

Comparative analysis of 2020 economic indicators of G20 countries

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Abstract

The economies of the countries are subjected to comparisons to demonstrate how attractive or unattractive they may be for investment and productive development. The OECD groups the countries with the best performing economies and produces G20 statistics including economic indicators: inflation, producer price indices and price level indexes, to name a few. In this paper, a comparative analysis has been made, based on bar charts and time series, of these 2020 economic indicators of the G20 countries. As results, the highest energy and Total CPI values are recorded in January 2020, and the highest food CPI value in April 2020. ARG is the country with the highest food and Total CPI values. TUR and KOR are the countries with the highest and lowest average PPI values and, finally, AUS and IND have the highest and lowest average PLI values in 2016-2020.

Keywords: G20, OECD, inflation, producer price indexes, price level indexes.

1. Introduction

Jhon Kirton, referenced by Maihold and Villamar [1], argues that the G20 is the culmination of a process of enlargement of the core of global governance by unifying (with the same level of participation and influence) the rising or emerging countries with the consolidated or traditional powers. Therefore, the G20 is considered a space that synthesizes the diversity of economic models, political regimes and social conditions that exist in the different countries [2] in order to discuss and agree on policies and guidelines on globalization.

In this regard, several international organizations participate in the G20 meetings [3]. Such is the case of the OECD as information

support and strategic growth advisor, the ILO as youth employment advisor, the World Bank, to name a few, and the World Bank, to name a few.

The objective of this research is to perform a comparative analysis, based on bar charts and time series, of the 2020 economic indicators published by the OECD [4]: inflation, producer price indexes and price level indexes of the G20 countries in order to contrast their performance.

2. G20 and OECD

The first meeting of finance ministers and central bank governors of the G20 member countries was held in Berlin in 1999 with the aim of improving coordination in growth policies, managing financial crises and reducing abuses

and illicit activities in the financial system. It also sought to increase the level of transparency and information exchange between countries to combat tax evasion, money laundering and the financing of terrorism [5].

In November 2008, as a result of the U.S. mortgage financial crisis (subprime), the leaders of the world's major developed and emerging economies: heads of state and government, meeting in Washington D.C., held an international forum in search of multilateral solutions. These solutions were sought to coordinate fiscal, monetary and economic policies, integrated by the European Union and nineteen (19) countries: ARG, AUS, BRA, CAN, CHN, FRA, DEU, ITA, IND, IDN, JPN, MEX, KOR, RUS, SAU, ZAF, TUR, GBA and USA [3] [5].

These G20 members account for 90% of world GNP [3], 85% of world GDP, 75% of global international trade (including trade within the EU) and two-thirds of the world's population [5], as well as about 60% of agricultural land and about 80% of world trade in agricultural

products [6]. Hence its strategic importance in the growth of the world economy. The International Monetary Fund [7], the World Bank [8], the OECD [9] and the International Labour Organization [10] prepare the G20 statistics [5].

On the other hand, the OECD, born in 1961 in Paris, brings together the countries with the most prosperous economies on the planet in order to promote cohesion and economic development: at least 60% of the market and 70% of the world GDP [3] [9]. The G20 and the OECD have drafted and approved the Principles of Corporate Governance to promote economic efficiency, financial stability and sustainable economic growth [11].

The OECD presents economic indicators on inflation, inflation forecast, producer price indexes, price level indexes, housing prices and share prices of its member countries [4]. Three of them have been considered in this paper (Table 1): inflation [12], producer price indexes [13] and price level indexes [14] of the G20 countries [11].

Table 1. Definitions for inflation [12], producer price indexes [13] and price level indexes [14]

Indicator	Definition	Source
Inflation (CPI)	Inflation measured by consumer price index (CPI) is defined as the change in the prices of a basket of goods and services that are typically purchased by specific groups of households. Inflation is measured in terms of the annual growth rate and in index, 2015 base year with a breakdown for food, energy and total excluding food and energy. Inflation measures the erosion of living standards.	OECD
Producer Price Indexes (PPI)	Producer price indexes in manufacturing measure the rate of change in prices of products sold as they leave the producer. They exclude any taxes, transport and trade margins that the purchaser may have to pay. PPIs provide measures of average movements of prices received by the producers of various commodities. They are often seen as advanced indicators of price changes throughout the economy, including changes in the prices of consumer goods and services.	OECD
Price Level Indexes	Comparative price level indexes are the ratios of purchasing power parities to market exchange rates. At the level of GDP, comparative price levels provide a measure of the differences in the general price levels of countries. This indicator is measured as an index.	OECD

3. Economic indicators of G20 countries

The following is a comparative analysis of the economic indicators: inflation, producer price indexes and price level indexes of the G20 countries [4] [12] [13] [14].

3.1 Inflation (CPI)

Fig. 1 shows the CPI results of the G20 countries: CAN, KOR, MEX and USA since November 2019 [12]. There is no data available for AUS [12]. As of March 2020, energy CPI values are negative, while food CPI values are positive and higher than Total CPI values. The highest energy CPI and total CPI values were obtained in January 2020, with the exception of

KOR in energy CPI (obtained in February 2020) and MEX in Total CPI (obtained in October 2020).

Fig. 2 shows the CPI results of the G20 countries: FRA, DEU, GBR and EU27 since November 2019 [12], with lower values than the countries analyzed above. From 2020 onwards, energy CPI values are also negative, while food CPI and Total CPI values are positive, the former also higher than the latter. The maximum energy CPI value is recorded in January 2020 and the minimum in May 2020. The maximum value of food CPI occurs in April 2020 (with the exception of GBR which records it in May 2020) and the minimum stands out in December 2020 (with the exception of FRA which records it in

August 2020). Regarding Total CPI, in January 2020 the maximum value is recorded in the four G20 countries considered.

Fig. 3 shows the CPI results of the G20 countries: JPN, ITA and ZAF, as of November 2019 [12]. From 2020 onwards, energy CPI values are also negative, while food CPI and Total CPI values were positive, close to zero, the former also higher than the latter. The maximum energy CPI value is also recorded in January 2020, and the minimum in May 2020 (with the exception of JPN, which achieves it in December 2020). Regarding Total CPI, in January 2020, the maximum value is recorded for JPN and ITA, and in February 2020, for ZAF.

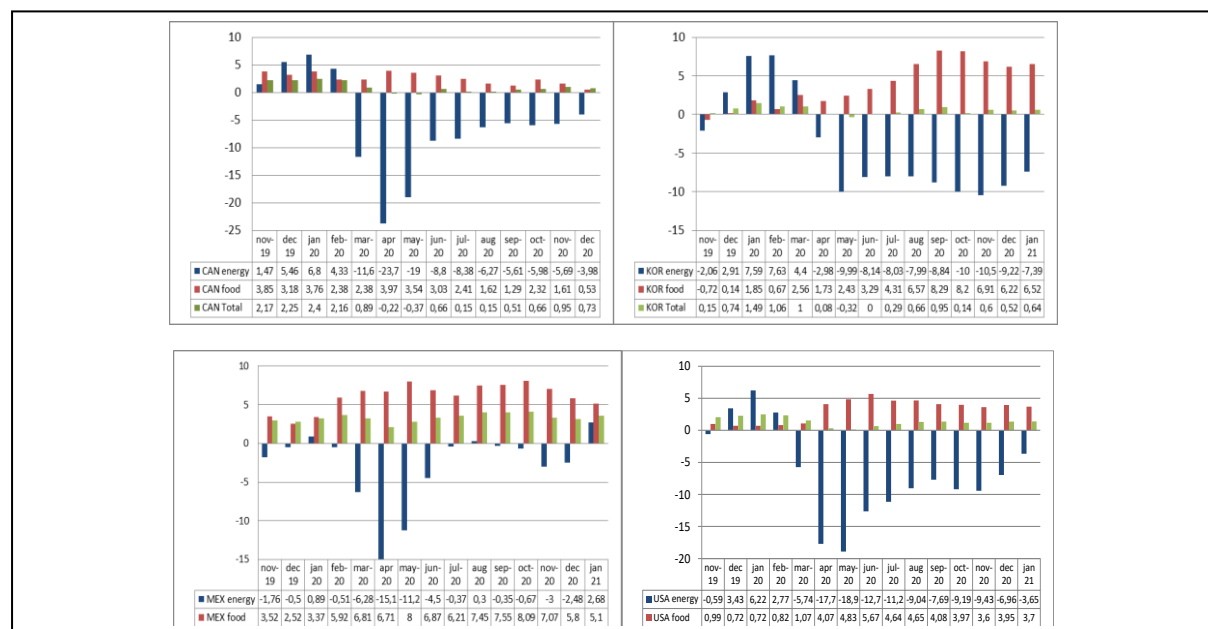


Fig 1. Energy, food and Total CPI of G20 countries: CAN, KOR, MEX and USA [12].

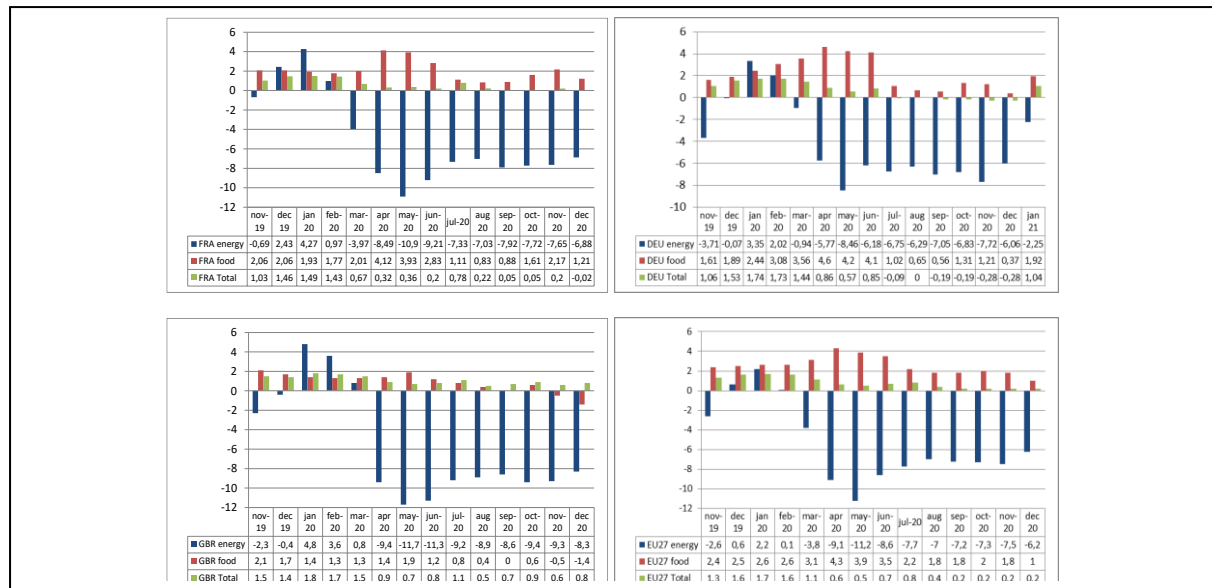


Fig 2. Energy, food and Total CPI of G20 countries: FRA, DEU, GBR and EU27 [12].

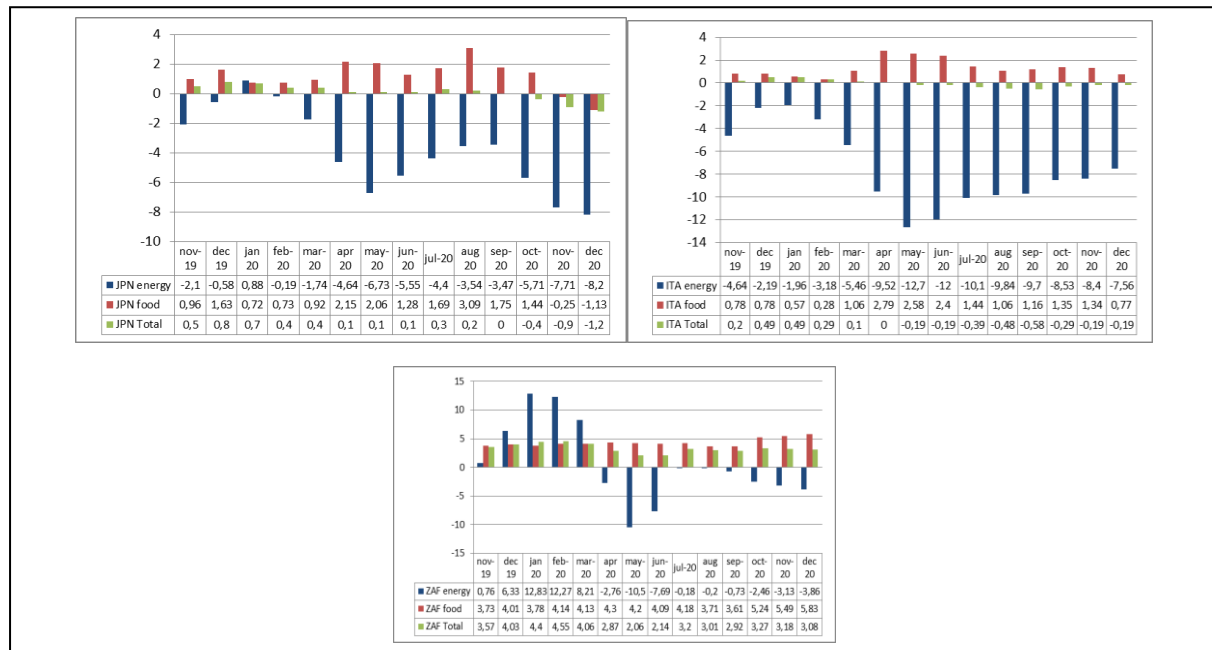


Fig 3. Energy, food and Total CPI of G20 countries: JPN, ITA and ZAF [12].

Fig. 4 shows the results of the Total CPI of the G20 countries: BRA, IND and IDN since November 2019 [12]. They obtain positive values. No data are available for energy and food CPI. The highest Total CPI value is recorded, in that order, in December 2020, January 2020 and February 2020. And the lower Total CPI value is recorded in May 2020, December 2020 and August 2020, respectively.

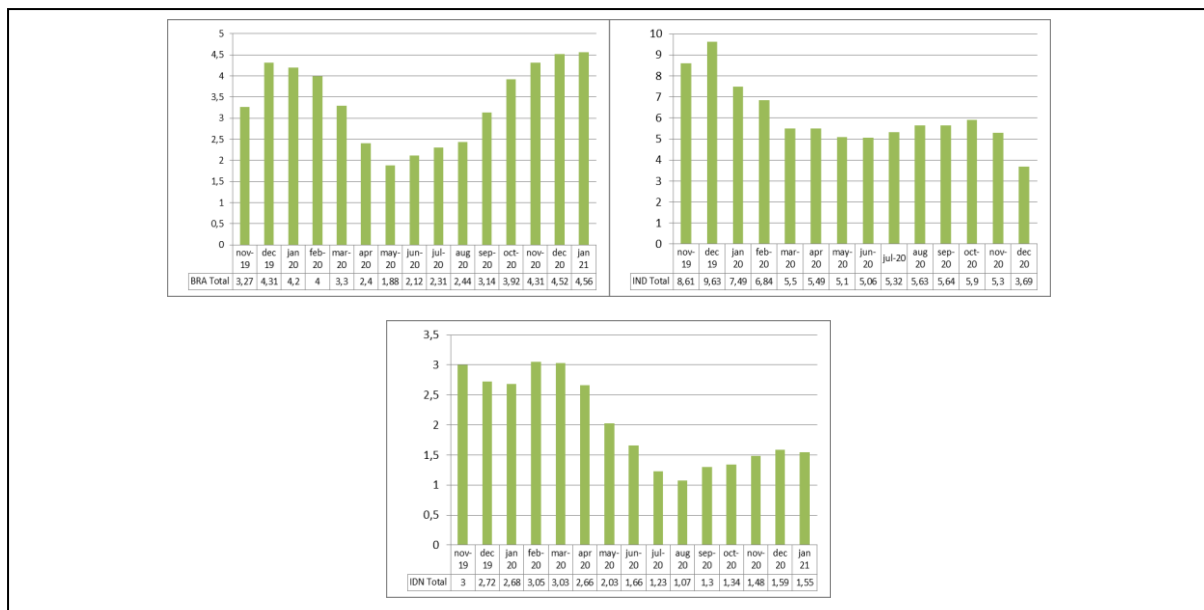


Fig 4. Total CPI de los países del G20: BRA, IND and IDN [3].

Fig. 5 shows the CPI results of the G20 countries: RUS, TUR, ARG, SAU and CHN since November 2019 [3]. RUS and TUR are the only ones that present positive values for energy CPI, food CPI and Total CPI. While ARG, SAU

and CHN obtain positive values in food CPI and Total CPI, they do not present data for energy CPI. RUS is the country with the highest energy CPI values. ARG is the country with the highest food CPI and Total CPI values.

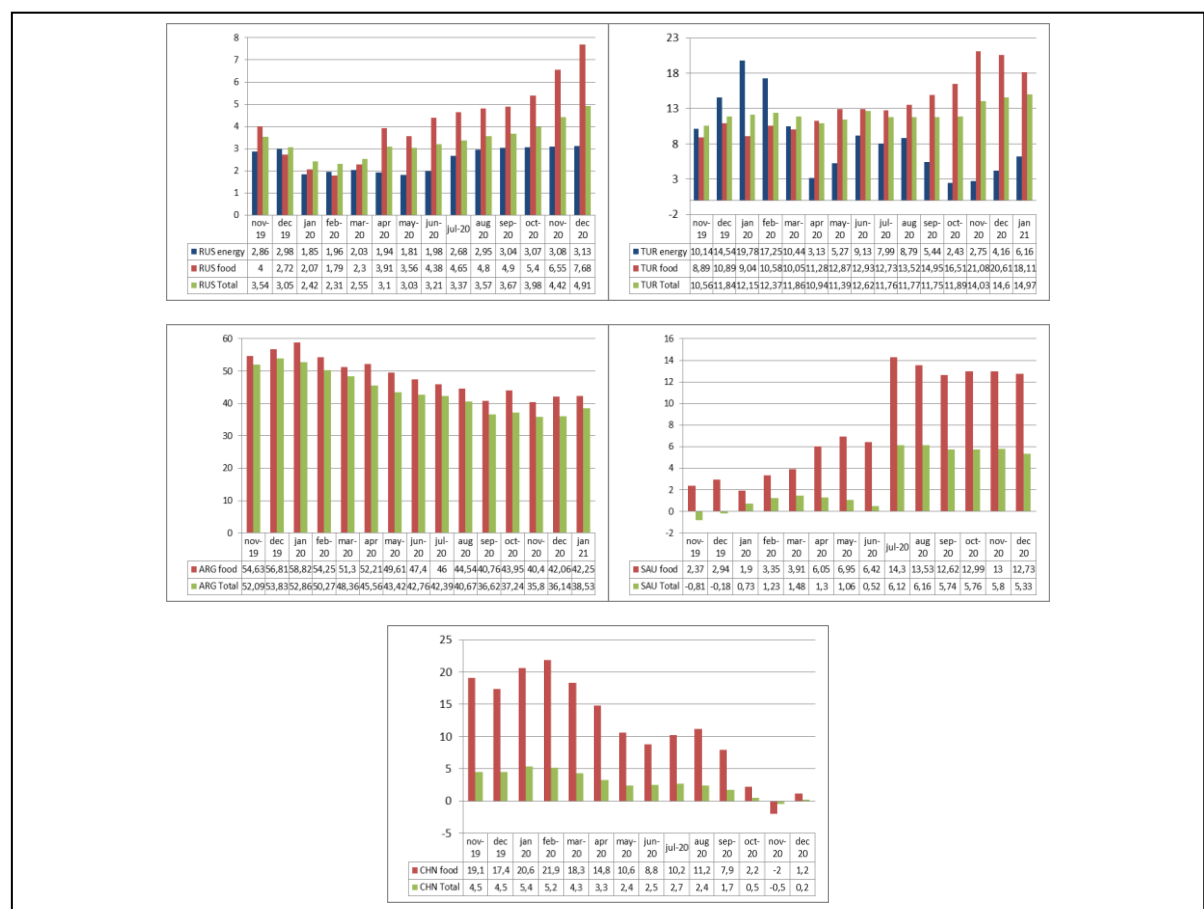


Fig 5. Energy, food and Total CPI of G20 countries: RUS, TUR, ARG, SAU and CHN [12].

Table 2 shows a summary of the maximum and minimum values of the energy, food and Total CPI of the G20 countries. In general, the maximum values for energy and Total CPI are recorded in January 2020 and for food CPI in April 2020. On the contrary, the minimum values of energy CPI result in May 2020, while

food and Total CPI are characteristic for each G20 country. ARG is the country with the highest food and Total CPI value and TUR with energy CPI. CAN has the lowest energy CPI value in April 2020 and JPN does the same in Total CPI in December 2020.

Table 2. Maximum and minimum values of energy, food and Total CPI by G20 country in 2020 [12].

	CAN			FRA			DEU			ITA			JPN		
	energy	food	Total	energy	food	Total	energy	food	Total	energy	food	Total	energy	food	Total
Max	jan 20	apr 20	jan 20	jan 20	apr 20	jan 20	jan 20	apr 20	jan 20	jan 20	apr 20	jan 20	jan 20	aug 20	jan 20
Min	apr 20	dec 20	may-20	may-20	aug 20	dec 20	may-20	dec 20	nov-20	may-20	feb-20	sep-20	dec 20	dec 20	dec 20
	KOR			MEX			TUR			GBR			USA		
	energy	food	Total	energy	food	Total	energy	food	Total	energy	food	Total	energy	food	Total
Max	feb-20	sep-20	jan 20	jan 20	oct-20	oct-20	jan 20	nov-20	dic-20	jan 20	may-20	jan 20	jan 20	jun-20	jan 20
Min	nov-20	feb-20	may-20	apr 20	jan 20	apr 20	oct-20	nov-19	abr-20	may-20	dec 20	aug 20	may-20	jan 20	may-20
	BRA			CHN			IND			IDN			RUS		
	energy	food	Total	energy	food	Total	energy	food	Total	energy	food	Total	energy	food	Total
Max	no data	no data	dec 20	no data	feb-20	jan 20	no data	no data	jan 20	no data	no data	feb-20	dec 20	dec 20	dec 20
Min	no data	no data	may-20	no data	nov-20	nov-20	no data	no data	dec 20	no data	no data	aug 20	may-20	feb-20	feb-20
	ZAF			SAU			ARG			EU27			AUS		
	energy	food	Total	energy	food	Total	energy	food	Total	energy	food	Total	energy	food	Total
Max	jan 20	dec 20	feb-20	no data	jul-20	aug 20	no data	jan 20	jan 20	jan 20	apr 20	jan 20	no data	no data	no data
Min	may-20	sep-20	may-20	no data	jan 20	jun-20	no data	nov-20	nov-20	may-20	dec 20	dec 20	no data	no data	no data

3.2 Producer price indexes (PPI)

Table 3 and Fig. 6 show the results of Producer Price Indexes (PPI) of G20 countries: CAN, FRA, DEU, JPN, KOR, ITA, ZAF, TUR, MEX, GBR, USA and EU27 since November 2019 [13]. There is no PPI data available for countries

ARG, AUS, BRA, CHN, IND, IDN, RUS and SAU [4]. In 2020, TUR is the country with the highest average PPI value (203.5), followed by MEX (132.5) and in third place ZAF (127.0). The countries with the lowest average PPI values are: KOR (99.7), JPN (100.2) and FRA (100.7).

Table 3. Producer Price Indexes (PPI) of G20 countries: CAN, FRA, DEU, JPN, KOR, ITA, ZAF, TUR, MEX, GBR USA and EU27 [13].

	CAN	FRA	DEU	JPN	KOR	ITA	ZAF	TUR	MEX	GBR	USA	EU27
nov-19	106,5	102,7	103,7	101,9	101,7	103,2	125,2	183,9	126,8	112,4	105,9	104
dec 19	106,7	102,9	103,8	102	102	103,3	125,4	185,4	127	111,9	105,8	104,1
jan 20	106,7	102,8	104,1	102,2	102	103,6	125,7	188,8	126,3	112,2	105,9	104,3
feb-20	106,7	102,4	104,1	101,8	102,5	103,1	126,1	190,1	126,3	112,4	105,1	104
mar-20	105,5	100,7	103,5	100,9	99,9	102,1	126,2	191,8	131	113,5	103,6	102,7
apr 20	103,5	99,6	103,1	99,1	98	101	125,3	194,5	135,2	112	100,3	101,7
may-20	104,5	99,7	102,8	98,7	97,8	101	124,9	197,6	134,1	112,3	101,8	101,4
jun-20	104,6	100,3	102,8	99,3	98,7	101,5	125,5	198,7	132,7	112,6	102,5	101,8
jul-20	106,7	100,5	102,9	99,7	99	101,7	127	200,6	134,8	112,9	103,6	102,1
aug 20	106,8	100,2	102,8	99,9	99,3	101,7	128	200,6	135,3	112,4	104	101,9
sep-20	107,5	100,1	102,8	99,9	99,4	101,6	128	212,4	134,2	112,8	104	101,8
oct-20	107,5	100,2	102,8	100	99,5	101,7	129	200,4	134	112,9	104,4	102
nov-20	107	100,4	103	100	99,8	101,8	129	229,9	133,2	112,6	104,9	102
dec 20	108,6	101	103,2	100,4	100,1	102,2	129,1	236	133,1	112,9	106,2	102,3
jan 21	no data	no data	no data	101,1	no data	no data	no data	242,5	134,2	112,8	no data	no data
Average	106,3	100,7	103,2	100,2	99,7	101,9	127,0	203,5	132,5	112,6	103,9	102,3

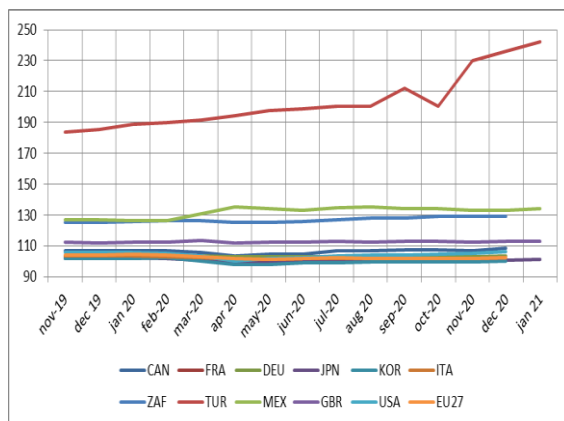


Fig 6. Producer Price Indexes (PPI) of G20 countries: CAN, FRA, DEU, JPN, KOR, ITA, ZAF, TUR, MEX, GBR USA and EU27 [13].

Table 4. Price Level Indexes (PLI) of G20 countries: AUS, CAN, FRA, DEU, ITA, JPN, KOR, MEX, TUR, GBR, USA, BRA, CHN, IND, IDN, RUS, ZAF and EU28 [14].

Year	AUS	CAN	FRA	DEU	ITA	JPN	KOR	MEX	TUR	GBR	USA	BRA	CHN	IND	IDN	RUS	ZAF	EU28
2016	125	105	100	96	90	112	86	52	48	108	116	71	69	34	39	42	48	92
2017	131	108	101	97	90	109	89	55	44	102	116	79	72	37	41	48	56	92
2018	126	106	102	100	92	108	90	55	39	105	115	69	73	35	38	45	56	93
2019	120	107	96	98	88	112	87	57	39	102	117	67	72	35	39	46	54	90
2020	117	104	99	99	89	113	86	52	35	107	117	52	71	34	37	39	48	92
Average	123,8	106	99,6	98	89,8	110,8	87,6	54,2	41	104,8	116,2	67,6	71,4	35	38,8	44	52,4	91,8

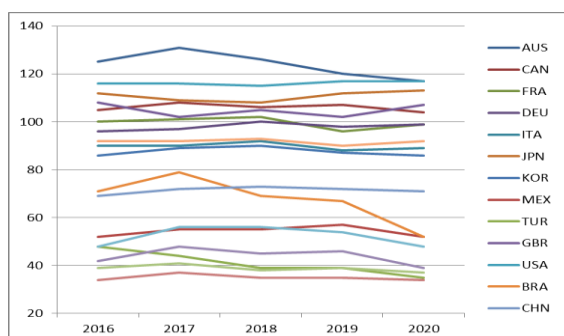


Fig 7. Price Level Indexes (PLI) of G20 countries: AUS, CAN, FRA, DEU, ITA, JPN, KOR, MEX, TUR, GBR, USA, BRA, CHN, IND, IDN, RUS, ZAF and EU28 [14].

4. Conclusions

G20 is an international forum comprised of the world's major developed and emerging economies that determine the guidelines and strategies for global economic growth. The OECD is a strategic advisor to the G20, providing strategic information for a solid and balanced growth of the countries.

3.3 Price level indexes

Table 4 and Fig. 7 show the annual results of Price Level Indexes (PLI) of G20 countries: AUS, CAN, FRA, DEU, ITA, JPN, KOR, MEX, TUR, GBR, USA, BRA, CHN, IND, IDN, RUS, ZAF and EU28 from 2016 to 2020 [14]. PLI data for ARG and SAU are not available [5]. AUS (123.8), USA (116.2) and JPN (110.8) are the countries with the highest PLI values on average. IND (35), IDN (38.8) and Tur (41) are the countries with the lowest PLI values on average.

In this paper, a comparative analysis has been made based on bar charts and time series. The aforementioned are based on economic indicators: inflation, producer price indexes and price level indexes of 2020 from G20 countries, published by the OECD.

As for the inflation indicator (CPI), the maximum values of energy and Total CPI are recorded in January 2020 and the food CPI in April 2020. The minimum values of energy CPI are recorded in May 2020; and of food and Total CPI is characteristic of each G20 country. ARG is the country with the highest value of food and Total CPI and TUR of energy CPI.

With respect to the Producer Prices Indexes, TUR and KOR are the countries with the highest and lowest average values in 2020, respectively. And, finally, AUS and IND present the highest and lowest values on average in the 2016-2020 Price Level Indexes.

References

- [1] Maihold, G. & Villamar, Z.: The G20 and Emerging Countries, Foro Internacional vol. 56, no. 1, México, enero/marzo 2016, http://www.scielo.org.mx/scielo.php?script=sci_arttext&pid=S0185-013X2016000100165.
- [2] Merke, F. & Zaccato, C.: El G20 en tiempos inciertos, Pensamiento propio, <http://cries.org/wp-content/uploads/2018/11/006-merke-zaccato.pdf>, (2018).
- [3] OECD, G20, <https://www.oecd.org/g20/about/>, last accessed 2021/02/18.
- [4] OECD Data, <https://data.oecd.org/>, last accessed 2021/02/20.
- [5] Ministerio de Asuntos Exteriores, Unión Europea y Cooperación Homepage, <http://www.exteriores.gob.es/portal/es/politicaexteriorcooperacion/g20yocde/paginas/inicio.aspx>, last accessed 2021/02/23.
- [6] Comisión Europea, G20, https://ec.europa.eu/info/food-farming-fisheries/farming/international-cooperation/international-organisations/g20_es, last accessed 2021/02/18.
- [7] International Monetary Fund Homepage, <https://www.imf.org/es/home>, last accessed 2021/02/23.
- [8] World Bank Homepage, <https://www.worldbank.org/en/home> last accessed 2021/02/23.
- [9] OECD Homepage, <https://www.oecd.org/>, last accessed 2021/02/18.
- [10] International Labour Organization Homepage, <https://www.ilo.org/global/lang-es/index.htm>, last accessed 2021/02/22.
- [11] OECD: Principios de Gobierno Corporativo de la OCDE y del G20, OECD Publishing, Paris, <https://doi.org/10.1787/9789264259171-es>, (2016).
- [12] OECD Data, Inflation (CPI), <https://data.oecd.org/price/inflation-cpi.htm>, last accessed 2021/02/22.
- [13] OECD Data, Producer price indices (PPI), <https://data.oecd.org/price/producer-price-indices-ppi.htm#indicator-chart>, last accessed 2021/02/22.
- [14] OECD Data, Price level indices, <https://data.oecd.org/price/price-level-indices.htm#indicator-chart>, last accessed 2021/02/22.