THE PLAN FOR SUSTAINED GLOBAL PRINTING & IMAGING INDUSTRY GROWTH

2020

Priority Focus One
Convene, Lead, and Drive the Global Printing & Imaging Value Chain toward Operational Excellence

Priority Focus Two
Position and Engage the Global Printing & Imaging Industry for Growth throughout the Value Chain
Organizational Core Competencies

Research & Data
  • Market Data Programs
  • PRIMIR Research

Advocacy & Standards
  • Legislative/Regulatory Affairs Program
  • Standard Developing Organization (SDO)
    • International Color Consortium

Business Development
  • International Export Assistance
  • Customer Development Opportunities (Meetings/Exhibitions)

Printing equipment shipments posted $279 million through Q3 in 2016, compared to $259 million through Q3 in 2015. Projections for year-end signal an increase of +7.5% to $372 million. This sector’s positive trends are expected to continue in 2017, as traditional press manufacturers form successful alliances and partnerships to integrate digital features into their equipment.

Conversely, graphic arts supplies shipments are projected to post a -3.1% decline for year-end to $562 million, compared to $580 million at 2015 year-end. Digital color presses shipments are similarly experiencing a cyclical contraction in 2016, and are projected to post a year-on-year decline of -17% to $1.765B.

Despite weakness in some U.S. key sectors, the consumer side of the economy is still firing strongly. Private sector employment is up 2.0% year-over-year, wages are up 2.4% leading to rising purchasing power, as evident in growing US retail sales. Solid consumer trends and growth for the US economy are projected to continue in 2017.
Worldwide Market for Print 2.0: Global Opportunities in Packaging (2011-2020)

An Economist Intelligence Unit study for NPES PRIMIR & VDMA

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Greater Noida, India
February 5, 2017
Background on the Worldwide Market for Print

In 2012, the Economist Intelligence Unit (EIU) published the first edition of the Worldwide Market for Print (WWMP 1.0), a study that sized the entire printing market for 51 countries from 2007 through 2017.

Leveraging on the findings of WWMP 1.0 and focusing the study on one key segment, in 2016, the EIU published the first part of the second edition of the Worldwide Market for Print (WWMP 2.0), which included the print packaging market in 26 countries.

**WWMP 1.0**
- 51 countries
- 2007-2011 historical estimates
- 2012-2017 forecasts
- Market sizing of the entire printing market
- Five categories within printing market: print products, substrates, inks, equipment, and consumables.

**WWMP 2.0**
- 26 countries
- 2011-2015 historical estimates
- 2016-2020 forecasts
- Part 1 is focused on the market sizing of the print packaging market*
- Five categories within print packaging market: flexible, labels & tags, folding carton, corrugated, and others.

* Part 2 of WWMP 2.0 will size the market of commercial print and publishing (to be completed in 2017).
WWMP 2.0 Methodology

To develop the market sizing for the print packaging market segments, the EIU undertook a two-phase approach, first estimating the historical market sizes (2011-2015), then forecasting the market sizes over the next five years (2016-2020).

**Phase 1**
Historical market sizes (2011-2015)

EIU estimated historical market sizes using a foundation country approach, where detailed bottom-up estimates are developed for a select set of countries, and then econometric models, combined with validation checks, are used to extrapolate these results across the remaining countries in the group.

**Phase 2**
Forecast market sizes (2016-2020)

EIU developed forecast market sizes for the 26 countries, using the historical estimates to identify the best predictive drivers and indicators. The EIU developed econometric forecast models based on these drivers, to forecast the market size development by segment over the period 2016-2020.
The print packaging market

The print packaging market represents a bright spot of steady, positive growth in the context of uncertainty surrounding the outlook for other segments of the print industry.

- Demand for print packaging will continue to grow robustly, **underpinned by continued economic growth, development, and positive demographic shifts**.
- Print packaging globally will continue to grow at an average annual rate of 5.2% in 2016-20, just below the 5.3% rate over 2011-2015, reaching **$286bn by 2020**.
- Emerging markets are **catching up to the developed markets**.
- The industry will remain **fragmented**, in spite of continued consolidation.
- **Advances in technology, intelligent packaging, and the continued rise of sustainability** are additional trends that will take shape in the industry in the coming years.

**Total print packaging size and growth, 2011-20 in US$**

Note: Total growth corresponds to average growth in local currency terms of all 26 countries in this study. Source: EIU.
The current market

The print packaging market grew from $231.2bn in 2011, to $242.2bn in 2015. Corrugated print packaging has remained the largest print packaging segment.

- **Corrugated print packaging** has the highest share of the global print packaging market.
- **Flexible** (2nd largest) and **folding carton** (3rd largest) have similar market shares, and often compete in the same consumer packaging market.
- **Labels & tags**, primarily used in packaged foods and consumer goods, has a market share of 12%.
- The two largest print packaging markets in our study, the US and China, **together account for 60%** of the total print packaging market in our study.
- The global print packaging market is concentrated, with the top 5 markets accounting for 78% of the total market.
The outlook

The rise of emerging markets remains the driving force behind the print packaging industry outlook, but remain cautious against currency volatility, political instability and the rise of protectionist trade policies.

- **Rising incomes and urbanization** bolsters print packaging growth, especially for flexible and labels & tags.

- Despite the recent slump of emerging markets, it will continue to **outperform developed markets** and become 41% of the global market by 2020, a leap from 33% in 2011.

- The **concentration** of the print packaging industry will remain a key trend in the future.

- **China**, the largest emerging market, is expected to continue to grow over the coming years gradually closing the gap to the US.

- The highest growth in 2016-20 will come from countries in **Asia-Pacific**, owing to India, Indonesia and Vietnam.

- Growing discontent with free trade has fueled **populist politicians, boosting protectionist rhetoric and policies**, which could raise prices and dampen consumer expenditures.

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### Top ten fastest growing markets in 2016-20

<table>
<thead>
<tr>
<th>Country</th>
<th>Average Growth Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>India</td>
<td>12.4%</td>
</tr>
<tr>
<td>Nigeria</td>
<td>10.5%</td>
</tr>
<tr>
<td>Indonesia</td>
<td>10.2%</td>
</tr>
<tr>
<td>Vietnam</td>
<td>10.1%</td>
</tr>
<tr>
<td>Iran</td>
<td>8.5%</td>
</tr>
<tr>
<td>South Africa</td>
<td>7.6%</td>
</tr>
<tr>
<td>Colombia</td>
<td>7.4%</td>
</tr>
<tr>
<td>Philippines</td>
<td>6.9%</td>
</tr>
<tr>
<td>Mexico</td>
<td>6.2%</td>
</tr>
<tr>
<td>Turkey</td>
<td>6.0%</td>
</tr>
</tbody>
</table>

Note: Compound annual growth rate in local currency terms. Overall average for all 26 countries in this study. Source: EIU.

### Dollar growth in print packaging market from 2015 to 2020

<table>
<thead>
<tr>
<th>Country</th>
<th>2017</th>
<th>2018</th>
<th>2019</th>
</tr>
</thead>
<tbody>
<tr>
<td>China</td>
<td>15.2</td>
<td>10.7</td>
<td>6.8</td>
</tr>
<tr>
<td>US</td>
<td>6.8</td>
<td>2.9</td>
<td>2.6</td>
</tr>
<tr>
<td>India</td>
<td>2.6</td>
<td>1.3</td>
<td>1.1</td>
</tr>
<tr>
<td>Japan</td>
<td>1.1</td>
<td>0.8</td>
<td>0.8</td>
</tr>
<tr>
<td>Germany</td>
<td>0.8</td>
<td>0.6</td>
<td></td>
</tr>
</tbody>
</table>

Source: EIU.
Emerging regions generally have high growth but smaller print packaging markets. Asia-Pacific is the exception, having the happy confluence of both large and fast-growing markets.

Size of regional print packaging market in 2020 in US$ bn

<table>
<thead>
<tr>
<th>Region</th>
<th>Print Packaging Market Size (2020)</th>
</tr>
</thead>
<tbody>
<tr>
<td>North America</td>
<td>90.1</td>
</tr>
<tr>
<td>Latin America</td>
<td>7.4</td>
</tr>
<tr>
<td>Western Europe</td>
<td>52.3</td>
</tr>
<tr>
<td>Middle-East</td>
<td>1.3</td>
</tr>
<tr>
<td>Africa</td>
<td>1.0</td>
</tr>
<tr>
<td>Central &amp; Eastern Europe</td>
<td>3.1</td>
</tr>
<tr>
<td>Asia-Pacific</td>
<td>130.3</td>
</tr>
</tbody>
</table>

Total print packaging market, average growth (2016-20):
- > 8%
- 6%-8%
- 4%-6%
- 2%-4%
- < 2%
Asia-Pacific is the largest regional market for print packaging, accounting for over 42% of revenues in this study, and will be the second fastest-growing region, expanding 6.7% in 2016-20.

- **Five out of the ten fastest-growing print packaging markets** in 2016-20 are in Asia-Pacific, with India leading the way in first position.
- **Manufacturing is shifting** as labor costs (and incomes) rise and growth slows down in China.
- Southeast Asia is gradually taking over the title of the “world’s factory”.
- Asia-Pacific is generally a **trade-oriented** region.
- **Weaker global demand** from US and EU in 2015-16 dampens trade and shipments.
- Increasing debt levels of major regional economies (such as China and Japan) and the turning of credit and financial cycles poses **high risk to regional growth**.

### Asia-Pacific growth by country

<table>
<thead>
<tr>
<th>Country</th>
<th>2011-15</th>
<th>2016-20</th>
</tr>
</thead>
<tbody>
<tr>
<td>India</td>
<td>12.1%</td>
<td>12.4%</td>
</tr>
<tr>
<td>Indo.</td>
<td>9.5%</td>
<td>10.2%</td>
</tr>
<tr>
<td>Viet.</td>
<td>9.6%</td>
<td>10.1%</td>
</tr>
<tr>
<td>Phil.</td>
<td>7.5%</td>
<td>6.9%</td>
</tr>
<tr>
<td>APAC</td>
<td>6.9%</td>
<td>6.7%</td>
</tr>
<tr>
<td>China</td>
<td>5.9%</td>
<td>7.9%</td>
</tr>
<tr>
<td>S. Kor.</td>
<td>4.5%</td>
<td>3.8%</td>
</tr>
<tr>
<td>Aus.</td>
<td>3.3%</td>
<td>3.5%</td>
</tr>
</tbody>
</table>

Note: Figures presented are cumulative annual growth rates for each country in local currency terms. Region growth is the average cumulative annual growth rates of the countries in the region. Source: EIU.
India
Deep dive
India: Overall and key takeaways

India is quickly rising in the ranks of the print packaging industry, going from the 8th largest market in 2011 to 5th in 2016. By 2020 it will become the 4th largest market, passing Germany, and at this rate, shortly after the 2020 horizon, India will surpass Japan, becoming the 3rd largest market in this study.

- India is the **fastest-growing print packaging market** across all segments, growing on average 12.4% per year in local currency terms in 2016-20.
- Since 2011, **India went from being the 8th largest print packaging market to 5th in 2016**. It will pass Germany in 2020, and it will be just $557m behind 3rd-placed Japan.
- The **flexible print packaging market in India is much larger than folding carton**. However, the folding carton segment in India is still sizable because of exports, in particular luxury goods and cigarettes.
- According to experts, the fast-moving consumer goods and food goods are the sectors that offer the best opportunities for print packaging.

### Print packaging market by segment in India in 2016 and 2020 (US$)

<table>
<thead>
<tr>
<th>Segment</th>
<th>2016 (Bn $)</th>
<th>2020 (Bn $)</th>
<th>CAGR 2016-20</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flexible</td>
<td>0.9</td>
<td>1.4</td>
<td>12.4%</td>
</tr>
<tr>
<td>Labels &amp; tags</td>
<td>3.6</td>
<td>5.5</td>
<td>12.1%</td>
</tr>
<tr>
<td>Folding carton</td>
<td>2.6</td>
<td>2.2</td>
<td>12.0%</td>
</tr>
<tr>
<td>Corrugated</td>
<td>1.4</td>
<td>3.9</td>
<td>11.9%</td>
</tr>
<tr>
<td>Other</td>
<td>3.7</td>
<td>5.6</td>
<td>12.2%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>12.2</strong></td>
<td><strong>18.6</strong></td>
<td><strong>12.4%</strong></td>
</tr>
</tbody>
</table>

Note: Compound annual growth rate in US dollar terms. Source: EIU.

### Segment growth in India

- Flexible: 12.4% to 12.5%
- Labels & tags: 12.1% to 12.6%
- Folding carton: 12.0% to 12.2%
- Corrugated: 11.9% to 12.3%
- Other: 12.2% to 12.4%
- **Total**: 12.1% to 12.4%

Note: Figures presented are compound annual growth rates in local currency terms. Source: EIU.
India: Current dynamics and trends

### India macroeconomic indicators

<table>
<thead>
<tr>
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</tr>
</thead>
<tbody>
<tr>
<td>Population (m)</td>
<td>1,311.0</td>
<td>1,327.0</td>
<td>1,343.0</td>
<td>1,358.0</td>
<td>1,374.0</td>
<td>1,389.0</td>
</tr>
<tr>
<td>GDP (% real change pa)</td>
<td>7.5</td>
<td>7.6</td>
<td>7.4</td>
<td>7.4</td>
<td>7.3</td>
<td>7.3</td>
</tr>
<tr>
<td>Consumer prices (% change pa; av)</td>
<td>4.9</td>
<td>5.6</td>
<td>5.7</td>
<td>5.3</td>
<td>4.9</td>
<td>4.9</td>
</tr>
<tr>
<td>Private consumption per head (US$)</td>
<td>941</td>
<td>989</td>
<td>1,040</td>
<td>1,140</td>
<td>1,280</td>
<td>1,410</td>
</tr>
<tr>
<td>Exchange rate LCU:US$ (av)</td>
<td>64.2</td>
<td>68.4</td>
<td>72.4</td>
<td>73.2</td>
<td>72.3</td>
<td>71.8</td>
</tr>
</tbody>
</table>

Source: EIU.
India is the fastest-growing market for all print packaging segments in this study, and it will continue to grow strongly in 2016-20.

- The print packaging industry in India will grow strongly over 2016-20, with each component segment growing at similarly fast paces. The fastest will be labels & tags, which will grow at an annual average rate of 12.6% in 2016-20; the slowest segment will be folding carton, which will grow at an annual average rate of 12.2% in the period.
- India is the 5th largest print packaging market in our study with revenues of $12.2bn in 2016. By 2020, revenues will reach $18.6bn, just below Japan, the 3rd largest market in our study with $19.1bn in print packaging revenues.
- Numerous international food and consumer brands are targeting the Indian market, such as Unilever, Nestlé and Pepsi. Those international companies will bring with them more demand for more sophisticated print packaging, which will lift revenues for flexible, labels & tags and folding carton.
- Indian consumers are not yet as eco-conscious or focused on green packaging as are consumers in mature markets. However, there is an expectation that these trends will reach India in the forecast period, which will lift further flexible print packaging revenues.

![Segment growth in India in 2012-2020](image)

![India print packaging segments market share in 2020](image)

Note: Growth in local currency terms.
Source: EIU.