



CONVERSATION WITH ICO ABOUT GDP & COFFEE CONSUMPTION

We reviewed the report "[Impact of COVID-19 on the Global Coffee Sector – The Demand Side](#)" published by ICO in April 2020, and offered commentary; please see below notes.

General Comment from ICO:

Coffee Break #1 is only one component of the response of the ICO to the COVID-19 crisis. We are preparing a second paper on the impact of COVID-19 on supply, in which our own analytical resources will be supplemented by a survey of ICO Members and key private sector partners, as well as our contacts in international organizations, such as the FAO and World Bank, and in academia. Finally, we would stress that the situation remains very fluid and changes from day to day. We have tried to be cautious and emphasize that we are facing an unprecedented challenge in which the past may not be the best guide to the future. While we stand behind our analysis, any conclusions should be regarded as tentative and subject to modification.

1. **Sucafina's Comment:** The ICO analysis is based on historical data of GDP vs. coffee consumption over the last three decades as a basis for estimating future consumption. The main assumption is that the observed coffee consumption pattern and behaviour observed over the last 30 years will continue in the current situation. There are multiple assumptions in this analysis that must be carefully considered when evaluating the validity of the result.
2. **Sucafina's Comment:** The first assumption is that the current estimate for global economic growth is correct and final. We believe that multiple revisions to GDP growth will occur as the COVID-19 pandemic and associated response is better understood.

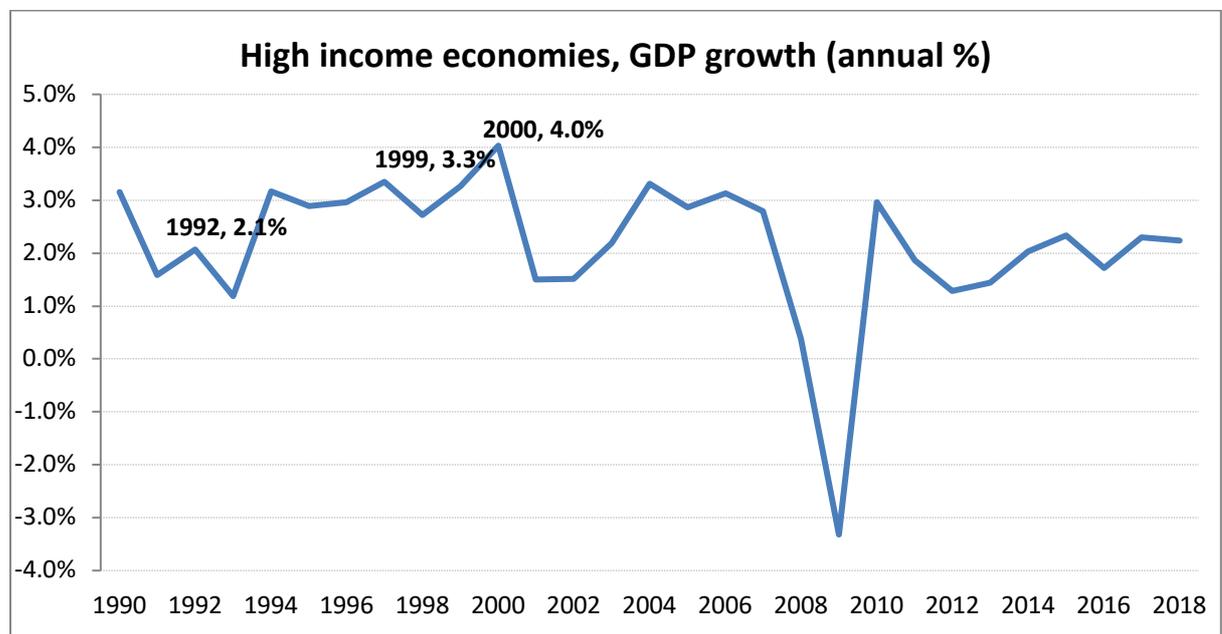
ICO's Response: The model does not require an assumption of the GDP growth rate for 2020. The model results show the historical relationship between GDP growth and coffee consumption growth based on the period 1990 - 2018, holding everything else constant: a 1 percentage point drop in GDP growth compared is associated with a 0.95 percentage point drop in the growth of coffee consumption, both in relation to the long-term sample average. Hence, the model is flexible in the sense that global growth estimates from other institutions can be plugged in. All other caveats, as explained in detail in the paper, hold.

3. **Sucafina's Comment:** The second assumption is that the relationship between GDP growth and consumption, as supported by the historical relationship, will remain intact during this crisis. Multiple factors make this crisis different from a typical economic slowdown. For example, the impact of social distancing measures may not have as significant impact on economic growth but may reduce coffee demand more significantly through lower coffee shop visits.

4. **Sucafina's Comment:** The exclusion of 1992 and 1999 as outliers from the study is worth being mentioned given that 1992 should have represented tepid economic growth and 1999 represented strong global growth.

ICO's Reponse: The exclusion of outliers in 1992 and 1999 was done exclusively for illustrative purposes. The model includes all observations - outliers were not removed in the estimation of the econometric model. However, a robustness check was done, and the result does not change dramatically, with the coefficient being 0.915% instead of 0.95%. The economic growth of 1999 was not particularly strong for high-income economies, please see graph below using World Bank statistics, with a similar behaviour for global growth.

FIGURE: Source ICO



5. **Sucafina's Comment:** Many factors influence changes in coffee consumption besides GDP growth. The unprecedented interruption to ordinary lives of coffee consumers may result in significant changes to drinking habits that must be considered. One such change is the possibility of consumers switching from espresso-based consumption in coffee shops to supermarket roasted coffee blends. It is difficult to estimate the actual change in consumption now that consumers have stocked up on coffee at home.

ICO's Response: We agree, however, this is an interesting industry analysis of a substitution effect from one type of coffee to the other. The variable in the model is total coffee consumption, which includes all types of coffee



6. **Sucafina's Comment:** The main graph presented in the news release is merely a visualization of the relationship studied, and the study itself is more robust. Each point corresponds to 28 years of data for 20 sample countries studied in terms of GDP growth and coffee consumption growth, giving 566 observations. The actual analysis takes each country into consideration and keeps other coffee consumption factors constant to isolate the specific impact of GDP growth. Thus the ICO's main finding is that one percentage point GDP growth is associated with an 0.95 percentage point increase in coffee demand (and vice versa) on the econometric estimate for each country.

ICO's Response: The relationship between GDP growth and growth in coffee consumption is on average for the whole sample. It may vary between countries, i.e. be stronger or weaker depending on country characteristics such as level of development, the maturity of the market, or market size. The model includes a method called fixed effects at the country level and year level. This method controls for unobservable characteristics for each country that affect coffee consumption and temporal factors that affect all countries at a global level. Even if other factors that affect coffee consumption at the country level are not explicitly included, specific characteristics of coffee consumption at the national level are taken into account.