News Release

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Global Productivity Growth Remains Weak, Extending Slowing Trend

Lasting Productivity Improvements Not Yet Visible in Macroeconomic Data

NEW YORK, April 15, 2019…Global productivity growth has remained weak in 2018 and will continue to be slow through 2019, according to the latest release of annual productivity growth rates for 123 countries by The Conference Board, the global business research organization.

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. 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 (**see tables on pages 5-6)**.

"These latest numbers dash our hopes that at least some of the productivity recovery since 2016 could be sustained and further strengthened in 2018 and 2019," said Bart van Ark, Global Chief Economist of The Conference Board. "The long-awaited productivity effects from digital transformation are still too small to see reflected in a lasting improvement at the macroeconomic level. A productivity recovery is much needed to prevent the economy from slipping towards a substantially slower growth than what has been experienced in recent years."

The ***2019 Productivity 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). The latter measure, which 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.

"The widespread weakening in total factor productivity growth over the past decade, which was continued in 2018, is of great concern from a medium-term growth perspective," said Klaas de Vries, Associate Economist at The Conference Board. "It 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. Given their strong human capital base

and well-developed innovation economy system, mature economies including the US, Europe and Japan show some of the best prospects to turn investment into better productivity performance."

Among **mature economies**, the productivity slowdown has bottomed out in recent years, but with no clear signs of a revival. **Emerging markets** still have a substantial productivity growth advantage over mature economies. However, overall productivity growth rates in emerging markets have also slowed since 2010, and this downward trajectory will continue for the time being.

Mature Economies

Among mature economies, the productivity slowdown in the past decade has been dramatic, as labor productivity growth rates halved from an average annual rate of 2.3 percent in the period 2000-2007 to 1.2 percent from 2010-2017. 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.

- The **United States** experienced a stabilization of growth in output per hour at 0.9 percent in 2018 compared to 1 percent in 2017. 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.

- In 2018, **Europe** experienced an exceptionally weak year in terms of productivity growth, 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. Total factor productivity in the Euro Area turned negative in 2018 at -0.1 percent. Among large **Euro Area** economies, Spain and Italy saw a decline in productivity growth in 2018, while it stalled in Germany and modestly increased in France. 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. For France, it was 5 percent below the US level, while Italy and Spain showed productivity gaps about 25 percent relative to the U.S.

- 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. 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). 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. 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).

- A positive exception to the slowing trend in productivity growth among mature economies can be found in Central and Eastern Europe. In particular **Poland, Slovak Republic** and **Hungary** saw improvements in output per hour growth in in 2018, thereby staying on a trajectory of faster than average European productivity growth. 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.

- **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. Total factor productivity declined strongly at -1.4 percent in 2018. 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.

- 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. However, all countries in the Mature Economics group perform below their historical averages, especially with regard to total factor productivity.

Emerging Markets

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. However, emerging markets still have a significant productivity growth advantage over mature economies at 3.4 percent for the largest eight emerging markets in 2018, compared to 1 percent on a person employed basis for the mature economies.

- 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. 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.

- 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. Total factor productivity growth in India is also among the highest for emerging economies by on average 2 percent. 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.

- 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. 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. 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.

- 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.

- 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. 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. **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.

- **Russia**, **Central Asia** and **Southeast European countries** witnessed a stabilization in productivity growth rates on average for the region at around 2 percent in recent years. **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.

For more information on The Conference Board ***Total Economy Database™***, Productivity results (2019 update):
https://www.conference-board.org/data/economydatabase/index.cfm?id=25667

For more information on The Conference Board Global Economic Outlook:
https://www.conference-board.org/data/globaloutlook/

For related information on international comparisons of manufacturing sector productivity:
https://www.conference-board.org/ilcprogram/productivityandulc

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The tables below are taken from the Conference Board Total Economy Database Summary Tables.

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

	2017			2018			2019 (Forecast)		
	GDP	Employ-ment	GDP per Person Employed	GDP	Employ-ment	GDP per Person Employed	GDP	Employ-ment	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
Euro Area	*2.4*	*1.6*	*0.8*	*1.9*	*1.5*	*0.3*	*1.4*	*0.6*	*0.7*
United Kingdom	*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
Brazil	*1.1*	*0.0*	*1.1*	*1.1*	*1.4*	*-0.3*	*2.0*	*1.7*	*0.3*
Mexico	*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
Russian Federation	*1.6*	*-0.3*	*2.0*	*2.3*	*0.4*	*1.9*	*1.4*	*-1.5*	*2.9*
Turkey	*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
Euro Area	*2.4*	*1.4*	*1.0*	*1.9*	*1.7*	*0.2*	*1.4*	*0.8*	*0.6*
United Kingdom	*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 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
Growth of GDP per Hour Worked								
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
Growth of Total Hours Worked								
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
Growth of Real GDP								
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
Growth of GDP per Person Employed										
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
Growth of Persons Employed										
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
Growth of Real GDP										
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.