

The Conference Board Productivity Brief 2019

Global productivity growth has remained weak in 2018 and will continue to be slow through 2019. This brief is based on data from The Conference Board [Total Economy Database™](#), which are comprised of measures of labor productivity (including output per worker or per worker-hour) and total factor productivity growth (which takes account of investment in capital and labor force skills).

Below are our most important observations.

- **Globally**, growth in *output per worker* was 1.9 percent in 2018, compared to 2 percent in 2017 and projected to return to 2 percent growth in 2019 (Table 1). The latest estimates extend the downward trend in global labor productivity growth from an average annual rate of 2.9 percent between 2000-2007 to 2.3 percent between 2010-2017 (Table 9). The results also indicate that long-awaited productivity effects from digital transformation are still too small to see reflected in a lasting improvement at the macroeconomic level.
- At the **global** level, *total factor productivity* growth which takes account of investment in capital and labor force skills and provides a more accurate picture of the overall efficiency by which capital, labor, and skills are combined in the production process, turned negative again at -0.1 percent in 2018, down from a small increase of 0.2 percent in 2017 (Table 11). The stagnation in total factor productivity growth rates over the past decade, which was continued in 2018, is of great concern from a medium-term growth perspective. This means that the modest growth in labor productivity that still is being realized is mostly driven by the accumulation of physical capital, rather than efficiency gains or innovations.
- Among **mature economies**, the productivity slowdown in the past decade has been dramatic, as growth rates of *output per hour* halved from an average annual rate of 2.3 percent in the period 2000-2007 to 1.2 percent from 2010-2017 (Table 3). Productivity growth further slowed to 0.8 percent in 2018, showing a small projected improvement to 1.1 percent in 2019. When taking a longer-term perspective, the decline in productivity growth rates in mature economies seems to have bottomed out in recent years (Chart 1). However, after improving significantly in 2017, *total factor productivity* growth rates in mature economies returned to below the average 2010-2017 rates in 2018 (Table 11 and Chart 3).
 - The **United States** experienced a stabilization of growth in *output per hour* at 0.9 percent in 2018 compared to 1 percent in 2017 (Table 3). Growth in output per hour slowed from 2.6 percent between 2000-2007 to 1 percent between 2010-2017. Meanwhile, growth in total hours worked improved from only half of a percent to 1.4 percent between the two periods, and to 2.1 percent in 2018. The “jobless productivity” phase of the early 2000s has clearly turned into a “productivity stagnation” phase since the Great Recession. Still, US labor productivity growth is slightly ahead of that in most other mature economies. This contrasts with *total factor productivity* which declined slightly faster than the average for mature economies, pointing at a higher impact of investment relative to efficiency and innovation (Table 10).
 - **Europe** experienced an exceptionally weak year in terms of productivity growth in 2018, driven by a cyclical downturn in output growth since the second half of the year. Growth in *output per*

hour in 2018 for the **Euro Area** was 0.2 percent, well below the 2010-2017 average of 1 percent, driven mostly by a slowdown in output growth while total hours worked continued to increase (Table 3). *Total factor productivity* in the Euro Area turned negative in 2018 at -0.1 percent (Table 10). Among large Euro Area economies, Spain and Italy saw a decline in *output per hour* growth in 2018, while it stalled in Germany and modestly increased in France (Table 5). The stagnation in productivity growth in Germany was likely in part related to its exposure to weakening trade growth with China. The average labor productivity level in Germany was only 4 percent below that of the United States in 2018 (Table 8). For France, it was 6 percent below the US level, while Italy and Spain showed productivity gaps of about 25 percent relative to the United States.

- Productivity growth (output per hour) in the **United Kingdom** has been on a slowing growth path over the past three years, from 0.8 percent in 2017, to 0.5 percent in 2018 and projected at 0.2 percent in 2019. Nowhere among large mature economies was the drop in productivity growth rates between 2000-2007 and 2010-2017 bigger than in the UK, namely from 2.2 percent to 0.5 percent respectively (Table 3). Total factor productivity also saw a rapid decline from 0.5 percent on average between 2000-2007 to -0.1 percent from 2010-2017 as well as in 2018 (Table 11). While strong employment performance was in part offsetting the UK's productivity growth between 2010-2017, the growth rate of hours worked has rapidly declined recently (Table 3). The level of labor productivity in the United Kingdom remains relatively low compared to the United States (76 percent of the US level in 2018) or even Germany and France (96 and 94 percent of the US level in 2018 respectively) (Table 8).
- A positive exception to the slowing trend in productivity growth among mature economies can be found in Central and Eastern Europe. **Poland, Slovak Republic and Hungary** saw improvements in *output per hour* growth in 2018, thereby staying on a trajectory of faster than average European productivity growth (Table 5). Especially, *total factor productivity* growth remains strong in this region, possibly pointing towards increased spillover effects from their integration with western European economies as well as wage cost pressures providing incentives for business to raise productivity faster (Table 11).
- **Japan** is facing both a strong labor market and weak output growth. Growth in *output per hour* worked has averaged 1 percent annually in recent years, which is weak by historical standards (Table 3). *Total factor productivity* declined strongly at -1.4 percent in 2018 (Table 10). Due to the volatility of the Japanese productivity data, year-over-year comparisons are not very meaningful. The 2019 projected improvement in output per hour by 1.3 percent should be interpreted as a 'technical' bounce back from the 2018 decline at -0.6 percent, rather than a signal of structural improvement. Japan's level of labor productivity is only 64 percent of the level in the United States, in particular, because of low productivity in agriculture and services (Table 8).
- Among other mature economies, Southeast Asian economies such as **Singapore, South Korea** and **Taiwan** are showing strong *output per hour* worked growth rates. Other economies, including **Australia, Canada, and New Zealand** show greater weakness (Table 5). However, all countries in the Mature Economics group perform below their historical averages, especially with regard to *total factor productivity* (Table 11).

- **Emerging markets** still have a substantial productivity growth advantage over mature economies. Taken together all emerging and developing economies saw an increase in *output per worker* at 2.6 percent in 2018, compared to 1 percent on average for the mature economies (Table 1). However, overall productivity growth rates in emerging markets have also slowed since 2010, and this downward trajectory will continue for the time being. Emerging markets have lost much of their productivity catch-up potential in the past decade. For the largest eight emerging markets (Brazil, China, India, Indonesia, Mexico, Russia, South Africa and Turkey) combined, *output per worker* growth slowed from 5.5 percent between 2000-2007 to 4.4 percent between 2010-2017, a trend which has been exacerbated recently to only 3.5 percent (Table 4). *Total factor productivity* growth even evaporated completely since 2010, though this is far a large part driven by China (Table 10 and Chart 3).
 - The drop in the growth rate of *output per worker* in **China** has been among the largest, coming down from 8.9 percent between 2000-2007, to 6.1 percent between 2010-2017, and only just over 4 percent now – even though those productivity rates are still triple or more those of mature economies (Table 4). As the population ages, employment growth contracted in 2018 for the first time in over five decades and is expected to contract further this year. China’s comparative level of labor productivity (*output per worker*) is only 22 percent of the level in the United States (Table 9).
 - Among the world’s largest emerging economies, **India** continues to boast the highest labor productivity growth rate at an average rate of 5.8 percent in terms of output per worker between 2010-2017, and even 5.9 percent in 2018 with a modest projected slowdown to 5.2 percent in 2019 (Table 4). Total factor productivity growth in India is also among the highest for emerging economies by on average 2 percent (Table 10). However, the level of output per worker in India is still relatively low compared to the United States (15 percent) as well as relative to other emerging markets (Table 9).
 - Other developing Asian economies continue to show rapid increases in productivity. Especially large economies such as **Indonesia** and the **Philippines** keep performing close to their average growth rate of *output per worker* over the past two decades of 3 to 4 percent per year on average (Table 9). At relatively low productivity levels of 22 percent (Indonesia) and 18 percent (Philippines) of the US level, those and many other Southeast Asian developing economies still have a large remaining catch up potential for productivity growth.
 - Average productivity growth (*output per worker*) in **Latin America** stayed below zero for the second consecutive year in 2018, showing that the region continues to struggle with the legacy of decades of weak output per worker growth rates. **Brazil** and **Mexico** continue to struggle after decades of weak *output per worker* growth rates. Productivity growth is estimated to have contracted in 2018 in both countries at -0.3 percent in Brazil and -0.6 in Mexico, even though this is in part explained by strong recoveries in employment growth in both countries (Table 4). However, the productivity bounce backs in 2019 are still quite modest. The comparative levels of labor productivity (*output per worker*) in Brazil and Mexico are at 25 percent and 36 percent of the US level respectively. With other large economies in the region such as **Argentina** and **Venezuela** mired in recession, the short-term productivity outlook remains weak, even more so when considering *total factor productivity* growth, which has been in negative territory in almost all Latin American countries (Table 11).

- *Output per worker* growth rates in the oil and natural gas producing economies of the **Gulf Region** remain relatively low, even though higher oil prices for most of 2018 provided some temporary relief. However, the Gulf Region economies struggle with large challenges arising from the need to diversify their economies which seem to have at least a short-term downward effect on productivity growth. *Output per worker* in **Saudi Arabia** contracted at -1.1 percent in 2018 although less than in 2017 (-6.2 percent), but the outlook for 2019 still shows no improvement in the country's productivity performance (Table 9).
- Productivity growth in **Sub-Saharan Africa** picked up in recent years and *output per worker* increased at 1.5 percent on average in 2018. However, this rate of growth is down from the annual average of 2 percent for 2010-2017 and significantly below the 3 percent growth rate during the 2000-2007 period (Table 9). As the average level of *output per worker* in Sub-Saharan Africa is only 8 percent of that in the United States, the region is currently hardly realizing any catch-up effects relative to more advanced economies (Table 9). **South Africa**, which is the richest country in the region at 36 percent of the US level of productivity, has shown two consecutive years of contraction in output per worker (-1 percent in 2017 and -0.6 percent in 2018) and is projected for another year of -1.1 contraction in productivity in 2019 (Table 9).
- **Russia, Central Asia and Southeast European countries** witnessed a stabilization in productivity growth rates at around 2 percent on average for the region in recent years (Table 1). **Turkey** showed a significant weakening in output per worker growth in 2018 to just 0.7 percent compared to an average of 2.7 percent from 2010-2017 and 3.7 percent in 2017. For 2019, output per worker in Turkey is projected to fall at 1.8 percent as the country has entered a recession (Table 4).

The Total Economy Database™, (TED) is a comprehensive database with annual data covering GDP, population, employment, hours worked, labor quality, capital services, labor productivity, and total factor productivity for 123 countries in the world, with time series starting as early as 1950.

Data and detailed methodological notes are available on:

<https://www.conference-board.org/data/economydatabase>

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About

This document contains a number of tables and charts outlining trends from the latest update of the Total Economy Database. The data is based on the Adjusted version*, in which real GDP growth rates for the United States, China and Japan have been upwardly adjusted using alternative price indices for ICT investment goods. More details are available under 'Notes'.

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For more information and updates, see:

<http://www.conference-board.org/data/economydatabase/>

Specific data requests, comments, suggestions? Please email:

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Chinese data is presented in two series, 'China (Alternative)' and 'China (Official)'. The latter is based on official government data, while 'China (Alternative)' represents alternative growth numbers, based on the work of Prof. Harry X. Wu, Hitotsubashi University. All regional aggregates in this document that include China are based on these alternative growth rates. For more information on The Conference Board's alternative growth measures for China, please refer to: <https://www.conference-board.org/data/economydatabase/index.cfm?id=27770>

*The adjusted version of TED contains GDP growth and levels adjusted for rapidly falling ICT prices. More specifically, GDP deflators for 3 countries with significant ICT production and trade, including China, Japan and the United States are adjusted downward using an alternative series of ICT price deflators developed by Byrne and Corrado (see below for a link to the paper). These alternative prices show faster declines than what official data suggests. Hence, GDP growth is revised upward for these countries, and as a consequence all variables in this version that are based on GDP (e.g. GDP levels, labor productivity, per capita GDP) differ with those from the original version of the TED (which is based solely on official data). Since country specific PPPs are updated to reflect 2018 prices using the change in the country specific GDP deflator relative to the US GDP deflator, GDP levels in all countries differ from the original version which uses unadjusted GDP growth rates. More information:

<https://www.conference-board.org/data/economydatabase/index.cfm?id=27770>

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TABLE 1A: Growth of GDP, Employment and GDP per Person Employed by Major Region, 2017-2019

Percent change

	2017			2018			2019 (Forecast)		
	GDP	Employment	GDP per Person Employed	GDP	Employment	GDP per Person Employed	GDP	Employment	GDP per Person Employed
United States	2.4	1.5	0.8	3.0	1.3	1.7	2.6	1.3	1.3
Europe	2.6	1.6	1.0	2.1	1.3	0.7	1.6	0.6	1.0
<i>Euro Area</i>	2.4	1.6	0.8	1.9	1.5	0.3	1.4	0.6	0.7
<i>United Kingdom</i>	1.8	1.0	0.8	1.4	1.2	0.2	0.8	0.5	0.2
Japan	2.1	1.0	1.1	1.0	2.0	-1.0	1.0	-0.1	1.1
Other Mature Economies	3.0	1.6	1.5	2.6	1.2	1.4	2.1	0.9	1.2
All Mature Economies	2.5	1.5	1.0	2.4	1.4	1.0	2.0	0.8	1.1
China	4.3	0.1	4.2	4.0	-0.1	4.1	3.7	-0.3	4.1
India	6.9	1.7	5.0	7.4	1.4	5.9	6.7	1.4	5.2
Other Developing Asian Economies	5.5	1.9	3.8	5.1	1.7	3.3	5.0	1.5	3.5
Latin America	0.9	1.0	-0.1	0.8	1.5	-0.7	1.7	1.6	0.2
<i>Brazil</i>	1.1	0.0	1.1	1.1	1.4	-0.3	2.0	1.7	0.3
<i>Mexico</i>	2.1	1.4	0.6	2.0	2.6	-0.6	1.4	1.5	-0.2
Middle East & North Africa	2.0	2.2	-0.5	1.8	1.6	-0.1	2.2	1.8	0.3
Sub-Saharan Africa	3.0	2.8	0.7	3.0	2.4	1.5	3.5	3.1	0.6
Russia, Central Asia and SE Europe	3.7	0.7	2.7	2.8	1.0	1.8	1.1	-0.6	1.9
<i>Russian Federation</i>	1.6	-0.3	2.0	2.3	0.4	1.9	1.4	-1.5	2.9
<i>Turkey</i>	7.4	3.6	3.7	2.6	1.9	0.7	-1.5	0.2	-1.8
All Emerging & Developing Economies	3.9	1.3	2.7	3.7	1.2	2.6	3.5	1.1	2.7
World Total	3.3	1.3	2.0	3.1	1.2	1.9	2.8	1.0	2.0
Addenda:									
EU-15	2.2	1.5	0.7	1.7	1.4	0.3	1.2	0.6	0.6
EU-13	4.8	1.8	3.0	4.3	0.9	3.3	3.5	0.3	3.1
EU-28	2.6	1.6	1.0	2.1	1.3	0.7	1.6	0.6	1.0
OECD	2.6	1.6	1.0	2.4	1.6	0.8	1.8	0.8	0.9

Source: The Conference Board Total Economy Database™ (Adjusted version) April 2019.

Notes: Employment growth and GDP per person employed growth may not add up to GDP growth because of rounding; Regional GDP and labor productivity growth rates are aggregated using shares in nominal PPP converted GDP; Regional employment growth is weighted using employment shares.

TABLE 1B: Growth of GDP, Total Hours Worked and GDP per Hour Worked, Mature Economies, 2017-2019

Percent change

	2017			2018			2019 (Forecast)		
	GDP	Total Hours Worked	GDP per Hour Worked	GDP	Total Hours Worked	GDP per Hour Worked	GDP	Total Hours Worked	GDP per Hour Worked
United States	2.4	1.4	1.0	3.0	2.1	0.9	2.6	1.3	1.3
Europe	2.6	1.3	1.3	2.1	1.2	0.7	1.6	0.7	0.9
<i>Euro Area</i>	2.4	1.4	1.0	1.9	1.7	0.2	1.4	0.8	0.6
<i>United Kingdom</i>	1.8	1.1	0.8	1.4	0.8	0.5	0.8	0.5	0.2
Japan	2.1	0.8	1.3	1.0	1.6	-0.6	1.0	-0.3	1.3
Other Mature Economies	3.0	0.5	2.3	2.6	0.8	1.6	2.1	0.8	1.3
All Mature Economies	2.5	1.1	1.3	2.4	1.5	0.8	2.0	0.8	1.1

Source: The Conference Board Total Economy Database™ (Adjusted version) April 2019.

Notes: For reasons of data availability and quality this table only includes data for mature economies; Total hours worked growth and GDP per person employed growth may not add up to GDP growth because of rounding; Regional GDP and labor productivity growth rates are aggregated using shares in nominal PPP converted GDP; Regional total hours worked growth is weighted using total hours worked shares.

Europe includes all 28 members of the European Union as well as Iceland, Norway and Switzerland.

Other Mature Economies are Australia, Canada, Israel, Hong Kong, South Korea, New Zealand, Singapore, and Taiwan.

Other Developing Asian Economies are Bangladesh, Cambodia, Indonesia, Malaysia, Myanmar, Pakistan, Philippines, Sri Lanka, Thailand and Vietnam.

Central Asian countries are Armenia, Azerbaijan, Georgia, Kazakhstan, Kyrgyz Republic, Tajikistan, Turkmenistan, Uzbekistan.

Southeast Europe includes Albania, Belarus, Bosnia and Herzegovina, Macedonia, Moldova, Montenegro, Serbia and Ukraine.

EU-15 represents the European Union member states as 1995, namely: Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, Netherlands, Portugal, Spain, Sweden and the United Kingdom.

EU-13 represents the countries that joined the European Union in 2004 or later, namely: Bulgaria, Croatia, Cyprus, Czech Republic, Estonia, Hungary, Latvia, Lithuania, Malta, Poland, Romania, Slovak Republic and Slovenia.

TABLE 2: Contribution to the Growth of World GDP, Employment and GDP per Person Employed by Major Region, 2017-2019

Percentage point contribution

	2017			2018			2019 (Forecast)		
	GDP	Employment	GDP per Person Employed	GDP	Employment	GDP per Person Employed	GDP	Employment	GDP per Person Employed
United States	0.38	0.07	0.13	0.47	0.06	0.26	0.41	0.06	0.20
Europe	0.45	0.12	0.18	0.37	0.10	0.13	0.27	0.04	0.17
<i>Euro Area</i>	0.28	0.08	0.09	0.22	0.07	0.04	0.16	0.03	0.08
<i>United Kingdom</i>	0.04	0.01	0.02	0.03	0.01	0.00	0.02	0.01	0.01
Japan	0.09	0.02	0.05	0.04	0.04	-0.05	0.04	0.00	0.05
Other Mature Economies	0.19	0.04	0.09	0.16	0.03	0.08	0.13	0.02	0.08
All Mature Economies	1.11	0.25	0.46	1.04	0.24	0.43	0.85	0.13	0.48
China	0.70	0.03	0.68	0.67	-0.02	0.68	0.62	-0.08	0.67
India	0.49	0.28	0.36	0.54	0.23	0.44	0.51	0.23	0.40
Other Developing Asian Economies	0.40	0.25	0.28	0.38	0.24	0.25	0.38	0.20	0.27
Latin America	0.07	0.08	-0.01	0.06	0.13	-0.06	0.12	0.13	0.01
<i>Brazil</i>	0.03	0.00	0.03	0.03	0.05	-0.01	0.05	0.05	0.01
<i>Mexico</i>	0.04	0.02	0.01	0.04	0.04	-0.01	0.03	0.03	0.00
Middle East & North Africa	0.14	0.09	-0.04	0.12	0.07	0.00	0.15	0.08	0.02
Sub-Saharan Africa	0.08	0.30	0.02	0.08	0.26	0.04	0.10	0.35	0.02
Russia, Central Asia and SE Europe	0.24	0.04	0.18	0.18	0.05	0.11	0.07	-0.03	0.12
<i>Russian Federation</i>	0.05	-0.01	0.06	0.07	0.01	0.06	0.04	-0.03	0.09
<i>Turkey</i>	0.12	0.03	0.06	0.04	0.02	0.01	-0.03	0.00	-0.03
All Emerging and Developing Economies	2.12	1.07	1.48	2.04	0.95	1.46	1.95	0.87	1.52
<i>Reallocation effect</i>			-0.03			0.01			-0.20
World Total	3.23	1.32	1.94	3.08	1.19	1.88	2.80	1.00	2.01
Addenda:									
EU-15	0.32	0.09	0.10	0.25	0.08	0.04	0.17	0.04	0.08
EU-13	0.11	0.03	0.07	0.10	0.01	0.08	0.08	0.00	0.08
EU-28	0.44	0.11	0.17	0.35	0.10	0.12	0.26	0.04	0.16
OECD	1.18	0.30	0.46	1.07	0.29	0.38	0.81	0.16	0.41

Source: The Conference Board Total Economy Database™ (Adjusted version) April 2019.

Notes: The reallocation effect is obtained as GDP weighted global labor productivity growth minus labor productivity using un-weighted employment growth. It reflects the impact of countries with a relatively high employment share but low productivity levels on world productivity growth.

Europe includes all 28 members of the European Union as well as Iceland, Norway and Switzerland.

Other Mature Economies are Australia, Canada, Israel, Hong Kong, South Korea, New Zealand, Singapore, and Taiwan.

Other Developing Asian Economies are Bangladesh, Cambodia, Indonesia, Malaysia, Myanmar, Pakistan, Philippines, Sri Lanka, Thailand and Vietnam.

Central Asian countries are Armenia, Azerbaijan, Georgia, Kazakhstan, Kyrgyz Republic, Tajikistan, Turkmenistan, Uzbekistan.

Southeast Europe includes Albania, Belarus, Bosnia and Herzegovina, Macedonia, Moldova, Montenegro, Serbia and Ukraine.

EU-15 represents the European Union member states as 1995, namely: Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, Netherlands, Portugal, Spain, Sweden and the United Kingdom.

EU-13 represents the countries that joined the European Union in 2004 or later, namely: Bulgaria, Croatia, Cyprus, Czech Republic, Estonia, Hungary, Latvia, Lithuania, Malta, Poland, Romania, Slovak Republic and Slovenia.

TABLE 3: Growth of GDP per Hour Worked, Total Hours Worked and Real GDP for Major Mature Economies, 2000-2019

Annual average percent change

	All Mature Economies	United States	Japan	Germany	United Kingdom	France	Euro Area	EU-28
<i>Growth of GDP per Hour Worked</i>								
2000-2007	2.3	2.6	2.2	1.6	2.2	1.5	1.4	1.8
2010-2017	1.2	1.0	1.5	1.2	0.5	0.9	1.0	1.1
2016	0.7	0.4	0.4	1.4	0.4	0.0	0.5	0.6
2017	1.3	1.0	1.3	0.9	0.8	1.3	1.0	1.3
2018	0.8	0.9	-0.6	0.0	0.5	0.6	0.2	0.7
2019 (Forecast)	1.1	1.3	1.3	0.5	0.2	1.1	0.6	0.9
<i>Growth of Total Hours Worked</i>								
2000-2007	0.6	0.5	-0.1	-0.1	0.7	0.6	1.0	0.7
2010-2017	0.8	1.4	0.3	0.9	1.4	0.4	0.1	0.3
2016	1.1	1.3	0.4	0.8	1.4	1.1	1.5	1.4
2017	1.1	1.4	0.8	1.3	1.1	0.8	1.4	1.3
2018	1.5	2.1	1.6	1.4	0.8	0.9	1.7	1.2
2019 (Forecast)	0.8	1.3	-0.3	0.6	0.5	0.3	0.8	0.7
<i>Growth of Real GDP</i>								
2000-2007	2.9	3.1	2.2	1.6	2.8	2.1	2.3	2.6
2010-2017	2.1	2.4	1.7	2.1	2.0	1.3	1.2	1.5
2016	1.9	1.7	0.8	2.2	1.8	1.2	2.0	2.1
2017	2.5	2.4	2.1	2.2	1.8	2.2	2.4	2.6
2018	2.4	3.0	1.0	1.4	1.4	1.5	1.9	2.1
2019 (Forecast)	2.0	2.6	1.0	1.0	0.8	1.4	1.4	1.6

Source: The Conference Board Total Economy Database™ (Adjusted version) April 2019.

Notes: Total hours worked growth and GDP per hour worked growth may not add up to GDP growth because of rounding; Growth rates are based on the annual percentage of difference of each variable. Regional GDP and GDP per hour worked growth rates are aggregated using shares in nominal PPP converted GDP; Regional hours growth is weighted using total hours shares; Growth rates for 2000-2007 and 2010-2017 are the averages of yearly growth rates; All mature economies include the countries and groups listed in this table as well as Australia, Canada, Israel, Hong Kong, South Korea, New Zealand, Norway, Singapore, Switzerland and Taiwan.

TABLE 4: Growth of GDP per Person Employed, Persons Employed and Real GDP for Major Emerging Economies, 2000-2019

Annual average percent change

	Major Emerging Economies	Brazil	Russian Federation	India	China (Alternative)	China (Official)	South Africa	Mexico	Indonesia	Turkey
<i>Growth of GDP per Person Employed</i>										
2000-2007	5.5	0.9	5.9	5.3	8.9	10.2	2.9	0.5	3.5	4.8
2010-2017	4.4	0.9	1.4	5.8	6.1	8.1	0.3	0.6	3.7	2.7
2016	3.0	-1.5	0.2	6.9	3.7	7.0	0.1	1.0	1.1	1.0
2017	3.5	1.1	2.0	5.0	4.2	7.2	-1.0	0.6	2.4	3.7
2018	3.4	-0.3	1.9	5.9	4.1	7.1	-0.6	-0.6	3.1	0.7
2019 (Forecast)	3.3	0.3	2.9	5.2	4.1	6.9	-1.1	-0.2	3.6	-1.8
<i>Growth of Persons Employed</i>										
2000-2007	1.2	2.7	1.2	1.7	0.7	0.7	1.4	1.8	1.5	0.5
2010-2017	0.9	0.4	0.5	1.5	0.3	0.3	1.6	2.5	1.8	4.0
2016	0.9	-1.8	0.1	1.7	0.2	0.2	0.3	1.9	3.9	2.2
2017	0.9	0.0	-0.3	1.7	0.1	0.1	2.5	1.4	2.6	3.6
2018	0.8	1.4	0.4	1.4	-0.1	-0.1	1.4	2.6	2.0	1.9
2019 (Forecast)	0.5	1.7	-1.5	1.4	-0.3	-0.3	2.4	1.5	1.3	0.2
<i>Growth of Real GDP</i>										
2000-2007	6.8	3.6	7.2	7.1	9.6	11.0	4.3	2.4	5.1	5.3
2010-2017	5.4	1.3	1.9	7.4	6.5	8.4	2.0	3.1	5.5	6.8
2016	3.8	-3.3	0.3	8.7	3.9	7.2	0.4	2.9	5.0	3.2
2017	4.4	1.1	1.6	6.9	4.3	7.3	1.4	2.1	5.1	7.4
2018	4.2	1.1	2.3	7.4	4.0	7.0	0.8	2.0	5.2	2.6
2019 (Forecast)	3.7	2.0	1.4	6.7	3.7	6.6	1.2	1.4	5.0	-1.5

Source: The Conference Board Total Economy Database™ (Adjusted version) April 2019.

Notes: Employment growth and labor productivity growth may not add up to GDP growth because of rounding; The Major Emerging Markets aggregate is based on the individual countries shown in the table, excluding China (Official). For more information on The Conference Board data on China, please refer to the notes in the introduction to these summary tables; Growth rates are based on the annual percentage of difference of each variable; Regional GDP and labor productivity growth rates are aggregated using shares in nominal PPP converted GDP; Regional employment growth is weighted using employment shares; Growth rates for 2000-2007 and 2010-2017 are the averages of yearly growth rates.

TABLE 5: Growth of GDP per Hour Worked by country, 2000-2019

Annual average percent change

	2000- 2007	2010- 2017	2016	2017	2018	2019 (Forecast)
United States	2.6	1.0	0.4	1.0	0.9	1.3
Japan	2.2	1.5	0.4	1.3	-0.6	1.3
Euro Area	1.4	1.0	0.5	1.0	0.2	0.6
Austria	2.0	0.9	0.0	0.9	1.0	0.2
Belgium	1.3	0.6	0.2	0.2	-0.1	0.6
Cyprus	1.9	0.9	0.1	0.4	0.2	0.4
Estonia	6.5	2.1	3.0	2.0	5.2	2.3
Finland	2.6	1.1	2.5	1.7	-0.3	-0.3
France	1.5	0.9	0.0	1.3	0.6	1.1
Germany	1.6	1.2	1.4	0.9	0.0	0.5
Greece	2.6	-0.9	-0.6	-0.8	0.3	-0.2
Ireland	2.7	4.0	1.3	4.0	0.3	1.1
Italy	0.4	0.5	-0.4	0.6	-0.2	0.0
Latvia	7.8	3.2	2.3	5.6	2.8	1.8
Lithuania	6.4	3.1	-1.0	7.0	1.8	3.2
Luxembourg	1.1	0.4	-0.6	-1.3	-1.1	0.1
Malta	2.7	3.0	-1.7	4.0	1.3	0.2
Netherlands	1.6	0.8	0.2	0.9	0.3	0.4
Portugal	1.2	0.7	0.1	-0.6	0.1	-0.1
Slovak Republic	5.2	2.6	1.5	2.5	3.0	3.0
Slovenia	3.9	1.8	3.4	3.8	2.6	0.3
Spain	0.4	1.2	0.5	1.1	-0.2	0.8
Other Europe	2.9	1.4	0.9	1.9	1.9	1.4
Bulgaria	4.5	2.9	3.5	2.0	3.1	3.3
Croatia	3.1	2.2	2.8	1.3	0.3	0.7
Czech Republic	4.8	1.6	-0.4	2.4	0.9	2.3
Denmark	1.3	1.4	0.5	1.1	0.6	1.0
Hungary	4.1	0.8	-1.4	3.2	4.4	3.3
Iceland	3.5	0.8	3.3	0.8	2.1	3.0
Norway	1.6	0.7	0.8	1.7	-0.2	1.2
Poland	3.9	3.1	2.1	4.5	6.2	3.2
Romania	7.5	4.0	4.6	4.2	3.8	4.3
Sweden	2.7	1.2	0.1	0.6	0.2	1.0
Switzerland	1.7	0.8	0.2	0.7	1.6	0.1
United Kingdom	2.2	0.5	0.4	0.8	0.5	0.2
Other Mature Economies	2.8	1.8	1.7	2.3	1.6	1.3
Australia	1.4	1.1	1.7	0.0	0.8	-0.1
Canada	1.3	1.1	0.4	1.7	0.1	0.7
Hong Kong	3.7	2.7	2.4	3.0	1.5	1.6
Israel	1.8	1.3	0.3	1.0	1.8	1.4
New Zealand	1.5	0.5	-0.2	-1.5	0.5	1.4
Singapore	3.4	3.2	2.3	4.9	3.7	1.0
South Korea	4.5	2.6	2.7	4.2	2.8	2.4
Taiwan	4.0	1.8	2.2	2.3	2.1	1.8

Source: The Conference Board Total Economy Database™ (Adjusted version) April 2019.

Notes: Regional GDP per hour worked growth rates are aggregated using shares in nominal PPP converted GDP; Growth rates for 2000-2007 and 2010-2017 are the averages of yearly growth rates.

TABLE 6: Growth of Total Hours Worked by country, 2000-2019

Annual average percent change

	2000- 2007	2010- 2017	2016	2017	2018	2019 (Forecast)
United States	0.5	1.4	1.3	1.4	2.1	1.3
Japan	-0.1	0.3	0.4	0.8	1.6	-0.3
Euro Area	1.0	0.1	1.5	1.4	1.7	0.8
Austria	0.4	0.6	2.1	1.6	1.7	1.2
Belgium	1.0	0.8	1.3	1.5	1.5	0.7
Cyprus	2.5	-0.6	4.7	4.0	3.6	2.8
Estonia	1.4	1.5	0.5	2.8	-1.3	0.4
Finland	0.9	0.0	0.3	0.9	2.6	2.1
France	0.6	0.4	1.1	0.8	0.9	0.3
Germany	-0.1	0.9	0.8	1.3	1.4	0.6
Greece	1.4	-2.1	0.4	2.3	1.7	1.9
Ireland	3.0	0.5	3.6	3.1	6.3	3.2
Italy	1.1	-0.3	1.6	1.0	1.1	0.0
Latvia	0.7	-0.7	-0.3	-0.9	1.9	1.3
Lithuania	1.1	0.2	3.4	-2.7	1.6	-0.4
Luxembourg	3.4	2.5	3.0	2.9	3.8	2.4
Malta	0.1	2.4	7.6	2.6	5.2	4.1
Netherlands	0.7	0.5	2.0	1.9	2.4	1.4
Portugal	0.3	-0.4	1.8	3.4	2.0	1.6
Slovak Republic	0.5	0.4	1.6	0.7	1.1	1.1
Slovenia	0.5	-0.4	-0.3	1.0	1.8	2.8
Spain	3.3	-0.5	2.7	1.9	2.8	1.5
Other Europe	0.2	0.6	1.4	1.0	0.6	0.5
Bulgaria	1.3	-0.8	0.4	1.8	0.0	0.3
Croatia	1.4	-1.7	0.7	1.6	2.3	2.0
Czech Republic	-0.3	0.6	2.9	1.9	2.0	0.4
Denmark	0.6	0.2	1.9	1.1	0.9	0.8
Hungary	-0.4	1.2	3.7	0.9	0.6	0.4
Iceland	1.5	1.9	3.9	3.2	2.4	1.5
Norway	0.8	0.9	0.4	0.3	1.6	0.9
Poland	0.2	0.3	0.9	0.2	-1.0	0.4
Romania	-1.6	-1.1	0.2	2.7	0.3	-0.4
Sweden	0.5	1.5	2.6	1.5	2.1	0.9
Switzerland	0.7	1.0	1.4	0.9	0.9	1.1
United Kingdom	0.7	1.4	1.4	1.1	0.8	0.5
Other Mature Economies	1.3	1.3	0.6	0.5	0.8	0.8
Australia	1.9	1.5	1.0	2.4	2.0	2.2
Canada	1.5	1.2	0.7	1.3	1.7	0.8
Hong Kong	1.5	0.7	-0.2	0.8	1.5	1.1
Israel	2.0	2.5	3.7	2.5	1.5	1.7
New Zealand	2.2	2.3	4.4	4.2	2.4	1.2
Singapore	2.9	2.2	0.5	-0.9	-0.5	1.0
South Korea	0.8	0.8	0.3	-1.1	-0.1	0.3
Taiwan	0.8	1.7	-0.7	0.8	0.5	-0.3

Source: The Conference Board Total Economy Database™ (Adjusted version) April 2019.

Notes: Regional growth in hours worked is weighted using total hours shares; Growth rates for 2000-2007 and 2010-2017 are the averages of yearly growth rates.

TABLE 7: Growth of Real GDP by country, 2000-2019

Annual average percent change

	2000- 2007	2010- 2017	2016	2017	2018	2019 (Forecast)
United States	3.1	2.4	1.7	2.4	3.0	2.6
Japan	2.2	1.7	0.8	2.1	1.0	1.0
Euro Area	2.3	1.2	2.0	2.4	1.9	1.4
Austria	2.4	1.5	2.0	2.6	2.7	1.4
Belgium	2.3	1.4	1.5	1.7	1.4	1.3
Cyprus	4.5	0.3	4.8	4.5	3.9	3.2
Estonia	8.0	3.6	3.5	4.9	3.9	2.7
Finland	3.5	1.1	2.8	2.7	2.3	1.9
France	2.1	1.3	1.2	2.2	1.5	1.4
Germany	1.6	2.1	2.2	2.2	1.4	1.0
Greece	4.0	-3.0	-0.2	1.5	1.9	1.7
Ireland	5.8	4.5	5.0	7.2	6.7	4.4
Italy	1.5	0.2	1.1	1.6	0.9	0.0
Latvia	8.5	2.5	2.1	4.6	4.8	3.1
Lithuania	7.5	3.4	2.4	4.1	3.4	2.7
Luxembourg	4.5	2.8	2.4	1.5	2.6	2.5
Malta	2.9	5.4	5.7	6.7	6.6	4.3
Netherlands	2.3	1.3	2.2	2.9	2.7	1.8
Portugal	1.5	0.3	1.9	2.8	2.1	1.6
Slovak Republic	5.7	3.0	3.1	3.2	4.1	4.1
Slovenia	4.3	1.4	3.1	4.9	4.5	3.1
Spain	3.8	0.7	3.2	3.0	2.6	2.2
Other Europe	3.4	2.2	2.4	3.0	2.6	2.0
Bulgaria	5.9	2.1	3.9	3.8	3.1	3.6
Croatia	4.5	0.5	3.5	2.9	2.6	2.7
Czech Republic	4.5	2.2	2.5	4.4	2.9	2.7
Denmark	1.9	1.6	2.4	2.3	1.4	1.8
Hungary	3.8	2.1	2.3	4.1	4.9	3.7
Iceland	5.1	2.7	7.4	4.0	4.6	4.5
Norway	2.4	1.6	1.2	2.0	1.4	2.1
Poland	4.1	3.3	3.1	4.8	5.1	3.6
Romania	5.7	2.8	4.8	7.0	4.1	3.8
Sweden	3.2	2.7	2.7	2.1	2.3	1.9
Switzerland	2.4	1.8	1.6	1.6	2.5	1.1
United Kingdom	2.8	2.0	1.8	1.8	1.4	0.8
Other Mature Economies	4.2	3.2	2.3	3.0	2.6	2.1
Australia	3.4	2.7	2.8	2.4	2.8	2.1
Canada	2.8	2.2	1.1	3.0	1.8	1.5
Hong Kong	5.3	3.4	2.2	3.8	3.0	2.7
Israel	3.8	3.9	4.0	3.5	3.3	3.1
New Zealand	3.7	2.8	4.2	2.6	2.9	2.6
Singapore	6.4	5.5	2.8	3.9	3.2	2.0
South Korea	5.4	3.4	2.9	3.1	2.7	2.7
Taiwan	4.8	3.5	1.5	3.1	2.6	1.6

Source: *The Conference Board Total Economy Database™ (Adjusted version) April 2019.*

Notes: Regional GDP growth rates are aggregated using shares in nominal PPP converted GDP; Growth rates for 2000-2007 and 2010-2017 are the averages of yearly growth rates.

TABLE 8: Labor Productivity and Per Capita Income Levels and the Effects of Working Hours and Labor Utilization, Mature Economies, 2018

Traces the differences between GDP per hour and GDP per capita resulting from the effects of working hours and labor utilization

		GDP per hour worked		Working hours		GDP per Person Employed		Employment to Population Ratio		GDP per capita	
		US dollars	% of US	Value	Effect	US dollars	% of US	Value	Effect	US dollars	% of US
		1	2	3	4	5	6=2+4	7	8	9	10=6+8
1	Norway	97.5	134%	1,416	-28%	138,044	106%	53.2	12%	73,465	118%
2	Luxembourg	93.6	128%	1,506	-20%	140,911	108%	73.4	59%	103,457	167%
3	Ireland	83.9	115%	1,782	0%	149,570	115%	45.6	-5%	68,237	110%
4	Belgium	73.2	100%	1,554	-13%	113,752	87%	41.8	-11%	47,510	76%
5	United States	72.9	100%	1,784	0%	130,140	100%	47.7	0%	62,117	100%
6	Denmark	72.1	99%	1,392	-22%	100,410	77%	51.2	6%	51,362	83%
7	Netherlands	71.8	98%	1,433	-19%	102,820	79%	54.1	11%	55,638	90%
8	Germany	70.2	96%	1,363	-22%	95,679	74%	53.2	8%	50,901	82%
9	France	68.4	94%	1,520	-14%	103,932	80%	41.9	-10%	43,560	70%
10	Switzerland	67.3	92%	1,590	-10%	107,051	82%	58.3	19%	62,458	101%
11	Singapore	65.9	90%	2,299	26%	151,608	116%	61.5	34%	93,256	150%
12	Sweden	65.1	89%	1,613	-8%	104,972	81%	50.2	4%	52,711	85%
13	Iceland	64.5	88%	1,469	-15%	94,760	73%	58.5	16%	55,398	89%
14	Austria	63.1	87%	1,616	-9%	101,984	78%	50.3	5%	51,273	83%
15	Australia	60.0	82%	1,725	-3%	103,446	79%	50.7	5%	52,424	84%
16	Finland	59.8	82%	1,630	-7%	97,383	75%	47.3	-1%	46,037	74%
17	Hong Kong	56.4	77%	2,176	17%	122,672	94%	52.7	10%	64,628	104%
18	Canada	55.9	77%	1,702	-4%	95,146	73%	51.3	6%	48,788	79%
19	United Kingdom	55.6	76%	1,663	-5%	92,544	71%	48.6	1%	44,931	72%
20	Spain	54.4	75%	1,701	-4%	92,497	71%	42.2	-8%	39,045	63%
21	Italy	54.3	74%	1,723	-2%	93,514	72%	41.8	-9%	39,127	63%
22	Taiwan	51.0	70%	2,121	13%	108,164	83%	49.0	2%	52,994	85%
23	Malta	47.6	65%	1,890	4%	89,995	69%	49.3	2%	44,352	71%
24	Japan	46.9	64%	1,737	-1%	81,519	63%	54.7	9%	44,615	72%
25	Slovenia	46.0	63%	1,603	-6%	73,804	57%	49.3	2%	36,395	59%
26	Slovak Republic	46.0	63%	1,698	-3%	78,077	60%	44.7	-4%	34,924	56%
27	Cyprus	45.8	63%	1,786	0%	81,738	63%	41.1	-9%	33,601	54%
28	New Zealand	42.7	59%	1,754	-1%	74,925	58%	53.9	7%	40,359	65%
29	Israel	41.4	57%	1,915	4%	79,357	61%	49.6	2%	39,392	63%
30	Czech Republic	40.2	55%	1,792	0%	72,037	55%	51.2	4%	36,915	59%
31	South Korea	39.2	54%	2,009	6%	78,711	60%	51.9	6%	40,864	66%
32	Hungary	38.8	53%	1,714	-2%	66,519	51%	47.4	0%	31,533	51%
33	Lithuania	37.8	52%	1,853	2%	70,058	54%	49.0	1%	34,324	55%
34	Estonia	37.8	52%	1,810	1%	68,404	53%	50.4	3%	34,485	56%
35	Poland	36.6	50%	2,002	6%	73,227	56%	42.7	-6%	31,241	50%
36	Greece	35.8	49%	2,044	7%	73,158	56%	39.7	-9%	29,030	47%
37	Portugal	35.3	48%	1,875	3%	66,245	51%	48.2	0%	31,900	51%
38	Latvia	33.6	46%	1,892	3%	63,496	49%	46.7	-1%	29,633	48%
39	Romania	32.5	45%	1,812	0%	58,848	45%	40.4	-7%	23,774	38%
40	Bulgaria	27.7	38%	1,645	-3%	45,497	35%	49.9	2%	22,703	37%

Source: The Conference Board Total Economy Database™ (Adjusted version) April 2019.**Notes:** The employment to population ratio reflects the ratio of total domestic employment to total domestic population; Gross Domestic Product levels are expressed in 2018 US\$, converted using Purchasing Power Parities.

TABLE 9: Growth and level of GDP per Person Employed by Geography, 2000-2019

Annual average growth, 2000-2007, 2010-2017, 2017, 2018, 2019 and level as a % of US in 2019

	Annual Average Growth					GDP per Person Employed, % of US, 2019
	2000-2007	2010-2017	2017	2018	2019 (Forecast)	
World Total	2.9	2.3	2.0	1.9	2.0	31%
United States	2.2	1.2	0.8	1.7	1.3	100%
Europe	1.5	1.0	1.0	0.7	1.0	70%
Austria	1.5	0.4	0.8	1.0	0.3	78%
Belgium	1.3	0.6	0.3	0.2	0.6	87%
Bulgaria	4.4	2.9	2.0	3.2	3.3	36%
Croatia	3.1	1.5	0.7	0.3	0.7	48%
Cyprus	1.5	0.4	0.2	-0.2	0.4	62%
Czech Republic	4.0	1.6	2.8	1.3	2.5	56%
Denmark	1.1	1.3	0.6	-0.4	0.7	77%
Estonia	6.6	2.3	2.1	2.6	2.4	53%
Finland	2.1	0.8	1.5	-0.3	0.7	74%
France	1.2	0.8	1.1	0.5	1.1	80%
Germany	1.2	1.1	0.7	0.1	0.8	73%
Greece	2.6	-1.1	0.0	0.2	0.1	56%
Hungary	3.7	0.5	2.1	2.7	3.3	52%
Iceland	3.2	0.4	0.0	1.2	3.0	74%
Ireland	2.2	3.4	4.2	3.0	1.7	115%
Italy	0.1	0.1	0.4	0.0	0.0	71%
Latvia	7.1	2.8	4.7	3.1	2.8	50%
Lithuania	7.7	3.0	4.7	2.4	3.3	55%
Luxembourg	0.9	0.3	-1.8	-1.1	0.1	107%
Malta	2.1	1.3	-1.1	0.9	0.7	69%
Netherlands	1.2	0.9	0.7	0.1	0.6	78%
Norway	1.2	0.7	0.9	-0.1	1.4	106%
Poland	3.9	2.9	3.4	4.8	3.3	57%
Portugal	1.2	0.6	-0.5	-0.2	0.2	50%
Romania	7.7	3.6	4.3	3.9	4.1	47%
Slovak Republic	5.0	2.1	1.0	2.1	3.1	61%
Slovenia	3.3	1.3	1.9	1.5	0.6	56%
Spain	0.1	1.0	0.4	0.4	0.6	71%
Sweden	2.3	1.2	-0.2	0.5	1.0	80%
Switzerland	1.3	0.4	0.7	1.6	0.1	81%
United Kingdom	1.8	0.8	0.8	0.2	0.2	70%
Japan	2.1	1.4	1.1	-1.0	1.1	63%
Other Mature Economies	2.3	1.5	1.5	1.4	1.2	73%
Australia	1.0	1.0	0.0	0.1	-0.1	78%
Canada	1.0	0.9	1.0	0.5	0.5	73%
Hong Kong	3.8	2.2	3.0	1.5	1.6	95%
Israel	1.4	1.0	1.0	1.5	1.2	61%
New Zealand	1.1	0.6	-2.2	0.5	0.9	57%
Singapore	3.1	2.7	4.1	2.5	1.0	116%
South Korea	3.5	1.8	1.8	2.3	2.4	61%
Taiwan	3.6	2.2	2.3	1.9	1.8	84%
China (Alternative)	8.9	6.1	4.2	4.1	4.1	22%
China (Official)	10.2	8.1	7.2	7.1	6.9	27%
India	5.3	5.8	5.0	5.9	5.2	15%

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TABLE 9: Growth and level of GDP per Person Employed by Geography, 2000-2019 (continued)

Annual average growth, 2000-2007, 2010-2017, 2017, 2018, 2019 and level as a % of US in 2019

	Annual Average Growth					GDP per Person Employed, % of US, 2019
	2000-2007	2010-2017	2017	2018	2019 (Forecast)	
Other Developing Asian Economies	3.4	3.7	3.8	3.3	3.5	18%
Bangladesh	4.1	4.7	1.6	5.7	5.4	9%
Cambodia	5.5	4.8	5.2	5.4	5.1	6%
Indonesia	3.5	3.7	2.4	3.1	3.6	22%
Malaysia	3.0	2.0	3.9	2.2	3.0	52%
Myanmar	10.4	5.4	8.2	0.8	5.7	12%
Pakistan	2.5	2.4	2.8	1.5	0.5	14%
Philippines	2.6	4.5	8.4	4.1	3.9	18%
Sri Lanka	3.3	4.8	0.0	2.9	4.1	28%
Thailand	3.1	3.8	4.7	3.0	3.2	27%
Vietnam	4.5	5.0	6.1	6.4	5.9	10%
Latin America	1.0	0.6	-0.1	-0.7	0.2	27%
Argentina	1.0	0.8	1.4	-2.2	-1.2	34%
Barbados	1.4	-0.5	-0.2	-0.5	0.6	30%
Bolivia	0.4	3.2	6.4	2.2	1.9	13%
Brazil	0.9	0.9	1.1	-0.3	0.3	25%
Chile	2.5	0.4	-0.7	2.6	2.8	44%
Colombia	2.3	1.4	0.3	2.3	1.4	25%
Costa Rica	1.2	2.9	0.4	-0.8	0.2	32%
Dominican Republic	2.2	2.7	1.7	3.6	3.4	31%
Ecuador	1.3	0.3	-1.4	0.9	-2.1	19%
Guatemala	0.7	0.2	-0.6	0.2	0.6	16%
Jamaica	-0.2	-1.1	-2.4	-1.7	1.2	15%
Mexico	0.5	0.6	0.6	-0.6	-0.2	36%
Peru	2.3	3.4	-1.2	1.4	2.1	21%
St. Lucia	-1.4	0.6	2.3	-0.3	2.0	25%
Trinidad & Tobago	5.7	-0.5	-1.9	0.5	0.2	52%
Uruguay	0.0	3.3	2.8	1.4	1.2	38%
Venezuela	1.0	-5.7	-16.2	-18.4	-5.7	16%
Middle East & North Africa	0.6	-0.1	-0.5	-0.1	0.3	48%
Algeria	-0.1	1.5	2.2	1.0	2.3	46%
Bahrain	-3.3	0.6	3.8	1.7	-2.1	71%
Egypt	1.3	1.1	2.1	4.6	3.3	37%
Iran	1.6	0.8	5.5	-1.6	-3.6	50%
Iraq	3.6	2.5	-5.6	-2.5	-0.4	55%
Jordan	2.8	-1.0	-1.4	-0.2	0.3	33%
Kuwait	3.4	-3.8	-5.2	0.8	2.2	98%
Morocco	0.8	2.9	4.2	1.6	2.3	20%
Oman	-1.6	-5.3	-6.7	-3.0	0.3	57%
Qatar	-1.5	-1.3	1.0	0.9	0.8	129%
Saudi Arabia	-0.4	-1.7	-6.2	-1.6	0.0	105%
Sudan	5.1	-1.3	-2.1	-4.6	-3.7	16%
Syria	2.4	-7.4	1.3	1.5	0.4	13%
Tunisia	2.6	1.1	1.2	1.9	2.4	32%
United Arab Emirates	-4.8	1.1	0.6	0.7	2.4	84%
Yemen	1.9	-7.2	-9.9	-5.7	-0.9	9%

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TABLE 9: Growth and level of GDP per Person Employed by Geography, 2000-2019 (continued)

Annual average growth, 2000-2007, 2010-2017, 2017, 2018, 2019 and level as a % of US in 2019

	Annual Average Growth					GDP per Person Employed, % of US, 2019
	2000-2007	2010-2017	2017	2018	2019 (Forecast)	
Sub-Saharan Africa	3.0	2.0	0.7	1.5	0.6	8%
Angola	4.6	-1.1	-3.7	-5.0	-3.1	12%
Burkina Faso	4.6	0.4	2.5	2.9	2.8	3%
Cameroon	-2.3	0.6	0.4	1.2	1.4	5%
Côte d'Ivoire	-0.9	3.6	4.7	4.6	4.6	10%
DR Congo	0.1	3.8	-0.1	0.9	1.3	2%
Ethiopia	2.8	4.8	5.9	4.2	3.4	3%
Ghana	2.2	1.8	5.3	3.2	4.8	10%
Kenya	0.8	1.9	1.2	2.7	2.6	7%
Madagascar	-0.5	-0.5	1.0	1.8	1.8	2%
Malawi	1.5	-2.0	0.3	-0.4	0.3	2%
Mali	3.1	1.3	1.7	1.6	1.7	5%
Mozambique	5.7	3.7	0.3	0.1	0.8	3%
Niger	0.8	2.2	1.0	1.1	2.4	2%
Nigeria	5.9	3.3	0.2	2.7	-0.1	13%
Senegal	1.3	1.5	3.7	2.9	3.7	11%
South Africa	2.9	0.3	-1.0	-0.6	-1.1	36%
Tanzania	2.9	2.9	3.1	3.1	3.2	5%
Uganda	2.5	2.0	1.0	2.2	2.3	5%
Zambia	3.7	1.5	-0.4	-0.1	-0.5	11%
Zimbabwe	-8.5	4.9	1.6	0.5	-7.9	4%
Russia, Central Asia and SE Europe	6.0	2.1	2.7	1.8	1.9	39%
Albania	5.7	0.1	-1.2	0.3	3.8	26%
Armenia	14.2	5.9	6.8	4.6	4.3	23%
Azerbaijan	14.6	0.0	-1.2	1.0	1.7	28%
Belarus	7.5	2.5	3.8	3.4	3.6	34%
Bosnia & Herzegovina	4.6	2.4	1.1	0.5	3.9	44%
Georgia	7.7	4.1	5.6	5.2	5.4	19%
Kazakhstan	7.1	3.4	3.7	2.5	3.9	45%
Kyrgyz Republic	1.9	3.1	3.3	2.8	3.4	8%
Macedonia	2.2	0.8	-2.1	0.2	2.8	30%
Moldova	8.1	4.1	5.7	0.3	5.4	16%
Russian Federation	5.9	1.4	2.0	1.9	2.9	45%
Serbia & Montenegro	8.0	0.3	-0.4	2.5	2.4	34%
Tajikistan	5.9	5.6	4.6	5.0	4.7	10%
Turkey	4.8	2.7	3.7	0.7	-1.8	59%
Turkmenistan	11.9	7.2	4.8	4.6	4.2	30%
Ukraine	6.9	2.5	3.4	2.2	4.3	19%
Uzbekistan	3.5	6.0	7.1	3.8	3.9	14%

Source: The Conference Board Total Economy Database™ (Adjusted version) April 2019.

Notes: Gross Domestic Product levels are expressed in 2018 US\$, converted by Purchasing Power Parities; Regional labor productivity growth rates are aggregated using shares in nominal PPP converted GDP; World labor productivity growth is based on estimates for all 123 countries (including China (Alternative)) available from this list; Growth rates for 2000-2007 and 2010-2017 are the averages of yearly growth rates.

TABEL 10: Contributions of Sources of Growth to Aggregate GDP Growth, Major Regions, 2000-2018

	World					Mature					Emerging				
	00-07	10-17	2016	2017	2018	00-07	10-17	2016	2017	2018	00-07	10-17	2016	2017	2018
GDP Growth	4.3	3.5	2.8	3.2	3.1	2.9	2.1	1.8	2.5	2.4	6.1	4.7	3.5	3.8	3.7
Labor	0.6	0.5	0.7	0.6	0.7	0.4	0.5	0.7	0.7	0.9	0.9	0.6	0.7	0.5	0.5
Labor Quality	0.3	0.3	0.3	0.2	0.3	0.3	0.2	0.2	0.1	0.4	0.4	0.3	0.4	0.3	0.3
Non-IT Capital	1.9	2.1	1.9	1.8	1.8	1.1	0.7	0.7	0.8	0.8	2.8	3.4	2.9	2.6	2.6
IT Capital	0.5	0.4	0.4	0.4	0.4	0.6	0.4	0.3	0.4	0.4	0.5	0.5	0.4	0.5	0.5
TFP Growth	1.0	0.1	-0.5	0.2	-0.1	0.5	0.2	-0.1	0.6	-0.2	1.6	0.0	-0.8	-0.1	-0.1
	United States					Japan					Euro Area				
	00-07	10-17	2016	2017	2018	00-07	10-17	2016	2017	2018	00-07	10-17	2016	2017	2018
GDP Growth	3.0	2.3	1.7	2.3	3.0	2.1	1.7	0.8	2.1	1.0	2.3	1.2	1.9	2.4	1.8
Labor	0.3	0.9	0.8	0.9	1.3	-0.1	0.1	0.2	0.4	0.9	0.5	0.1	0.8	0.7	0.9
Labor Quality	0.3	0.2	0.2	-0.1	0.7	0.4	0.3	0.2	0.2	0.6	0.2	0.2	0.1	0.1	0.1
Non-IT Capital	1.0	0.7	0.7	0.7	0.8	0.9	0.4	0.5	0.5	0.6	1.0	0.5	0.6	0.6	0.6
IT Capital	0.7	0.5	0.4	0.5	0.6	0.6	0.3	0.2	0.3	0.3	0.4	0.3	0.3	0.3	0.3
TFP Growth	0.8	0.1	-0.4	0.4	-0.3	0.3	0.6	-0.3	0.7	-1.4	0.1	0.1	0.1	0.6	-0.1
	China					India					Brazil				
	00-07	10-17	2016	2017	2018	00-07	10-17	2016	2017	2018	00-07	10-17	2016	2017	2018
GDP Growth	9.2	6.3	3.8	4.2	4.0	6.9	7.2	8.4	6.6	7.1	3.5	1.3	-3.4	1.1	1.1
Labor	0.3	0.1	0.1	0.1	0.0	1.1	0.9	0.8	1.0	0.8	1.2	0.2	0.6	0.0	0.8
Labor Quality	0.3	0.2	0.2	0.2	0.2	0.7	0.5	0.5	0.5	0.2	0.9	0.7	0.9	0.2	0.2
Non-IT Capital	6.3	6.0	5.1	4.4	4.1	2.8	3.2	3.0	2.8	2.9	0.9	1.2	0.2	0.1	0.2
IT Capital	0.4	0.3	0.3	0.3	0.2	0.6	0.7	0.6	0.9	0.8	0.4	0.3	0.1	0.3	0.3
TFP Growth	1.9	-0.4	-1.9	-0.7	-0.6	1.7	1.9	3.5	1.6	2.4	0.1	-1.0	-5.1	0.5	-0.4

Source: The Conference Board Total Economy Database™ (Adjusted version), April 2019.

Notes: All growth rates are calculated as log differences. Growth rates for 2000-2007 and 2010-2017 are the averages of yearly growth rates; Regional aggregates are weighted using shares in nominal PPP converted GDP; Growth rates for China, as well as the regional aggregates which include China, are based on TCB alternative estimates of Chinese GDP growth. For more information, please refer to the notes in the introduction to these summary tables.

TABLE 11: Total Factor Productivity Growth by Major Region, 2000-2018

	2000-2007	2010-2017	2016	2017	2018
United States	0.8	0.1	-0.4	0.4	-0.3
Europe	0.4	0.2	0.2	0.7	0.2
<i>Euro Area</i>	<i>0.1</i>	<i>0.1</i>	<i>0.1</i>	<i>0.6</i>	<i>-0.1</i>
<i>United Kingdom</i>	<i>0.5</i>	<i>-0.1</i>	<i>0.0</i>	<i>0.2</i>	<i>-0.1</i>
Japan	0.3	0.6	-0.3	0.7	-1.4
Other Mature Economies	0.5	0.3	0.1	0.7	0.1
All Mature Economies	0.5	0.2	-0.1	0.6	-0.2
China	1.9	-0.4	-1.9	-0.7	-0.6
India	1.7	1.9	3.5	1.6	2.4
Other Developing Asian Economies	1.3	0.3	-0.9	0.3	0.4
Latin America	0.2	-0.7	-3.0	-0.8	-1.5
<i>Brazil</i>	<i>0.1</i>	<i>-1.0</i>	<i>-5.1</i>	<i>0.5</i>	<i>-0.4</i>
<i>Mexico</i>	<i>-0.1</i>	<i>0.5</i>	<i>0.7</i>	<i>0.0</i>	<i>-1.0</i>
Middle East & North Africa	-0.3	-1.7	0.4	-1.8	-1.8
Sub-Saharan Africa	1.7	0.3	-3.6	-0.7	-0.2
Russia, Central Asia and SE Europe	5.0	1.0	-0.3	1.6	0.8
<i>Russian Federation</i>	<i>5.8</i>	<i>1.0</i>	<i>0.2</i>	<i>1.4</i>	<i>1.6</i>
<i>Turkey</i>	<i>0.8</i>	<i>0.5</i>	<i>-2.4</i>	<i>1.5</i>	<i>-1.7</i>
All Emerging & Developing Economies	1.6	0.0	-0.8	-0.1	-0.1
World Total	1.0	0.1	-0.5	0.2	-0.1
Addenda:					
EU-15	0.1	0.1	0.1	0.5	-0.2
EU-13	2.2	0.9	1.0	2.6	2.4
EU-28	0.4	0.2	0.2	0.8	0.2
OECD	0.5	0.2	-0.2	0.5	-0.3

Source: *The Conference Board Total Economy Database™ (Adjusted version), April 2019.*

Notes: Please refer to the notes at the beginning of this document for a list of countries included in the regional aggregates; This table is based on estimates for 123 countries (see table 9 for a full list of countries); Total Factor Productivity Growth (TFP) measures the growth of GDP over the combined contributions of total hours, workforce skills, machinery and structures and IT capital; Growth rates are calculated as log differences; Growth rates for 2000-2007 and 2010-2017 are the averages of yearly growth rates; Regional aggregates are weighted using shares in nominal PPP converted GDP.

TABLE 12: Total Factor Productivity Growth by Geography, 2000-2018

	2000- 2007	2010- 2017	2016	2017	2018
World Total	1.0	0.1	-0.5	0.2	-0.1
United States	0.8	0.1	-0.4	0.4	-0.3
Europe	0.4	0.2	0.2	0.7	0.2
Austria	0.6	-0.1	-0.5	0.1	0.6
Belgium	-0.1	-0.4	-0.7	-1.1	-0.7
Bulgaria	-0.6	0.4	2.2	1.6	1.3
Croatia	0.8	-0.1	1.7	0.2	-0.3
Cyprus	0.8	-0.4	0.7	0.0	0.3
Czech Republic	2.7	0.8	0.0	2.2	0.4
Denmark	0.0	0.4	0.3	0.0	-0.5
Estonia	2.7	0.9	1.8	1.1	2.4
Finland	1.4	0.1	1.7	1.0	-0.1
France	0.3	-0.1	-0.6	0.6	-0.4
Germany	0.5	0.7	0.9	0.5	-0.4
Greece	1.0	-1.8	-0.5	0.2	1.2
Hungary	2.6	0.5	0.0	2.3	2.6
Iceland	-0.5	0.6	2.2	-0.5	0.7
Ireland	-0.4	1.4	-4.4	3.5	3.1
Italy	-0.6	0.0	0.0	0.6	-0.3
Latvia	5.7	2.2	1.3	4.3	2.6
Lithuania	4.4	1.8	-0.9	3.9	1.1
Luxembourg	0.7	-0.6	-1.7	-1.4	-1.9
Malta	0.0	1.7	-1.4	2.9	1.7
Netherlands	0.4	0.1	0.1	0.5	0.0
Norway	-0.1	-0.7	-0.6	0.2	-1.0
Poland	1.7	1.0	0.9	2.8	3.6
Portugal	-0.6	-0.7	0.0	0.2	-0.3
Romania	3.4	1.2	2.4	3.5	2.5
Slovak Republic	2.3	0.9	0.6	1.4	1.7
Slovenia	1.6	0.8	2.7	3.4	2.8
Spain	-0.8	-0.2	0.6	0.7	-0.3
Sweden	1.0	0.4	-0.3	-0.2	-0.4
Switzerland	0.3	-0.2	-1.0	-0.6	0.3
United Kingdom	0.5	-0.1	0.0	0.2	-0.1
Japan	0.3	0.6	-0.3	0.7	-1.4
Other Mature Economies	0.5	0.3	0.1	0.7	0.1
Australia	-0.8	-0.3	0.7	-0.7	0.2
Canada	-0.1	0.1	-0.4	1.1	-0.4
Hong Kong	2.0	0.2	0.4	1.1	-0.6
Israel	0.7	0.3	-0.5	-0.1	0.4
New Zealand	0.3	0.0	0.1	-1.5	-0.2
Singapore	1.6	0.5	-0.6	1.0	0.6
South Korea	1.4	0.6	0.7	1.2	0.5
Taiwan	0.8	0.6	-0.1	0.7	0.0
China (Alternative)	1.9	-0.4	-1.9	-0.7	-0.6
China (Official)	4.6	3.6	3.4	3.4	3.3
India	1.7	1.9	3.5	1.6	2.4

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TABLE 12: Total Factor Productivity Growth by Geography, 2000-2018 (continued)

	2000- 2007	2010- 2017	2016	2017	2018
Other Developing Asian Economies	1.3	0.3	-0.9	0.3	0.4
Bangladesh	0.7	0.9	0.3	-0.5	1.2
Cambodia	-0.3	-1.2	-2.6	-1.0	-0.3
Indonesia	1.3	-0.3	-2.6	-0.6	0.7
Malaysia	1.0	0.2	-0.1	1.1	-0.1
Myanmar	3.8	-3.3	-3.3	1.5	-3.3
Pakistan	2.4	1.7	1.5	1.3	0.0
Philippines	1.6	1.6	-0.8	2.2	0.0
Sri Lanka	0.3	-1.4	-1.6	-5.6	-1.3
Thailand	1.9	1.3	0.9	1.9	1.4
Vietnam	-2.1	-0.4	-1.5	-0.8	0.0
Latin America	0.2	-0.7	-3.0	-0.8	-1.5
Argentina	1.3	0.1	-2.9	0.9	-3.8
Barbados	2.4	0.8	1.1	1.1	0.6
Bolivia	-0.9	-0.9	-2.9	-1.3	-1.3
Brazil	0.1	-1.0	-5.1	0.5	-0.4
Chile	-0.3	-1.9	-1.4	-1.9	0.4
Colombia	-0.5	-1.3	-1.6	-2.1	-0.3
Costa Rica	-0.9	1.2	2.8	-0.6	-1.4
Dominican Republic	0.1	1.0	0.3	-0.1	1.8
Ecuador	0.5	-0.4	-3.1	-1.7	-1.4
Guatemala	-0.8	0.1	-0.6	-0.8	-0.2
Jamaica	-0.9	-0.7	-0.4	-1.5	-0.6
Mexico	-0.1	0.5	0.7	0.0	-1.0
Peru	0.5	0.3	1.9	-1.9	0.1
St. Lucia	-1.9	-0.1	0.0	1.7	-1.2
Trinidad & Tobago	4.7	-8.7	-16.8	-9.2	-5.9
Uruguay	-4.3	-0.8	-0.6	0.9	-0.7
Venezuela	1.6	-6.0	-17.7	-15.9	-18.3
Middle East & North Africa	-0.3	-1.7	0.4	-1.8	-1.8
Algeria	-0.4	-1.1	-1.3	-1.4	-1.7
Bahrain	-1.4	-1.4	-2.6	0.1	-2.0
Egypt	-0.6	-0.7	-0.4	-0.7	0.3
Iran	-0.2	-0.5	6.6	4.9	-2.5
Iraq	6.6	2.8	9.7	-4.2	-1.8
Jordan	2.0	-1.5	-0.5	-1.2	-0.8
Kuwait	1.6	-4.8	-3.1	-8.7	-3.1
Morocco	0.2	0.5	-1.6	1.6	0.0
Oman	-1.7	-3.7	-1.7	-6.3	-3.0
Qatar	-1.0	-3.6	-8.1	-5.4	-4.4
Saudi Arabia	-2.7	-3.7	-2.5	-5.6	-1.8
Sudan	1.0	-2.3	-0.2	-2.5	-8.0
Syria	0.7	-9.2	-3.5	1.6	2.1
Tunisia	1.0	-0.5	-0.6	-0.3	0.3
United Arab Emirates	0.3	-0.4	-1.0	-2.5	-1.7
Yemen	0.0	-8.0	-15.6	-7.4	-6.3

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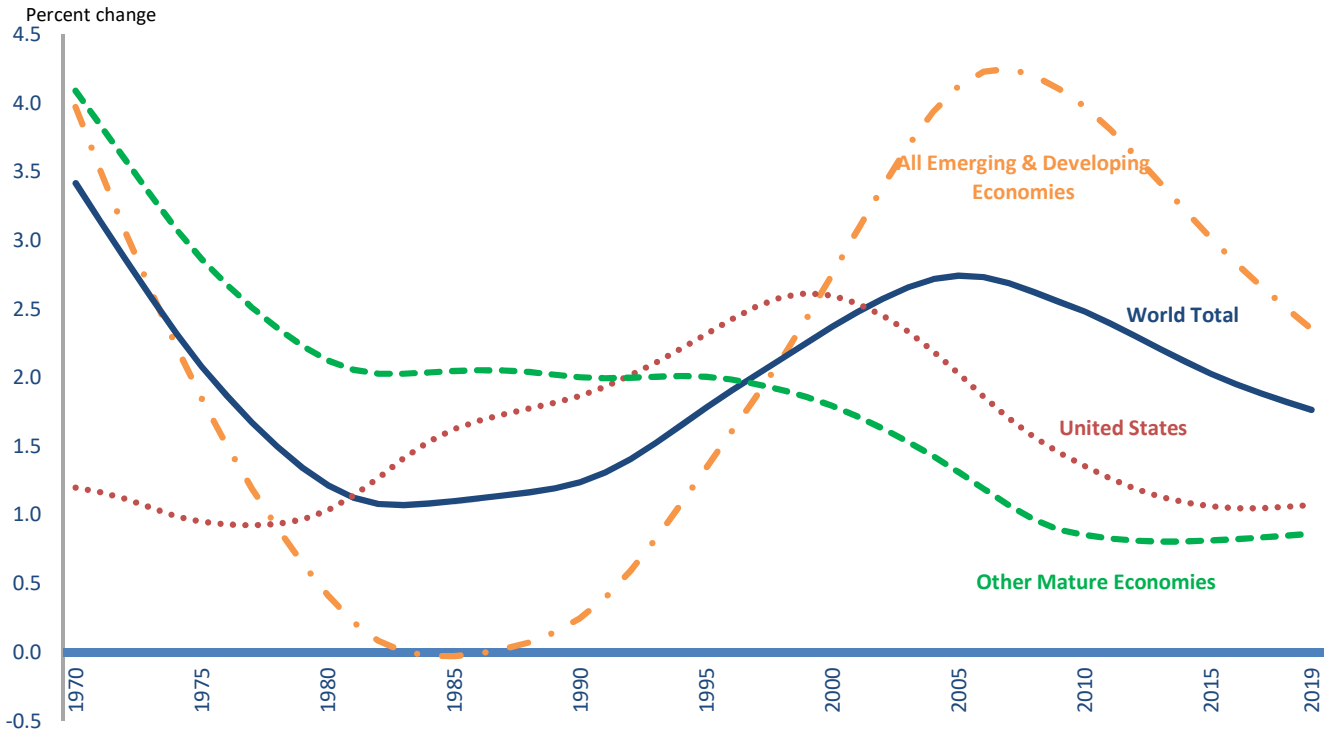
TABLE 12: Total Factor Productivity Growth by Geography, 2000-2018 (continued)

	2000- 2007	2010- 2017	2016	2017	2018
Sub-Saharan Africa	1.7	0.3	-3.6	-0.7	-0.2
Angola	6.6	-0.1	-4.7	-2.6	-4.0
Burkina Faso	2.6	-2.0	-1.7	0.4	1.2
Cameroon	-1.2	-0.4	-0.3	-1.3	-0.9
Côte d'Ivoire	-1.0	2.2	3.4	2.6	1.8
DR Congo	2.2	3.6	-0.2	-0.2	0.4
Ethiopia	1.3	-1.2	-0.2	0.1	-1.2
Ghana	0.0	2.3	0.2	5.0	2.3
Kenya	-0.5	0.4	1.4	0.2	1.1
Madagascar	-0.3	0.2	1.7	1.6	1.6
Malawi	0.0	0.1	-0.8	1.0	0.8
Mali	0.2	-0.8	1.4	-0.6	0.3
Mozambique	3.6	-0.4	-0.3	-1.0	-1.3
Niger	0.6	1.0	0.3	0.1	0.2
Nigeria	3.6	1.1	-4.6	-1.2	0.8
Senegal	-0.4	-0.8	-0.1	0.7	0.7
South Africa	1.6	-0.7	-7.8	-1.5	-1.1
Tanzania	-1.4	-1.9	-1.3	-1.4	-2.2
Uganda	0.0	-1.2	-3.3	-0.5	0.1
Zambia	3.4	0.6	-1.9	-2.3	-2.2
Zimbabwe	-9.2	4.4	-2.4	-0.1	-0.9
Russia, Central Asia and SE Europe	5.0	1.0	-0.3	1.6	0.8
Albania	2.2	-1.5	-2.2	-0.8	0.4
Armenia	12.9	4.2	3.4	5.6	4.1
Azerbaijan	5.3	-7.1	-7.9	-4.4	-2.5
Belarus	7.5	1.4	-1.1	3.1	2.9
Bosnia & Herzegovina	2.6	0.9	3.3	0.7	0.0
Georgia	6.7	3.6	1.8	3.7	3.0
Kazakhstan	7.8	2.6	0.3	2.4	1.9
Kyrgyz Republic	3.2	1.9	2.5	1.8	1.2
Macedonia	2.6	0.4	0.3	-3.0	-0.5
Moldova	9.7	4.6	3.4	5.0	1.8
Russian Federation	5.8	1.0	0.2	1.4	1.6
Serbia & Montenegro	5.7	0.1	0.5	0.2	2.4
Tajikistan	8.4	7.1	6.7	6.2	6.3
Turkey	0.8	0.5	-2.4	1.5	-1.7
Turkmenistan	13.7	7.5	5.1	4.8	4.4
Ukraine	8.5	1.7	3.1	2.0	2.3
Uzbekistan	4.0	5.3	6.0	6.0	2.0

Source: The Conference Board Total Economy Database™ (Adjusted version), April 2019.

Notes: Total Factor Productivity Growth (TFP) measures the growth of GDP over the combined contributions of total hours, workforce skills, machinery and structures and IT capital; Growth rates are calculated as log differences; Growth rates for 2000-2007 and 2010-2017 are the averages of yearly growth rates; Regional aggregates are weighted using shares in nominal PPP converted GDP.

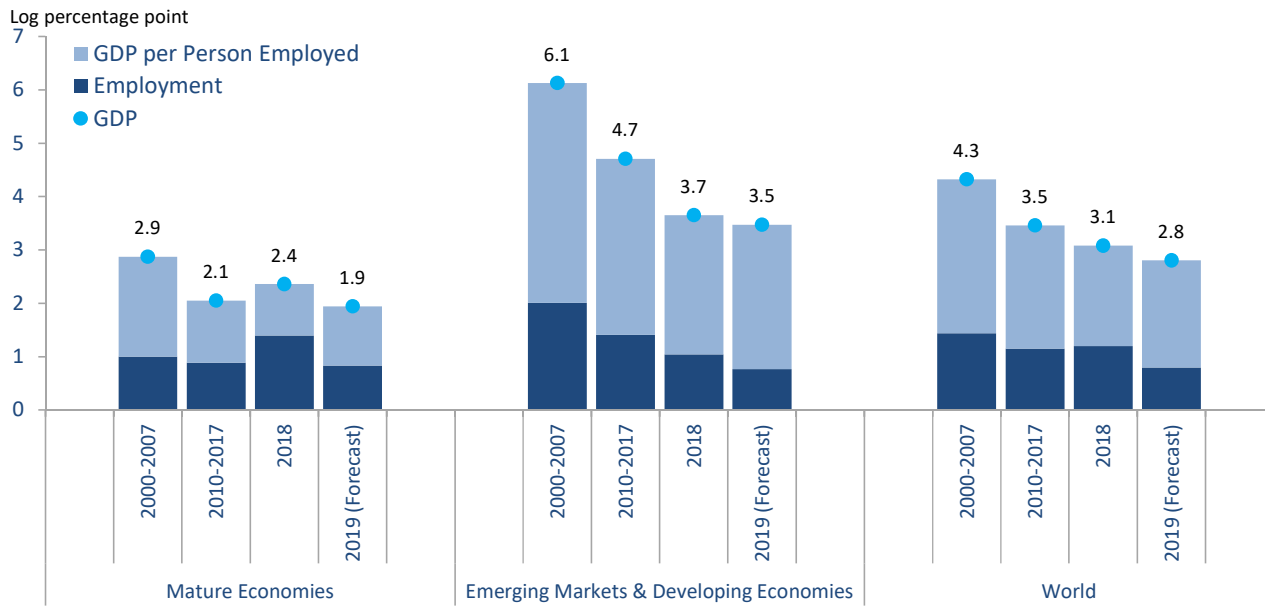
CHART 1: Trend growth of GDP per Person Employed using HP filter, Major Regions, 1970-2019



Source: The Conference Board Total Economy Database™ (Adjusted version) April 2019.

Notes: Trend growth rates are obtained using HP filter, assuming lambda=100; Regional labor productivity growth rates are aggregated using shares in nominal PPP converted GDP.

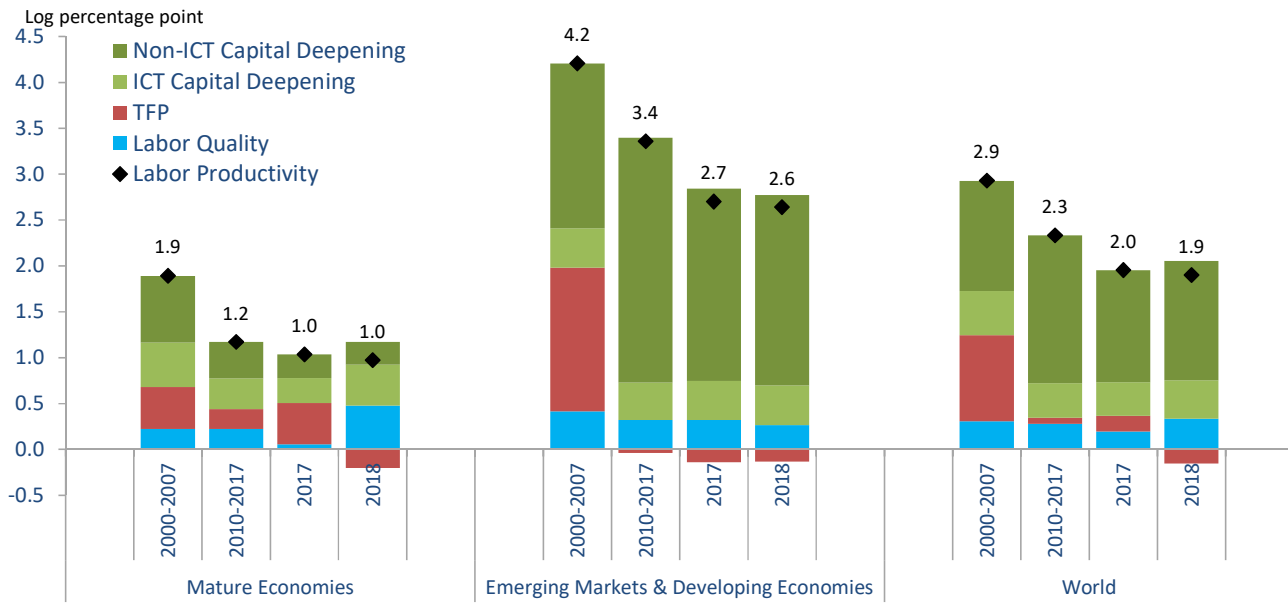
CHART 2: Contribution of Growth of GDP per Person Employed and Employment to GDP growth, Major Regions, 2000-2019



Source: The Conference Board Total Economy Database™ (Adjusted version) April 2019.

Notes: GDP growth (measured in log differences) is the sum of growth in employment and output per worker; Regional GDP and labor productivity growth rates are aggregated using shares in nominal PPP converted GDP, while Employment growth is derived as a residual; Growth rates for 2000-2007 and 2010-2017 are the averages of yearly growth rates.

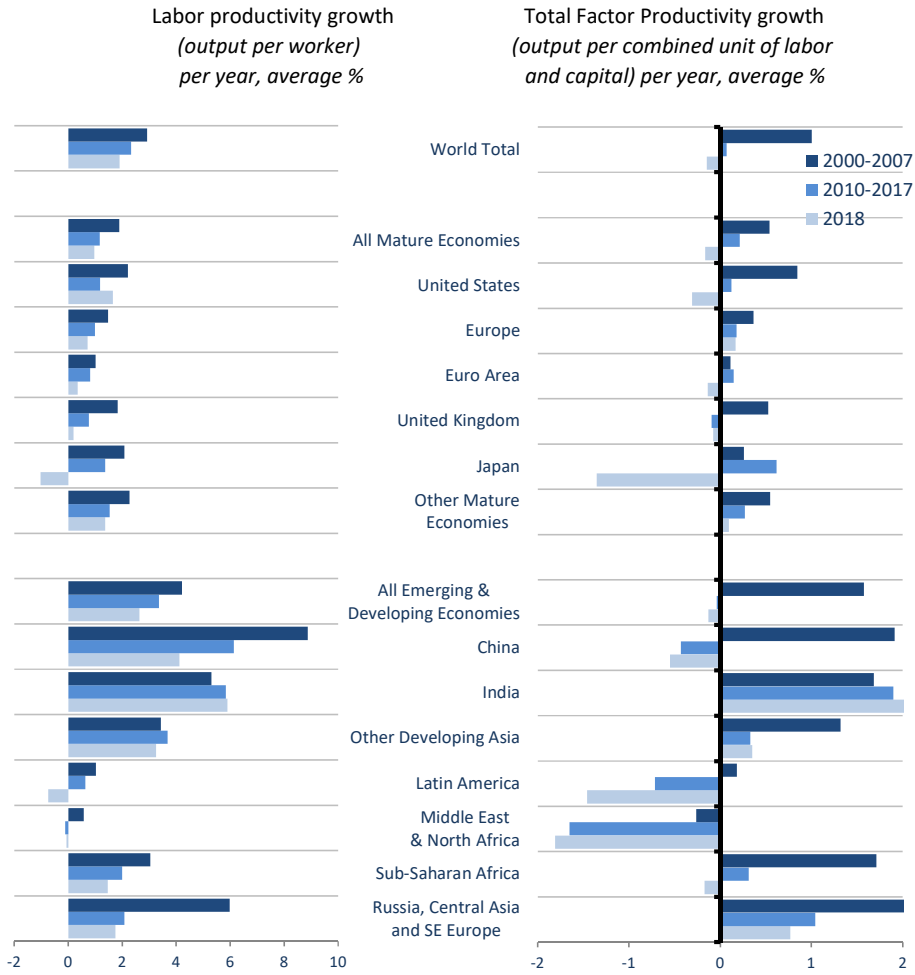
CHART 3: Contribution of Capital Deepening, TFP and Labor Quality to growth in GDP per person employed, Major Regions, 2000-2018



Source: The Conference Board Total Economy Database™ (Adjusted version) April 2019.

Notes: Regional growth rates are aggregated using shares in nominal PPP converted GDP; Growth rates for 2000-2007 and 2010-2017 are the averages of yearly growth rates.

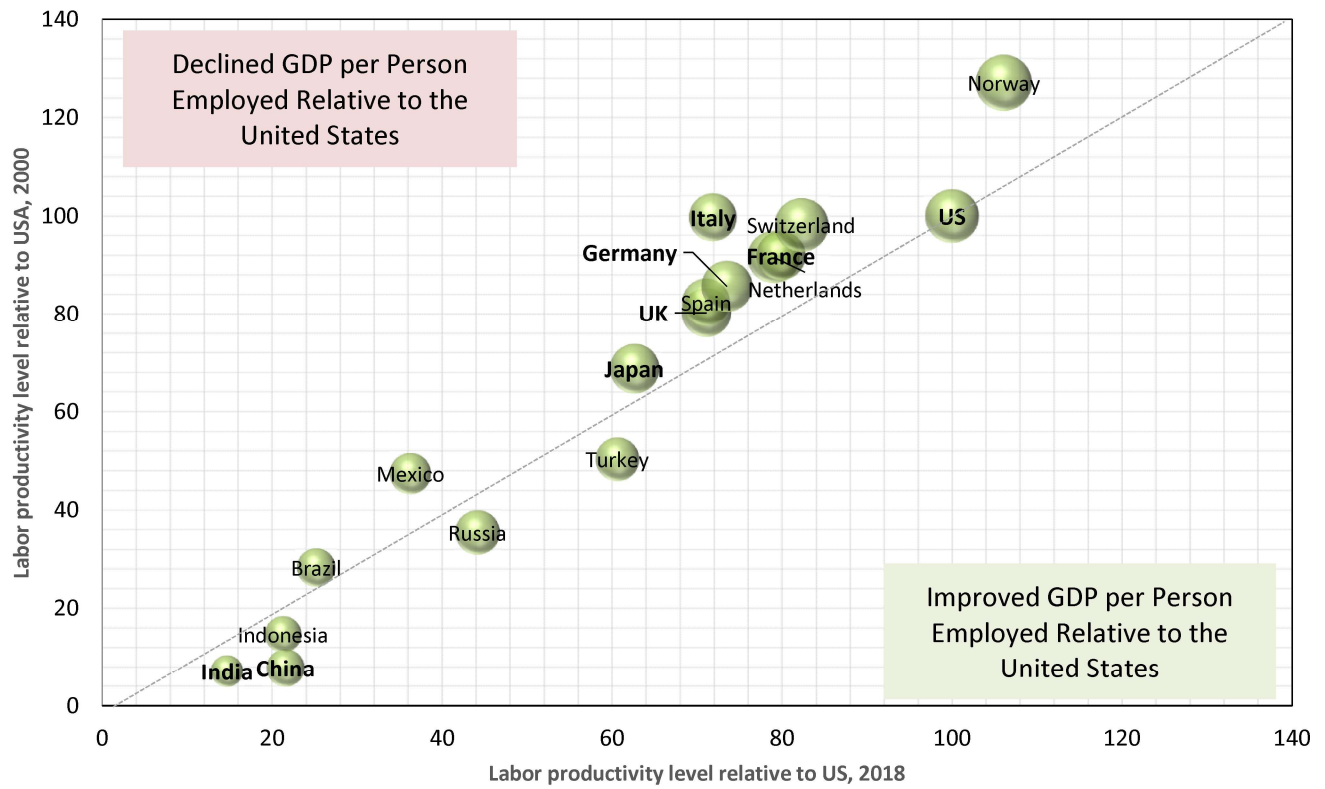
CHART 4: Growth of Labor Productivity and TFP, Major Regions, 2000-2018



Source: The Conference Board Total Economy Database™ (Adjusted version), April 2019.

Note: The average annual TFP growth rate for 'Russia, Central Asia and SE Europe' for the period 2000-2007 is 5.0 percent.

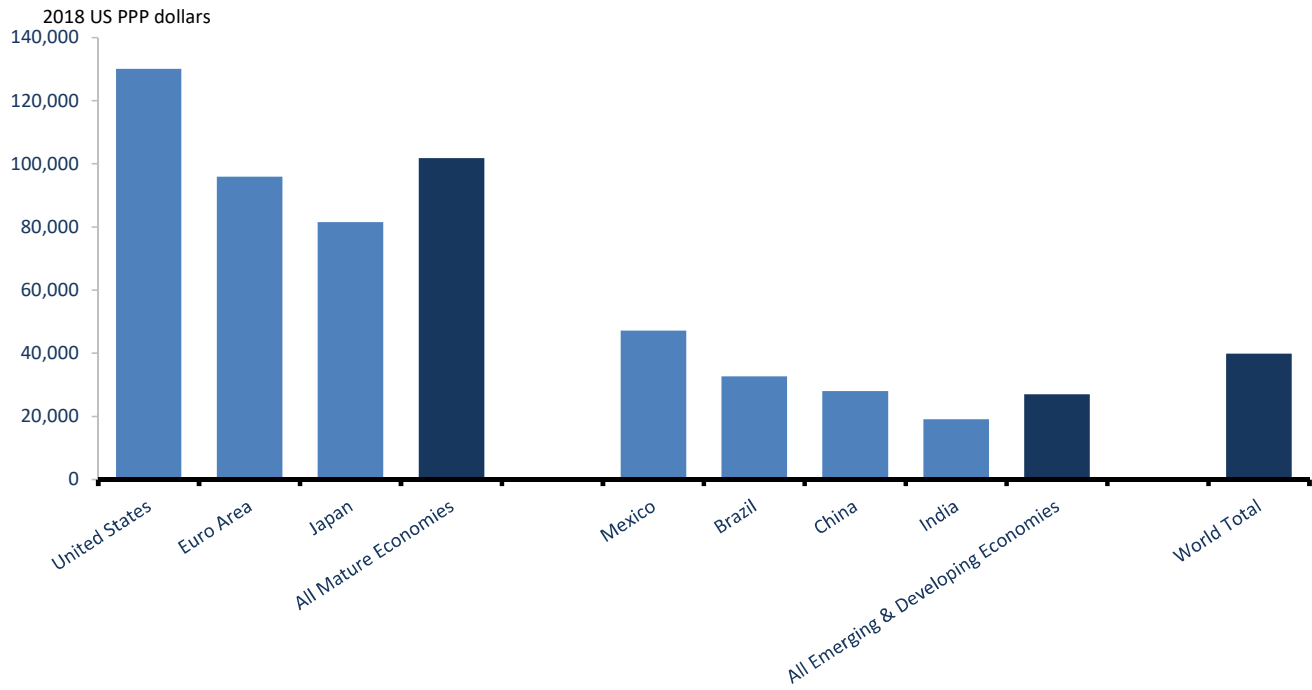
CHART 5: Comparison of Levels of GDP per Person Employed, Selected Countries, 2000 and 2018



Source: The Conference Board Total Economy Database™ (Adjusted version) April 2019.

Notes: The size of the bubble represents per capita income relative to the United States in 2018; The underlying Gross Domestic Product levels are expressed in 2018 US\$, converted using Purchasing Power Parities.

CHART 6: Comparison of Levels of GDP per Person Employed in US\$, Major Regions, 2018



Source: The Conference Board Total Economy Database™ (Adjusted version) April 2019.

Notes: Gross Domestic Product levels are expressed in 2018 US\$, converted using Purchasing Power Parities.