by the other partner companies because of its reputation for product innovation in several market segments that are of growing importance to the industry," states Frank Cost, co-director of the Printing Industry Center at RIT and associate dean of RIT's College of Imaging Arts & Sciences.

Founded in 1935, Avery Dennison is a global leader in pressure-sensitive technology and innovative self-adhesive solutions for consumer products and label materials. Based in Pasadena, California, the company had 2006 sales of \$5.6 billion, and ranked number 412 on the 2006 Fortune 500 list of the largest U.S. industrial and service companies.



Avery Dennison develops, manufactures and markets a wide range of products for consumer and industrial markets, including Avery-brand office products, Fasson-brand self-adhesive materials, peel-and-stick postage stamps, reflective highway safety products, automated retail tag and labeling systems, and specialty tapes and chemicals. The company's self-adhesive technology and applications are an integral part of products used in virtually every major market and industry, with product sales in over 89 countries worldwide.

Industry partners pledge money to help fund the center's operations and advise RIT's researchers on topics critical to the printing industry. The center's other industry partners are Adobe Systems Inc., Eastman Kodak Co., Heidelberg, Hewlett-Packard Co., NewPage, NPES, Scripps Howard Foundation, Standard Register, VIGC, U.S. Government Printing Office and Xerox Corp. 

Visit Avery Dennison's website at:  
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## Emerging Global Print Markets *continued*

in addressing infrastructure bottlenecks, alleviating rural poverty, and deepening global integration.

India's economic performance has been impressive in recent years. Increased openness and rising consumer and investor confidence are helping sustain rapid growth. Economic growth remained robust in 2004, with real GDP expanding 8.1%, compared to 7.2% in 2003. Strong performance continued in 2005 with GDP growth estimated at 8.3%, driven by momentum in manufacturing and services as well as strong domestic demand.

### Economic Overview

Inflation is under control and has hovered at about 4% for the last six years (see Table 1). The general government deficit for fiscal year 2004 was reduced to 7.4% of GDP from 9.0% of GDP in 2003, due to higher revenues and expenditure compression. The

reduction of the fiscal deficit helped stabilize public debt at about 86% of GDP.

As a result of the relative stability of governmental economic policy and inflation rates, there has been a sharp increase in external foreign direct investment flows. FDI increased from \$104 billion in 2000 to \$241 billion in 2004. The Industrial Production Index has increased from 131.9 to 174.7 between 2000 and 2005. This increase in productivity, paired with a stable economic landscape, has resulted in an attractive environment for foreign investment.

As of 2005, the average annual income stands at 20,338 Rupees (\$461), with the gross national income per capita increasing from \$460 in 2001 to \$720 in 2005. The average gross annual income has been growing in a pattern that exceeds the inflation rate (see Table 2) over the last five years. Income levels

**Table 1. Macro-economic overview of India**

Measure	2000	2001	2002	2003	2004	2005
Total GDP (billions of R\$)	20,895	22,720	24,633	27,600	31,055	33,420
Real GDP growth	5.3%	4.1%	4.2%	7.2%	8.1%	8.3%
GDP measured at PPP (billions)	\$2,388	\$2,594	\$2,769	\$3,023	\$3,239	\$3,603
Annual rates of inflation (% growth)	4.01%	3.68%	4.39%	3.81%	3.77%	4.25%
Purchasing Power Parity	8.47	8.57	8.63	8.8	8.99	9.25
Industrial Production Index (1995 = 100)	131.9	135.4	143.2	153.3	165.6	174.7
FDI inflows (billions of R\$)	104.2	160.6	167.7	198.9	241.8	
Exports (billions of U.S. dollars)	42.4	43.4	49.3	57.1	71.8	76.2
Imports (billions of U.S. dollars)	66.2	65.9	78.2	95.2	104.1	113.1
Annual lending rates	12.29%	12.08%	11.92%	11.46%	10.92%	--
Gross domestic savings per capita	22%	22%	22%	22%	22%	--
Tax rates on individuals (% ranges)	30%	30%	--	30%	--	--
Tax rates on businesses (% ranges)	40%	--	36%	37%	36%	--
Exchange rates (R\$ per U.S. dollar)	44.94	47.19	48.61	46.58	45.32	44.14

**Table 2. Market intensity of India**

Measure	2001	2002	2003	2004	2005
GNI per capita estimates using PPP (U.S. dollars)	460.0	470	530	630	720
Consumer expenditures (billions of U.S. dollars)	301.5	315.3	349.1	384.9	423.0
Private consumption as a percentage of GDP	62.37%	62.56%	58.92%	55.88%	52.86%

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in India have increased over the last six years as the middle class has grown. In 2000, only 10% of households made more than \$2,500. This percentage nearly doubled by 2005 to 19.3% of households. While private consumption as a percentage of GDP decreased from 2001 to 2005, the overall national consumer expenditure levels have increased from \$301.5 billion to \$423 billion, representing a substantial increase of slightly over 40%. Private consumption as a percentage of GDP dropped from 63% in 2001 to 53% in 2005.



### Commercial Infrastructure

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. Like many of the other countries in this study, the number of landline telephones per capita has grown only modestly over the study period (see Table 3). The overall growth rate from 2001 to 2005 has only been about 20%, moving from 3.75

to 4.51 landlines per 100 inhabitants. This rate is strongly contrasted against cell phone subscription rates, which have posted very strong growth rates over the period. In 2001, only 0.63 cellular subscriptions were active per 100 people, while subscription rates in 2005 stood at 8.16 per 100 people. This reflects the larger global trend towards migration to cellular telephony over traditional landlines.

It is important to note that India's commercial infrastructure lags behind the other countries in the study. This can partially be explained by low per capita income levels and the relatively large rural population. Counter to the findings for other countries in the study, India has had steady growth in television sets per 1,000 people. In 2001, there were 673.6 sets per 1,000, and in 2005 the number of sets per 1,000 is reported at 772.2.

### The Indian Printing Industry

The printing industry in India is one of the biggest and fastest growing sectors. Recent survey data shows that printing industry revenue growth has consistently outpaced national GDP growth. The country has over 13,000 established printing presses with a capital investment of over \$1.82 billion. According to one estimate, the printing industry in India provides direct employment to 700,000 people and indirect employment to over another 450,000. The U.S. (29.9%) and Europe (30.3%) will be the major players to provide impetus to the growing print industry in India in terms of content outsourcing. An additional benefit to the industry is the belief that Indian publishers' quality of work is recognized internationally.

Table 3. Commercial infrastructure of India

Measure	2001	2002	2003	2004	2005
Telephone mainlines (per 100 habitants)	3.75	3.98	3.97	4.07	4.51
Cellular mobile subscribers (per 100 habitants)	0.63	1.22	2.47	4.37	8.16
Television sets (per 1,000 people)	673.6	750.4	737.5	769.8	772.2

The Asia-Pacific region poses the largest demand for commercial printing. This demand is due to the large newspaper industries of China, India, and Japan. This region alone accounts for 33.5% of the global market, with a value of \$121.1 billion in 2004, followed by Europe (\$109.8 billion) and the United States at \$108.3 billion.

### Industry Characteristics

India's media industry is undergoing a major metamorphosis as the Internet base is expanding and cable television is becoming increasingly accessible. As a result of this, major newspapers and magazines are now available on-line, but there is no statistical data available to prove its impact on the print industry.

A Morgan Stanley study of the Indian print media industry suggests that growth is due to relaxed governmental policy, allowing the expansion of foreign ownership holdings from zero to 26%. This bold change not only attracted FDI in the print sector, but also saw launch of fresh newspaper editions in the country. Foreign media companies are investing in Indian publishing. The UK's Financial Times acquired a 13.8% stake in the Business Standard, and Henderson Global acquired a 20% stake in the Hindustan Times. The Indian government's decision to relax FDI investment limits on the Indian magazine sector also attracted key foreign players, such as the merger of BBC Worldwide with the Times of India group. BBC Worldwide currently publishes over 50 magazines, and, according to a Morgan Stanley report, the overall Indian magazine publishing market is worth \$238 million.

The constant progress in newspaper circulation and readership trends has, to an extent, been responsible for the increase of published newspaper titles, book titles, and periodical titles in India.

- Newspaper titles – from 490 in 1999 to 530 in 2004

- Periodical Titles – from 1,500 in 1999 to 1,860 in 2005
- Book Titles – from 15,080 in 1999 to 18,460 in 2004

The growth drivers behind the print media industry in India can be attributed to the following:

- A booming Indian economy, a focus on increased job creation, and significant rises in disposable income.
- Increased income and spending power of households due to the service sector expansion.
- Increased telecommunications and IT network connectivity in rural areas due to technological advancements.
- Open government policies and initiatives leading to convergence in the information and broadcasting space.

The Indian newspaper and media market is viewed as the "next lucrative investment opportunity" by many UK publishers. The newspaper sales figure has grown by 2.3 million daily copies from 2003, and the reasons for this growing demand are rising literacy and bilingualism. For example, according to an Indian national readership survey published in 2005, Dainik Jagran, a Hindi newspaper, has added 6.1 million readers since 2003, and is the largest circulated Hindi daily with 21.1 million readers across India. Dainik Bhaskar occupies the second place, with 17.3 million readers. Eenadu is a regional newspaper, with 11.3 million readers.

By volume, India is potentially one of the biggest book markets in the world. The printing industry has begun speaking to the needs of a new customer: young, professional, English-speaking families with generous disposable incomes. English is the language of business and education

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in India, and therefore a majority of educational publishing content is in English. Today's Indian consumers are better informed than previous generations on the genres and content of new book titles in the marketplace. Additionally, increasingly market-savvy buyers are requiring quick shipment and delivery of book purchases after order, forcing sellers to improve their distribution channels and strategies.

### Introduction: China

Overall Chinese national economic strength has increased remarkably. The development of economy, culture, press and publication, and foreign trade paired with an improved national standard of living has created widespread and diversified market needs for all sectors of the printing industry. This includes publication printing, package printing, commercial printing, and all other types of printed deliverables.

China's current political leadership has made economic growth and poverty alleviation its top priorities.

The government's macroeconomic policies have laid the foundation for economic growth, control of inflation, and a decline in poverty.

### Economic Overview

In 2005, the Chinese economy was the third highest in the world after the United States and the European Union. Table 4 provides data on the overall economic health of China since 2000. The Chinese economy has grown steadily at 8 to 10% annually between 2000 and 2005. FDI also increased at a rate in excess of 10% for each year of the 21st century. Within China's controlled economy, inflation rates have been held to very modest levels, exceeding 2% only once, in 2004.

With rates nearly doubling between 2001 and 2004, China's growing export activity suggests the demand expectations for print products. Beyond simply market-ready, stand-alone print work, most goods exported from the country across all industries are shipped in printed packaging, generating revenue for commercial printers and packaging firms.

In 2005, the GDP per capita in China was \$1,727 at purchasing power parity. While GDP has increased over the five-year period, private consumption as a percentage of GDP has steadily decreased, from 46.86% to 33.14%. This means that governmental consumption has increased substantially during this time period.

As of 2005, the average annual income has increased at over 10% annually since China entered the WTO (see Table 5). The average gross annual income has been growing in a pattern that has substantially exceeded the Chinese inflation rate. As a result, consumer expenditure between 2001 and 2005 has increased from \$558.1 to \$737.4 billion.

Another way to explore income levels in China is to look at the percentages of household with incomes in excess of \$2,500. In 2005, 21.2% of households meet this level. It's important to note that while only 1.3%



Table 4. Macro-economic overview of China

Measure	2001	2002	2003	2004	2005
Total GDP (billions of U.S. dollars)	1,325	1,454	1,641	1,932	2,225
Real GDP Growth	8.3%	9.1%	10.0%	10.1%	9.9%
GDP measured at PPP (billions of int'l dollars)	\$5,375	\$5,917	\$6,574	\$7,334	\$8,092
Annual rates of inflation (% growth)	0.46%	-0.77%	1.16%	3.99%	1.82%
FDI inflows (billions of USD)	46.8	52.7	53.5	60.6	--
Exports (billions of USD)	26.6	33.8	32.4	49.3	--
Annual lending rates (% interest on loans)	5.85%	5.31%	5.31%	5.58%	--
Tax Rates on Individuals	33%	33%	33%	33%	--
Tax rates on businesses (% ranges)	5-17%	5-17%	5-17%	5-17%	--
Exchange rates (RMB per USD)	8.28	8.28	8.28	8.28	8.28

Table 5. Market intensity of China

Measure	2001	2002	2003	2004	2005
GNI per capita estimates using PPP (in U.S. dollars)	1,030.1	1,127.4	1,271.4	1,492.0	1,727.0
Consumer expenditures (billions of U.S. dollars)	558.1	583.5	633.7	685.1	737.4
Private consumption as a percentage of GDP	46.86%	44.76%	43.09%	35.38%	33.14%

Table 6. Commercial infrastructure of China

Measure	2001	2002	2003	2004	2005
Telephone mainlines (per 100 inhabitants)	13.74	16.88	20.33	23.98	26.63
Cellular mobile subscribers (per 100 inhabitants)	11.03	16.04	20.89	25.76	29.90
Television sets (per 1,000 people)	864.6	852.4	844.6	841.8	836.0

of households have incomes of over \$10,000 per year, this represents about 17 million people that live in these households.

### Commercial Infrastructure

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. As shown in Table 6, unlike many of the other countries in this study, the use of landline telephony has increased substantially between 2001 and 2004. The initial base of 13.74 mainlines per 100 inhabitants has nearly doubled to 26.63. This growth has not had a negative impact on the growth in cellular subscription rates. The growth of wireless technology over the study period has nearly tripled, from 11.01 subscribers per 100 inhabitants to 29.90. This growth rate is faster than the global

average, and it mirrors the worldwide trend towards increasing reliance on cell phone technologies over traditional landlines.

Finally, the number of television sets has steadily decreased over the study period, from 864.6 per 1,000 people to 836.0, reflecting the expansion to other media outlets for sources of entertainment and information. This pattern is not seen in the U.S., where TV set ownership has remained flat at about 999 per 1,000 people.

### The Chinese Printing Industry

Graphic communications represents about 1.7% of China's GDP. The Printing and Printing Equipment Industries Association of China (PEIAC) is the sole national printing industrial association

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in China, representing the industries of printing equipment manufacturing, print material production, and printing. PEIAC is a non-profit organization working as a “bridge” between the government and businesses. It has more than 1,200 company members from all over the country, as well as 31 fellowship members that are the local printing associations of 31 provinces, autonomous regions, and municipalities under the central government of China.

The Chinese printing industry has been experiencing some of the same forces that the industry is seeing in industrialized markets. These include consolidation, increasing competition, and the erosion of profit margins. As of 2005, the industry was reported to have the following characteristics:

- 90,000 printing and printing-related establishments
- 3,400,000 employees
- \$310 RMB billion (\$38 billion) in revenues

The mix of establishment sizes, ownership profiles, and manufacturing abilities have a negative effect on the performance of the print industry as a whole. Since most print enterprises are state-owned, they cannot modify their marketing and operations to the same extent as private enterprises.

### Industry Segmentation

Using the information in Table 7 and Figure 1, total printing volume has increased by 74% between the years of 2001 and 2005. Books and Periodicals showed a 99% increase over these years. Newspaper printing increased by 54%. Packaging and prepress showed an increase of 44% and 41% respectively. The Other category increase included the foreign trade

data for 2005, but foreign trade was not recorded as a separate category in 2001.

### Packaging

Packaging is the largest segment of the Chinese printing industry, although government statistics potentially understate the true size of the segment. This is due to the fact that the majority of consumer products made in China for export are also packaged in China. Sony, for example, has many manufacturing facilities in China, and the packaging for these products is also manufactured in China before the finished, packaged products are exported. These numbers do not appear in Chinese government statistics on print production because they are counted as part of the electronics manufacturing industry. The value of the packaging around Sony DVD players, for example, is not distinguished from the products inside.

Printers who do contract packaging and printing work for manufacturing companies like Sony may or may not report these revenues to the government. This creates a gray area in the reported statistics, and this gray area is growing. Because package printing is not regulated by the government, it is difficult for the government to analyze the entire market. In addition, the majority of printers are located in special trade zones to take advantage of tax incentives.

### Magazines and Books

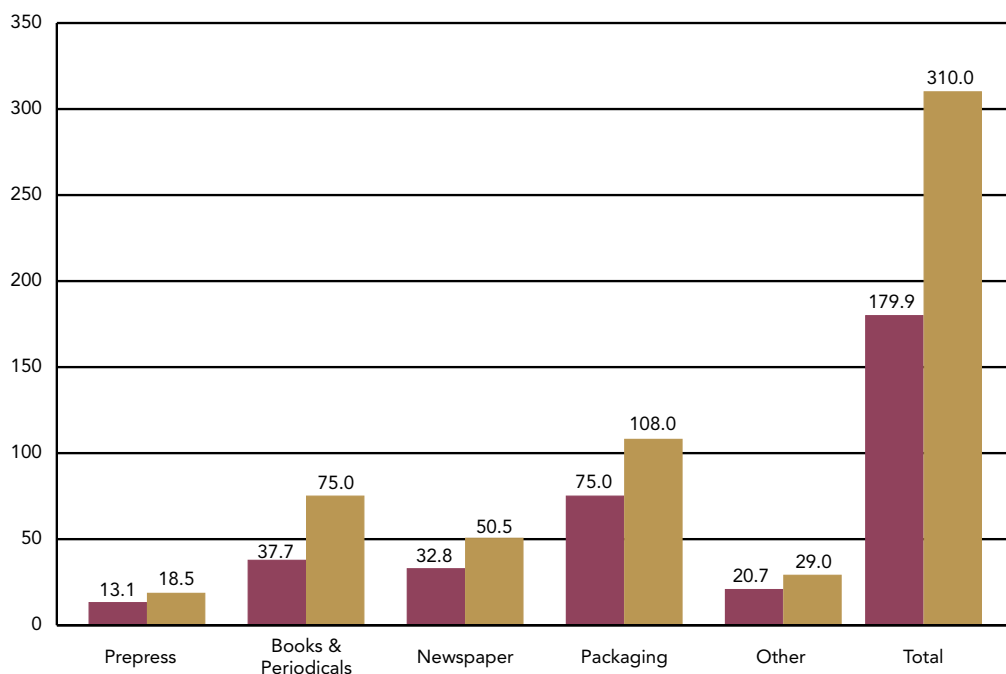
By the end of 2004, there were 9,490 magazine titles in China, with a total circulation of 2.835 billion copies. The majority of magazines are non-profit or academic magazines, although there are 1,276 commercial magazines that account for 13.45% of all titles. Publication revenue is the main revenue for China’s magazine industry. In 2003, China’s magazine net publication



Table 7. Industrial segments sales in billions of RMB, 2001 - 2005

Segment	2001	2002	2003	2004	2005
Prepress	13.1	14.0	15.3	16.9	18.5
Book & Periodical Printing	37.7	49.4	63.3	70.7	75.0
Newspaper Printing	32.8	35.0	40.5	45.9	50.5
Package Printing	75.0	80.0	89.6	98.1	108.0
Foreign Trade				22.0	29.0
Other Printing	20.7	22.0	24.0	26.4	29.0
<b>Total Printing Turnover</b>	<b>179.9</b>	<b>201.2</b>	<b>230.9</b>	<b>280.0</b>	<b>310.0</b>

Figure 1. Chinese printing segment sales - 2001 to 2005 comparison



revenue reached around RMB 6 billion (\$ 725 million), accounting for 68% of the total revenue of the industry.

It has been suggested that book printing for the domestic market is declining significantly. The volumes of books printed are decreasing, and production runs are getting shorter. Young people are reading fewer books and newspapers than their elders.

Periodicals and books can only be printed by firms with a government issued license and identification number. This number has to be printed on all materials produced so that they can be tracked to their point of origin. The reason for the required identification is political. Mass-distributed publications are a potential vehicle for the dissemination of propaganda, and the Chinese government holds the publishing

house and the printer accountable for any infractions. Product packaging is free from licensing restrictions and identification requirements.

### Newspaper Industry

China's newspaper industry is developing rapidly, fueled by the liberalization of the state controlled markets. This liberalization allowed newspapers to take advantage of burgeoning company advertising budgets during the country's current fast economic growth. The industry generated total revenues of \$4.9 billion in 2004, representing a compound

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annual growth rate (CAGR) of 13.8% for the five-year period from 2000 to 2004. In 2003, the number of newspaper titles reached 2,119. They were owned by 1,200 publishers and press groups across the country. The number of titles is nearly 11 times more than it was in 1978 when China started on its liberalization policy.

Circulation figures and advertising revenues show that the newspaper business in China is poised to blossom into a mature and stable industry. According to statistics reported by the World Association of Newspapers, China's total daily news circulation reached 85 million copies in 2003. This was 3 million copies more (3.66% more) than in 2002. China was also reported to be the country with the largest daily newspaper circulation. Nineteen dailies from China were among the top 100 daily newspapers globally in terms of circulation. In other words, China accounts for 19% of the 100 largest daily newspapers around the world.

### Introduction: Russia

Russia's transition to a market economy has been incredibly painful as its economic system was based upon the closed imperial system of the USSR. This closed attitude resulted in a resistance to strategies for value-creation and open market competitiveness when interacting with Western trading partners and now-independent neighbors. Between 1991 and 1999, real GDP had contracted an estimated 43%, including a 5% drop in 1998 despite the country's wealth of natural resources (and most notably its oil resources), its relatively well-educated population base, and its diverse - although increasingly outdated - industrial base.

In addition to the drop in real GDP, during the 1990s Russia also realized a 60% depreciation of the ruble, the flight of foreign investment, and the threat of runaway inflation. However, in 1999 several positive changes occurred. Real GDP increased by the highest rate since the fall of the Soviet Union, the ruble stabilized, inflation was moderate, and investment began to pick up once again. The increases in oil prices have also allowed Russia to pay down its debt. While some progress has been made towards economic reform, recent years have seen a recentralization of power under Vladimir Putin, who took power on December 31, 1999, creating a platform for the erosion of embryonic democratic institutions. A determined guerrilla separatist conflict still plagues Russia in Chechnya and threatens to destabilize the North Caucasus region.

### Economic Overview

Table 8 provides data on the overall economic health of Russia since 2000. While total GDP has more than doubled between 2000 and 2005 from \$259 billion to \$764 billion, the real growth rate has been substantially smaller because of the high rate of inflation. The real growth rate has been between 5 and 7% over the last few years.

The Industrial Production Index has been virtually flat between 2000 and 2004. Despite flat rates, FDI in Russia has increased from \$2.7 billion in 2000 to \$11.7 billion in 2004.

The balance of trade for Russia is favorable, as it has oil and natural gas that can be exported. The balance of trade increased from \$52.0 billion in 2000 to \$74.5 billion in 2004. A substantial proportion of exports are concentrated in petroleum and petroleum products, natural gas, wood and wood products, metals, chemicals, and a wide variety of civilian and military manufactured goods. Many of these exports do not require substantial packaging and printing.

Table 8. Macro-economic overview of Russia

Measure	2000	2001	2002	2003	2004	2005
Total GDP (billions of U.S. dollars)	259.7	306.6	345.5	431.5	588.8	673.6
Real GDP growth	10.0%	5.1%	4.7%	7.3%	7.2%	6.4%
GDP at PPP (billions of int'l dollars)	1,057.3	1,134.4	1,207.1	1,319.5	1,449.2	1,585.5
Annual rates of inflation (% growth)	20.78%	21.46%	15.79%	13.66%	10.88%	12.8%
PPP (Rb per international dollar)	6.83	7.77	8.82	9.86	11.51	13.52
Industrial Production Index (1995 = 100)	108.1	109	105	103.7	107.0	--
FDI inflows (billions of U.S. dollars)	2.714	2.748	3.461	7.958	11.672	--
Exports (billions of U.S. dollars)	114.4	113.1	121.7	151.7	203.2	--
Imports (billions of U.S. dollars)	62.4	74.3	84.4	102.8	129.7	--
Annual lending rates	24.43%	17.91%	15.71%	12.98%	11.4%	--
Gross domestic savings per capita	--	--	772	--	--	--
Tax rates on individuals (% ranges)	--	13%	13%	13%	13%	--
Exchange rates against U.S. dollar	28.13	29.17	31.35	30.69	28.81	28.28

Table 9. Market intensity of Russia

Measure	2001	2002	2003	2004	2005
GNI per capita estimates at PPP (U.S. dollars)	1,780	2,100	2,590	3,410	4,460
Consumer expenditures (billions of U.S. dollars)	139.9	163.9	220.8	270.8	322.9
Private consumption as a percentage of GDP	45.64%	47.45%	51.18%	45.99%	42.29%

Table 10. Commercial infrastructure of Russia

Measure	2001	2002	2003	2004	2005
Telephone mainlines (per 100 habitants)	22.80	24.43	24.96	26.75	27.94
Cellular mobile subscribers (per 100 habitants)	5.31	12.12	24.99	51.23	83.62
Television sets (per 1,000 people)	1,002.5	968.0	950.0	935.1	924.8

As of 2005, the average annual income stands at 89,851 Rubles (\$2,702). As can be seen in Table 9, the gross national income per capita (as measured in U.S. dollars at purchasing power parity) has increased from \$1,780 to \$4,460 from 2001 to 2005. Similarly, consumer expenditure has increased from \$139.9 to \$322.9 per capita over the same time period. The average gross annual income has been growing in a pattern somewhat faster than the inflation rate. The inflation rate in the Russian economy has generally been higher than the rate faced by the other emerging market countries studied, although it decreased to 12.8% in 2005.

### Commercial Infrastructure

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. Table 10 details the telecommunication infrastructure dynamic of the country over the five-year study period. Like many other countries, Russia's reliance on landline telephony has remained steady between 2001 and 2005, but this technology has not grown nearly as fast as cellular technologies. In 2005, there were 83.62 cellular telephone subscriptions per 100 people in Russia, contrasting sharply to the 5.31 subscription rate from five years earlier. This represents a 1,574% growth rate, far outpacing the average of other countries in this study. While there is a global interest in cellular telephony as a replacement to landline technology, Europe has made the conversion faster than other areas. It is likely that Russia, as a close neighbor, has followed by example. Finally, Russia's television

ownership rate is exceptionally high compared to the other countries, although this figure has decreased between 2001 and 2005 from 1,002.5 sets per 1,000 people to 924.8.

### The Russian Printing Industry

Russia's graphic arts industry is experiencing significant growth in diverse directions. Despite a significant number of large offset press installations, demand in the sheet-fed market is unmet, particularly in the provinces. Meanwhile, the demand for packaging and labels is rapidly growing. Although demand for flexographic technology dropped between 2000 and 2003, overall market potential for these machines remains stable.

Digital printing, which up until a few years ago was still perceived as exotic within the Russian market, is also growing rapidly. Initially, demand for digital was not driven by customers realizing the advantages of the technology, but by printers that had bought equipment as part of a drive to become the leaders in a new field. Such an approach to buying new technology is a characteristic of Russian business, and is not industry-specific.

The average age of most modern print houses is five to eight years. These started to appear during the post-Soviet period, and were fitted with the most up-to-date machines to satisfy their market leading ambitions.

Out of 6,500 Russian printing enterprises, 65 are under the jurisdiction of the Ministry of Printing, Television and Mass Media Communications. Around 1,800 are the property of Russian Federation municipal enterprises and government offices. The rest are private legal entities, numbering approximately 4,635.

The oldest Russian state printing enterprises produce 50% of all Russian printed goods. These enterprises command no more than 18% of the

revenue base because they produce commodity deliverables that do not capture a high commercial price. Some of these enterprises produce specialized printed products, such as ZAO's "Pushkin square", while others were established to produce printed materials and packaging for internal purposes. These companies are interested in working with large customers and they maintain high product quality. They can be viewed as direct competitors for global printing companies.

The concentration of skilled personnel in major cities has created a lack of skilled personnel in many outlying regions. The shortage of qualified personnel is the biggest problem for local printers. Most printing engineers and mechanics have a very limited knowledge of new technology and materials. State-owned printing houses are able to send their personnel to Moscow for study, while smaller printers cannot afford to lose their staff even for a short period of time.

It is important to acknowledge that the market for print services is one of the "darkest" and most opaque from perspective of seeking information. Companies do not heavily advertise using either the Internet or print media. Instead, these companies depend on traditional sales channels, with an emphasis on an existing customer base, advertising through word of mouth, mail distribution, and street advertising. 📍

For the full research monograph, or to find other research publications of the Center, please visit:

<http://print.rit.edu/research/>

# About the Center

**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>.

## Industry Partners

Support for the Printing Industry Center at RIT comes from:





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