Japan’s labor productivity per hour is 47.5 USD. It ranked 20th among 36 OECD countries, same as the previous year.

- In 2017, labor productivity per hour in Japan was 47.5 USD (4,733 JPY, converted using Purchasing Power Parity (PPP)). It ranked 20th among 36 OECD countries, same as the previous year (20th).

- Although increase in workers was a factor to lower productivity, nominal productivity increased by 1.4% from the previous year thanks to increase in nominal GDP and reduction in average working hours. (Real productivity increased 0.9% from the previous year and 0.6% from 2016 (+0.3%).)

- Labor productivity in Japan is about 2/3 of that in USA (72.0 USD, 7,169 JPY) and slightly lower than that in Canada (53.7 USD, 5,348 JPY) and that in the UK (53.5 USD, 5,328 JPY). Among the OECD countries, Ireland (97.5 USD, 9,710 JPY) and Luxembourg (94.7 USD, 9,430 JPY) have by far the highest productivity because of the effects of industrial structure, tax system, etc.
Comparisons are made among 36 countries because currently there are 36 OECD countries including Lithuania.

OECD Avg

Labor Productivity per Hour in OECD Countries (2017, 36 countries)

- Luxemburg
- Switzerland
- Belgium
- Norway
- USA
- Germany
- Netherlands
- Switzerland
- Belgium
- USA

 Rankings of G7 Countries in terms of Labor Productivity per Hour

- USA
- Canada
- UK
- France
- Germany
- Italy
- Japan

10 Countries with World's Highest Labor Productivity per Hour

<table>
<thead>
<tr>
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</tr>
</thead>
<tbody>
<tr>
<td>1980</td>
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<td>Luxemburg</td>
<td>Luxemburg</td>
<td>Luxemburg</td>
<td>Ireland</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1990</td>
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<td>Norway</td>
<td>Norway</td>
<td>Luxemburg</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2000</td>
<td>Netherlands</td>
<td>Netherlands</td>
<td>Belgium</td>
<td>Belgium</td>
<td>Norway</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2010</td>
<td>Belgium</td>
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<td>Netherlands</td>
<td>Ireland</td>
<td>Belgium</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2017</td>
<td>USA</td>
<td>USA</td>
<td>USA</td>
<td>USA</td>
<td>Denmark</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* Comparisons are made among 36 countries because currently there are 36 OECD countries including Lithuania, which joined July 2018.

Data about OECD countries have been updated retrospectively according to GDP revisions, etc. Therefore, levels and rankings of Japan’s productivity are different from those in last year’s report.
Labor productivity per worker in Japan is 84,027 USD, ranked 21st among 36 OECD countries.

- In 2017, labor productivity per worker in Japan was 84,027 USD (8.37 million JPY, converted using PPP). It ranked 21th among 36 OECD countries and the ranking has remained the same since 2013. As with labor productivity per hour, labor productivity per worker in Japan is also at the lowest level among the G7 countries.

- Labor productivity per worker in Japan is higher than that in New Zealand (76,105 USD, 7.58 million JPY) and slightly lower than that in the UK (89,674 USD, 8.93 JPY) and Canada (93,093 USD, 9.27 million JPY).

- Labor productivity per worker in Japan is about 2/3 of that in USA (127,075 USD, 12.66 million JPY). Although it was nearly 3/4 of that in USA in 1990, it dropped to about 70% in the 2000s and has been about 2/3 since the 2010s.
## 10 Countries with World’s Highest Labor Productivity per Worker

<table>
<thead>
<tr>
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</thead>
<tbody>
<tr>
<td>USA</td>
<td>64.2</td>
<td>70.5</td>
<td>70.0</td>
<td>68.2</td>
<td>68.2</td>
<td>66.8</td>
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<tr>
<td>Luxemburg</td>
<td>64.9</td>
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<td>71.6</td>
<td>69.4</td>
<td>69.3</td>
<td>67.3</td>
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<td>65.9</td>
<td>65.5</td>
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<td>65.4</td>
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<td>65.1</td>
<td>64.5</td>
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<tr>
<td>Germany</td>
<td>65.9</td>
<td>64.2</td>
<td>64.1</td>
<td>63.6</td>
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<td>64.1</td>
</tr>
<tr>
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<td>67.0</td>
<td>67.0</td>
<td>66.5</td>
<td>66.0</td>
<td>66.0</td>
<td>64.5</td>
</tr>
<tr>
<td>Norway</td>
<td>66.8</td>
<td>66.8</td>
<td>66.2</td>
<td>66.2</td>
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<tr>
<td>USA</td>
<td>67.0</td>
<td>67.0</td>
<td>67.0</td>
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<tr>
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<tr>
<td>USA</td>
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<td>68.0</td>
</tr>
</tbody>
</table>

### Notes:
- Comparisons are made among 36 countries because currently there are 36 OECD countries including Lithuania, which joined July 2018.
- Data about OECD countries have been updated retrospectively according to GDP revisions, etc. Therefore, levels and rankings of Japan’s productivity are different from those in last year’s report.

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**Level of Japan’s Labor Productivity Compared with USA**

- **Labor productivity per worker**
- **Labor productivity per hour**

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**Material** Created by Japan Productivity Center with data from OECD database.
Labor productivity in Japan’s manufacturing industry is 99,215 USD (2016), ranked 15th among 31 OECD countries.

- Labor productivity (per worker) in Japan’s manufacturing industry is 99,215 USD (11.15 million JPY, converted using exchange rate). It is about 70% of that in USA (140,205 USD, 15.76 million JPY) and slightly lower than in France (101,576 USD, 11.42 million JPY), Luxembourg (101,494 USD, 11.41 million JPY) and Germany (100,599 USD, 11.31 million JPY).

- In 1995 and 2000, labor productivity in Japan was at the highest level among the major nations. It started to move down significantly on the list in the 2000s and ranked 15th in 2016, having dropped a place from the previous year (2015).

- Labor productivity in manufacturing industry has been increasing steadily in yen, but has recently been growing little in dollar due to the impact of the exchange rate. Exchange rate (moving average) was weakened for the yen by about 20% (21.7%) from 2010 to 2016, which slowed down the rate of dollar-based productivity increase.
Nominal Labor Productivity in Manufacturing (2016, OECD countries)

15 Countries with World's Highest Labor Productivity in Manufacturing

<table>
<thead>
<tr>
<th>Year</th>
<th>Japan</th>
<th>Belgium</th>
<th>Luxemburg</th>
<th>Sweden</th>
<th>Norway</th>
<th>Denmark</th>
<th>Finland</th>
<th>UK</th>
<th>France</th>
<th>Luxemburg</th>
<th>Germany</th>
<th>Austria</th>
<th>Israel</th>
<th>South Korea</th>
<th>Australia</th>
<th>Spain</th>
<th>Italy</th>
<th>Greece</th>
<th>Slovenia</th>
<th>Slovakia</th>
<th>Portugal</th>
<th>Czech</th>
<th>Hungary</th>
<th>Chile</th>
<th>Estonia</th>
<th>Poland</th>
<th>Latvia</th>
<th>OECD Avg</th>
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</thead>
<tbody>
<tr>
<td>1995</td>
<td>88,093</td>
<td>73,386</td>
<td>71,393</td>
<td>69,771</td>
<td>69,568</td>
<td>67,561</td>
<td>64,289</td>
<td>66,588</td>
<td>64,194</td>
<td>63,648</td>
<td>62,162</td>
<td>59,914</td>
<td>59,052</td>
<td>56,979</td>
<td>58,389</td>
<td>76,687</td>
<td>73,491</td>
<td>56,979</td>
<td>47,132</td>
<td>36,600</td>
<td>36,135</td>
<td>34,193</td>
<td>32,421</td>
<td>31,895</td>
<td>28,738</td>
<td>27,595</td>
<td>24,823</td>
<td>100,413</td>
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<tr>
<td>2000</td>
<td>85,182</td>
<td>84,696</td>
<td>78,583</td>
<td>75,803</td>
<td>74,454</td>
<td>68,427</td>
<td>64,955</td>
<td>68,094</td>
<td>70,589</td>
<td>63,648</td>
<td>63,648</td>
<td>62,542</td>
<td>59,025</td>
<td>55,094</td>
<td>56,577</td>
<td>72,024</td>
<td>69,168</td>
<td>55,094</td>
<td>50,025</td>
<td>36,600</td>
<td>36,135</td>
<td>34,193</td>
<td>32,421</td>
<td>31,895</td>
<td>28,738</td>
<td>27,595</td>
<td>24,823</td>
<td>100,413</td>
</tr>
<tr>
<td>2010</td>
<td>230,321</td>
<td>164,272</td>
<td>130,804</td>
<td>128,394</td>
<td>125,744</td>
<td>124,556</td>
<td>121,351</td>
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<td>122,301</td>
<td>119,763</td>
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<td>109,915</td>
<td>100,413</td>
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<td>114,860</td>
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<tr>
<td>2016</td>
<td>447,190</td>
<td>182,423</td>
<td>146,481</td>
<td>140,205</td>
<td>129,833</td>
<td>122,207</td>
<td>114,860</td>
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</tr>
</tbody>
</table>

Unit: USD (Converted using weighted average exchange rate)

(Material) Created by Japan Productivity Center with data from OECD database

* For the conversion to dollar, actual exchange rates were used in moving average method. Normally, it is desired to use PPP by industry. However, as PPP in manufacturing in 2016 has not been announced, actual exchange rate is used for the purpose of convenience. The exchange rate used for this calculation was 112.40 yen to dollar.

* 1995 US data has not been calculated due to lack of data necessary for the measurement. Please also note that the comparison was made among only 31 OECD countries of which data necessary for the measurement was available.
### Changes in Labor Productivity in Major Nations and Japan

**Productivity in G7**
- Divided into two groups – the top group (USA, Germany and France) and the bottom group (Japan, UK, Italy and Canada)

**Gap with USA (and Germany) widened since 2000**
- On the other hand, gap with US narrowed since Abenomics (2012)

#### Changes in Nominal Labor Productivity in G7 (per hour, 2000-2017)

**Increase in Labor Productivity (2000 → 2017)**
- USA: 152% of Japan
- Germany: 80%
- France: 77%
- Japan: 67%
- UK: 62%
- Canada: 60%
- Italy: 54%

**Increase in Labor Productivity (2012 → 2017)**
- USA: 143% of Japan
- Germany: 15%
- France: 15%
- Japan: 14%
- UK: 12%
- Canada: 12%
- Italy: 11%
- US: 158% of Japan

*Increase in nominal productivity: Calculated from nominal values converted to USD using PPP
Increase in real productivity: Calculated from real values converted to USD using 2010 standard PPP*
Changes in Labor Productivity in Japan and Other Asian Countries

- Productivity in China: 10% of that in Japan in 2000 → Slightly lower than 40% of that in Japan in 2017
- Gap between China and Japan has been slightly narrowed.

Changes in Nominal Labor Productivity in Asian Countries (per worker, 2000-2017)

Converted to USD using PPP

Increase in Labor Productivity (2000 → 2017)
Increase in Labor Productivity (2012 → 2017)

* Created by Japan Productivity Center with data from the World Bank, the Asian Development Bank and OECD

Increase in nominal productivity: Calculated from nominal values converted to USD using PPP
Increase in real productivity: Calculated from real values converted to USD using 2010 standard PPP

* Gap between China and Japan has been slightly narrowed.
What is Labor Productivity?

→ Indicator for output per worker or per hour, represented in the following formula

\[
\text{Labor productivity} = \frac{\text{Output (amount of added value, production, etc.)}}{\text{Input (labor input [no. of workers, or no. of workers \times no. of working hours])}}
\]

* Labor productivity shows how efficiently workers produce output in a quantitative manner and it increases with improvement of workers’ abilities, efforts for efficiency improvement, improvement of management efficiency, etc. Increase in labor productivity is considered a factor that brings economic growth and economic affluence.

※ Purchasing Power Parity (PPP)

For the measurement for the Report, Purchasing Power Parity (PPP) was used for currency conversion. PPP shows real purchasing power of each currency adjusted in view of price level, etc. in the form of exchange rate. Exchange rate is often used for currency conversion, but values may fluctuate as the rate fluctuates. Therefore, OECD recommends the use of PPP instead of exchange rate for the comparison of productivity.

PPPs are actually measured in the International Comparison Program (ICP) of the United Nations. The PPP rate is calculated by checking how much money is needed to buy a certain amount (certain basket to be set) of an item (product or service) in different countries and equating the values.

For example, if the price of the same quality and same quantity of McDonald hamburger is 1 dollar in USA and 100 yen in Japan, the PPP for the hamburger is 100 yen to dollar. PPP for GDP is average PPP of the whole national economy calculated as weighted average of the PPPs of many items calculated in the above-described method. PPPs are announced by OECD and the World Bank. The 2017 PPP for yen-dollar exchange announced by OECD is 99.594 yen to dollar.