MINISTRY OF FINANCE AND ECONOMIC MANAGEMENT

GOVERNMENT OF THE COOK ISLANDS

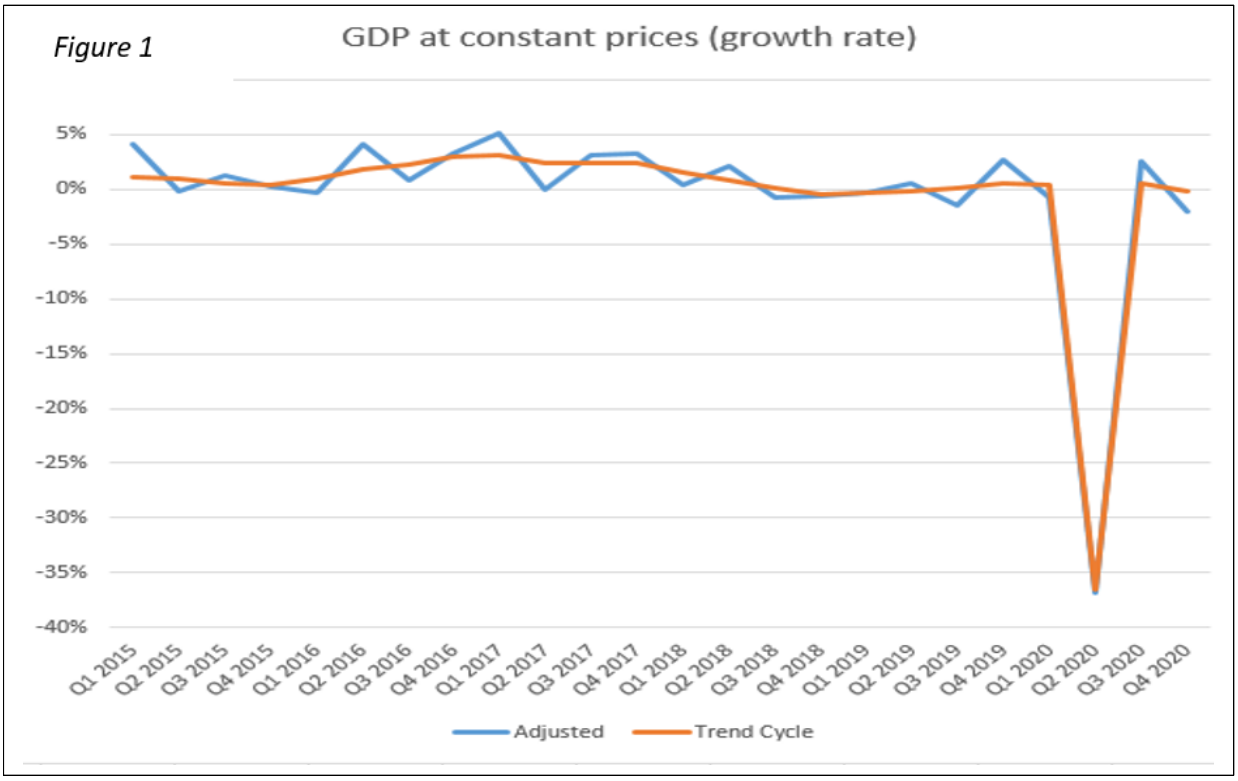
COOK ISLANDS
STATISTICAL BULLETIN

GROSS DOMESTIC PRODUCT
SEASONAL ADJUSTMENT

After a phase of moderate economic development in 2019, the Covid pandemic reduced total domestic economic production by one third in the second quarter of 2020. For the rest of the year the economy could stabilize at this lower level. Most severely hit industries were accommodation (down 96 percent), travel agencies (down 68 percent), restaurants (down 56 percent) and transport services (down 49 percent). These four industries reduced domestic GDP by 22.7 percent as compared to the first quarter.

The only industry which posted a quarter-on-quarter growth in the second quarter of 2020 was Human Health services.

Figure 1: GDP at constant prices (growth rate)



In the third quarter, constant price GDP increased by 2.6 percent in real terms, compared to the previous quarter, and fell again in the fourth quarter (down 2.4 percent). During the times of crisis in 2020, the industrial sector acted as a cushion for Cook Islands economy. First results show that mining and manufacturing grew by 10.9 percent in the second half of 2020, compared to the first half. Also, construction industry grew by 43.7 percent during this time.

Based on unadjusted data, GDP at constant prices dropped in the second quarter 2020 by 26.1 percent. A 19.3 percent decrease was experienced in nominal GDP which contributed to the total drop of 28.1 percent in economic activity for the year 2020.

Figure 2: GDP at constant prices

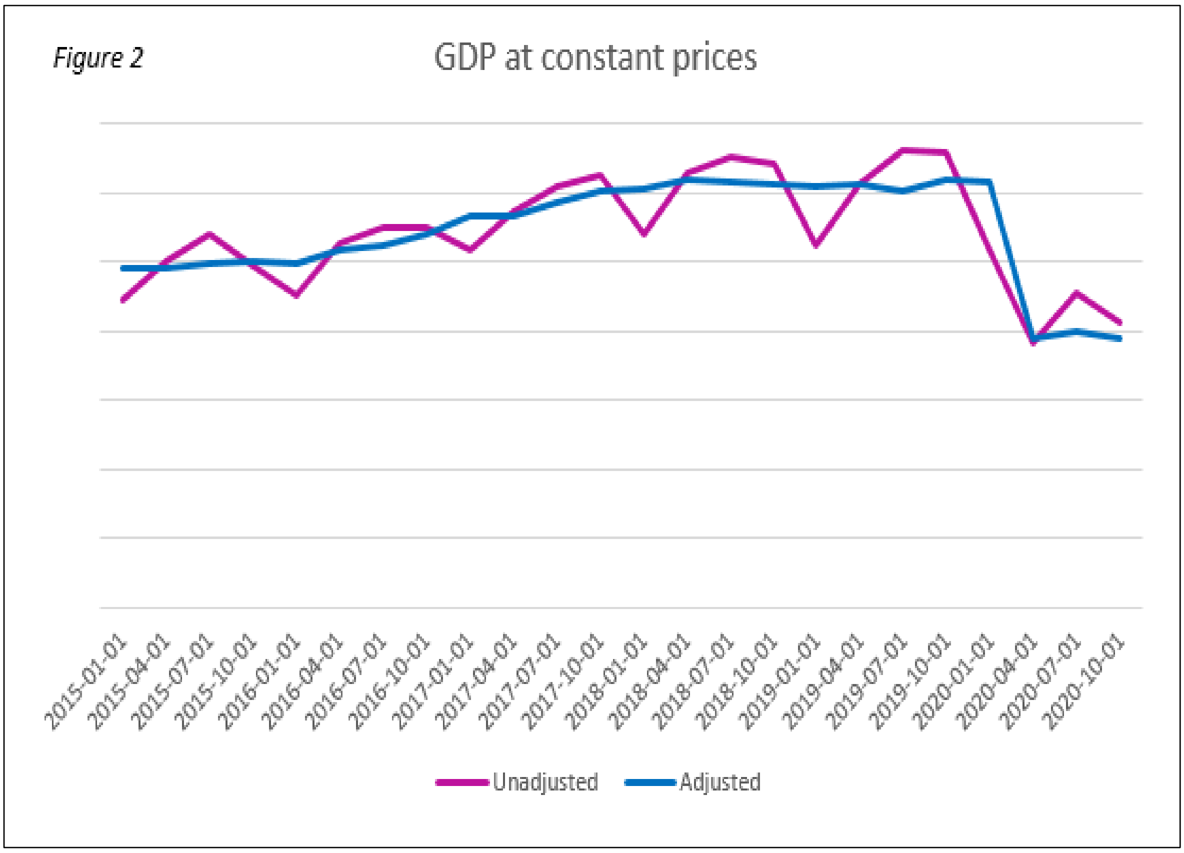


Figure 2, clearly depicts the difference between the adjusted and unadjusted data. Numerous factors such as the Easter effect, leap years and minor revisions have all been take into account resulting in a much smoother result.

Taggy Tangimetua
Government Statistician
August 2021

Explanatory Notes

Seasonal adjustment (SA) of GDP is a statistical technique that attempts to measure and remove the influences of predictable seasonal patterns to show a better depiction of the economy.

Purpose of seasonal adjustment.
The main purpose of SA is to provide a picture of current economic developments. The objectives of seasonal adjustment are to identify and remove seasonal fluctuations and calendar effects which can mask short and long-term movements in a time series and impede a clear understanding of underlying phenomena. Seasonal adjustment is therefore a fundamental process in the interpretation of time series to inform policy making.

Scope and Coverage
With the same exact scope as GDP, seasonal adjustment is calculated for all economic activities in the Cook Islands. These activities include Agriculture and Fishing; Mining and Manufacturing; Electricity, Gas and Water; Construction; Retail and Wholesale Trade; Restaurants and Accommodation; Transport, Storage and Communication; Financial Intermediation; Real Estate, Renting and Business Services; Education, Health and Public Administration; Other Services; and Owner Occupied Dwellings.

Data Sources
A time series of quarterly GDP, as far back as 2006, has been used to run seasonal adjustments. Typically, the quality and stability of SA data grows with the length of the time series. Currently, only GDP at constant prices available in adjusted form.

Seasonal Adjustment Software
JDemetra+ is the software used by CISO for seasonal adjustment (SA) and other related time series problems. CISO will adjust time series data for seasonal and calendar variations using econometric methods, specifically, the internationally recommended TRAMO-SEATS approach is applied.

Revision policy
Revisions are necessary to include the latest observations and to correct data problems of the past. Revisions cam become necessary due to the following reasons

Major revision **–** Such revisions only occur due to change in methodologies and base years. This is expected to happen every 10 years.

Revisions of the original, unadjusted data **–** late incoming base data for already published figures.

Revisions of only the seasonal adjusted data **–** even in cases where the underlying unadjusted quarterly data are not revised, revision can happen in the adjusted data as they are produced by econometric models which are updated concurrently.

As it is the rule with unadjusted series, seasonal adjusted series are subject to revisions every quarter. Typically, such revisions are small if the underlying unadjusted series do not change.

Publication Schedule
Quarterly national accounts data for seasonal adjusted series will be published not later than one months after the release of unadjusted quarterly GDP (of the same period).

Cook Islands Statistics Office

Ministry of Finance and Economic Management

P O Box 120

Rarotonga

COOK ISLANDS

Phone: (682) 29-511

Fax: (682) 21-511

Email: Statsinfo@cookislands.gov.ck

Website: www.mfem.gov/statistics