



PRELIMINARY ESTIMATE OF THE ECONOMIC IMPACT OF THE COVID-19 VIRUS IN PUERTO RICO

UPDATE

April 8, 2020



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On March 26th., Estudios Técnicos, Inc. (ETI) published a preliminary estimate of the aggregate economic impact of the COVID-19 virus. That document included an extensive discussion of the methodology used and the assumptions that underlay the conclusions. It is accessible to interested persons at www.estudiostecnicos.com.

The report estimated direct impacts of \$2.7 billion and \$5.8 billion in total impacts for the remainder of 2020. Federal funding at the time was still not set and no provision was made for the impact of such funds. In uncertain times it is clear that any estimates will be subject to changes as events develop and new and better information is made available.

This is why ETI updated the results by adding the new lockdown and including the overall impact of federal funds. The information on the latter comes from different sources. The Puerto Rico Secretary of the Treasury estimated the number of recipients for the \$1,200 and the \$500 grants, Congressional publications provided the rest of the information on federal grants. The resulting number will most likely be increased, if not during 2020, certainly the following year. The figure of \$3.75 billion reflects our opinion on the COVID-19 related funds that will impact the Island in 2020.

The update provides information on impacts by sector, not included in the March 26 report.

Some changes from the initial estimate of March 26:

- 1) An estimated \$222 million in impacts were added to the healthcare sector, due to the decline in occupation, which affects hospital gross output.
- 2) An estimated \$685 million in direct impacts were also added to the sector, in response to declines in the output of ambulatory health care services such as offices of physicians, dentists, etc.
- 3) Impacts from factory closings were redistributed based on investment, as the construction and manufacturing sectors were the most impacted from this supply-side phenomenon. In contrast, final demand is consumption and retail oriented, which would skew impacts towards those subsectors.

- 4) The DMO provided new and more accurate information on the tourism sector that was incorporated in the update's estimate of impact on the sector.
- 5) Likewise, the impact of the decrease in the price of petroleum was also factored in.

There will be further updates as the COVID-19 issue develops. What must be understood is that, as extensive research shows, the impacts of a pandemic can last for years. It is also clear that early social distance measures such as those initiated in Puerto Rico can shorten the impact period and improve results, particularly if accompanied by extensive testing of the population.

The three following tables summarize the results of the update.

DIRECT IMPACTS (\$ MILLIONS)

NAICS Sector	Impact on Economic Output
NAICS 11: Agriculture, Forestry, Fishing and Hunting	\$50.4
NAICS 21: Mining, Quarrying, and Oil and Gas Extraction	\$60.0
NAICS 22: Utilities	\$20.2
NAICS 23: Construction	\$114.2
NAICS 31-33: Manufacturing	\$4,308.8
NAICS 42-45: Wholesale and Retail	\$478.1
NAICS 48-49: Transportation and Warehousing	\$518.1
NAICS 51: Information	\$391.4
NAICS 52: Finance and Insurance	\$320.8
NAICS 53: Real Estate and Rental and Leasing	\$406.2
NAICS 54: Professional, Scientific, and Technical Services	\$48.5
NAICS 55: Management of Companies and Enterprises	\$0.0
NAICS 56: Administrative and Support and Waste Management and Remediation Services	\$25.5
NAICS 61: Educational Services	\$133.6
NAICS 62: Health Care and Social Assistance	\$212.3
NAICS 71: Arts, Entertainment, and Recreation	\$190.6
NAICS 72: Accommodation and Food Services	\$787.9
NAICS 81: Other Services (except Public Administration)	\$97.6
NAICS 92: Public Administration	\$112.9
Direct Impact on the Local Economy	\$8,277.1
Minus: Direct Influx of Federal Funding	\$3,500.0
Equals: Net Direct Impact	\$4,777.1

TOTAL IMPACTS (\$ MILLIONS)

NAICS Sector	Impact on Economic Output
NAICS 11: Agriculture, Forestry, Fishing and Hunting	\$171.5
NAICS 21: Mining, Quarrying, and Oil and Gas Extraction	\$74.1
NAICS 22: Utilities	\$338.9
NAICS 23: Construction	\$268.7
NAICS 31-33: Manufacturing	\$8,046.4
NAICS 42-45: Wholesale and Retail	\$2,302.2
NAICS 48-49: Transportation and Warehousing	\$752.6
NAICS 51: Information	\$697.4
NAICS 52: Finance and Insurance	\$1,054.5
NAICS 53: Real Estate and Rental and Leasing	\$460.2
NAICS 54: Professional, Scientific, and Technical Services	\$396.4
NAICS 55: Management of Companies and Enterprises	\$42.0
NAICS 56: Administrative and Support and Waste Management a	\$268.1
NAICS 61: Educational Services	\$163.8
NAICS 62: Health Care and Social Assistance	\$733.2
NAICS 71: Arts, Entertainment, and Recreation	\$213.5
NAICS 72: Accommodation and Food Services	\$1,539.8
NAICS 81: Other Services (except Public Administration)	\$197.3
NAICS 92: Public Administration	\$252.6
Total Impact on the Local Economy	\$17,973.1
Minus: Total Impact of Influx of Federal Funding	\$7,050.6
Equals: Net Impact on the Economy	\$10,922.5

The quantities refer to gross outputs in each sector, which do not coincide with the impact in final demand (e.g. GDP or Gross Product) as they include purchases of intermediate inputs. To estimate final demand, an additional exercise rebasing output estimates by sector to final demand equivalents was performed. In it, both price and output modifications were employed to arrive at the GDP-equivalent impact for each of the sectors.

TOTAL IMPACTS AS % OF SECTOR GDP

NAICS Sector	Impact on GDP
NAICS 11: Agriculture, Forestry, Fishing and Hunting	16.7%
NAICS 21: Mining, Quarrying, and Oil and Gas Extraction	38.4%
NAICS 22: Utilities	4.9%
NAICS 23: Construction	4.5%
NAICS 31-33: Manufacturing	7.0%
NAICS 42-45: Wholesale and Retail	8.6%
NAICS 48-49: Transportation and Warehousing	24.2%
NAICS 51: Information	10.5%
NAICS 52: Finance and Insurance	4.9%
NAICS 53: Real Estate and Rental and Leasing	1.7%
NAICS 54: Professional, Scientific, and Technical Services	8.7%
NAICS 55: Management of Companies and Enterprises	11.0%
NAICS 56: Administrative and Support and Waste Management and Remediation Services	7.6%
NAICS 61: Educational Services	9.6%
NAICS 62: Health Care and Social Assistance	8.3%
NAICS 71: Arts, Entertainment, and Recreation	45.9%
NAICS 72: Accommodation and Food Services	25.7%
NAICS 81: Other Services (except Public Administration)	17.0%
NAICS 92: Public Administration	1.3%
Total	6.5%
Minus: Total Impact of Influx of Federal Funding	3.2%
Equals: Net Impact	3.2%

Source: Estimates by Estudios Técnicos, Inc. (April 6, 2020). *Impacts were originally calculated on the basis of total output, which includes the purchase of intermediate inputs. GDP/GNP, on the other hand, are calculated on the basis of *final demand* for goods and services. To generate this table, Output-Based Impacts were transformed 2007 Dollars of Final Demand (GDP), and compared with 2007 GDP.

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