DEPARTMENT OF STATISTICS
MALAYSIA

MALAYSIAN ECONOMIC INDICATORS: LEADING, COINCIDENT & LAGGING INDEXES

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BUSINESS CYCLE ANALYSIS

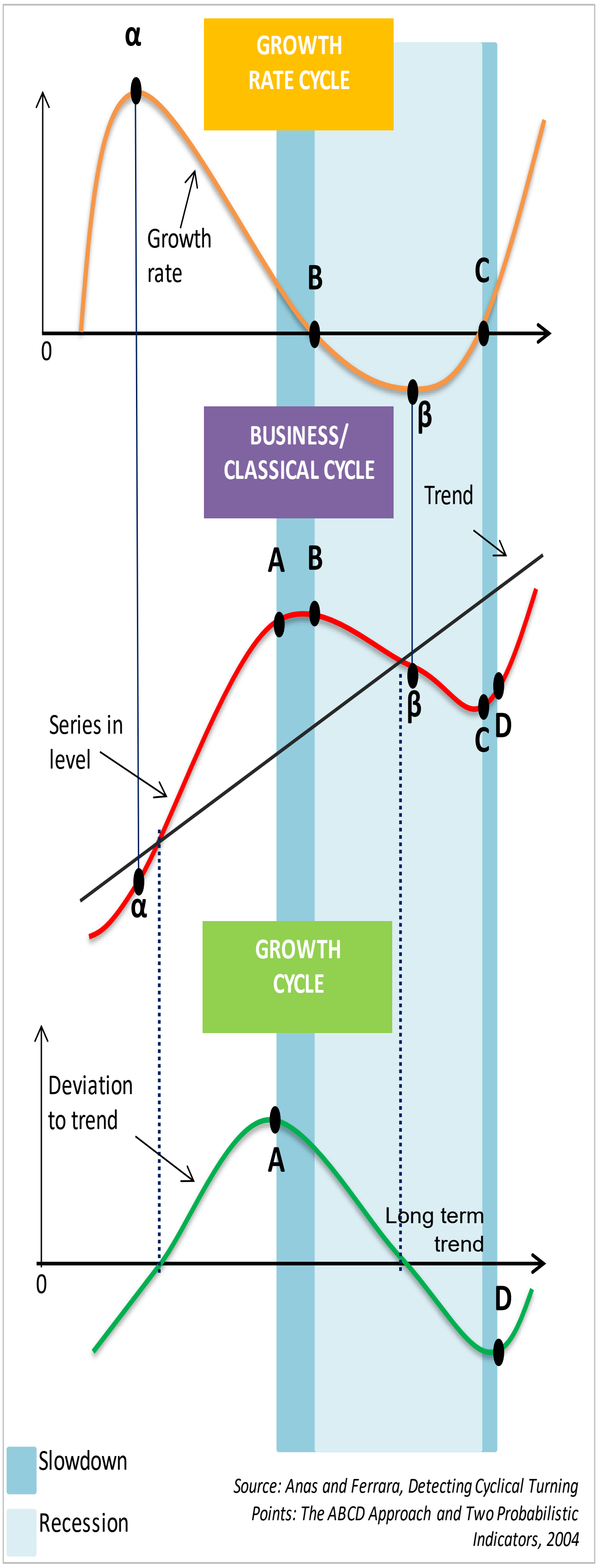
The world is projected to experience a deep recession in 2020 due to the global pandemic crisis. The economic outlook is extraordinary uncertain and a tool to predict the future economic movement is vital. On this note, the analysis on business cycle which further translated into Leading Index (LI) and Coincident Index (CI) allows people to assess economic performance.

There are three types of cycles in business cycle analysis namely growth rate cycle, business/ classical cycle and growth cycle. According to Anas and Ferrara (2003), the relationship between the three cycles is shown by the ABCD approach as illustrated in Chart 1.

In this approach, α represent the highest point which is the peak while β represent the lowest point known as trough of the growth rate cycle. The growth cycle is a fluctuation of an aggregated economic activity along its long term trend. A and D are the peak and trough of the growth cycle, respectively. Meanwhile, B is the peak and C posted trough of the classical cycle.

The approach indicates that a slowdown starts with a growth rate cycle peak (α). If it continues slowdown, the movement will then be depicted in the growth cycle as peak (A). If the slowdown becomes worse, the growth rate becomes negative and a classical recession takes place (B). In the same way, an upturn will start with a growth rate cycle trough (β). If the upturn continues, the growth

Chart 1: The relationship between the three cycles



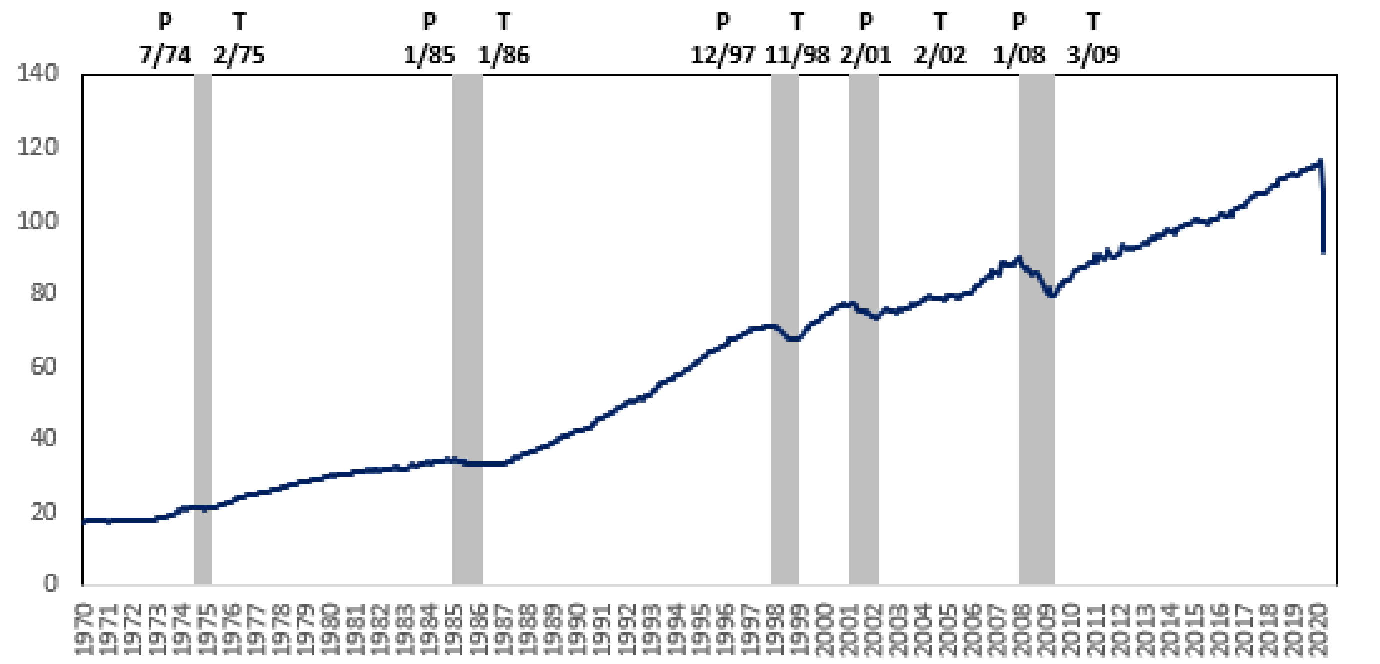
Source: Anas and Ferrara, Detecting Cyclical Turning Points: The ABCD Approach and Two Probabilistic Indicators, 2004 rate becomes positive and a classical cycle recorded a trough (C). Finally, if the upturn continues, the growth rate cycle rises above to register a positive growth and the growth cycle will posted a troughs (D).

HOW TO DETERMINE THE RECESSION DATE?

The Malaysian Economic Indicators only focus on classical cycle and growth cycle to determine the turning points in the economic activity. The recession date is determine by the behaviour of the CI. The CI is a comprehensive measure of the overall current economic performance and serves as a proxy indicator for the aggregate economic activity of the country. It is used to give second signal on the direction of the economy. For the purpose of historical analysis, the CI is used to establish the reference cycle based on the periods of expansion and contraction based on the Malaysia economic activity.

There are two main phases of business cycle namely expansion and recession phases. The peak indicates the end of expansion phase or beginning of recession. Meanwhile, trough indicates the end of recession or beginning of recovery. The phase of business cycle recession is determined by declining of the CI for at least six months successively.

Chart 2. Coincident Index (2015=100), January 1970 to April 2020 and Business Cycle



Notes: P - Peak; T - Trough

Within the 40 years period, Malaysia had experienced five phases of complete economic crisis marked by the grey shaded regions since 1970s namely in 1974/75, in 1984/85, in 1997/98, in 2000/01 and in 2008/09 as in Chart 2. As stated by Abd Latib (2018), it was observed that the 1974/75 recession was due to the oil crisis, followed by 1984/85 recession was due to the global commodity crises, the third in 1997/98 economic contraction was attributed by the Asian financial crises, the fourth, during the period of 2000/01 was stimulated by the dot-com crisis and the latest was in the period of 2008/09 mainly due to sub-prime in the US and the Euro-zone crises in Europe.

IS MALAYSIA EXPERIENCING RECESSION?

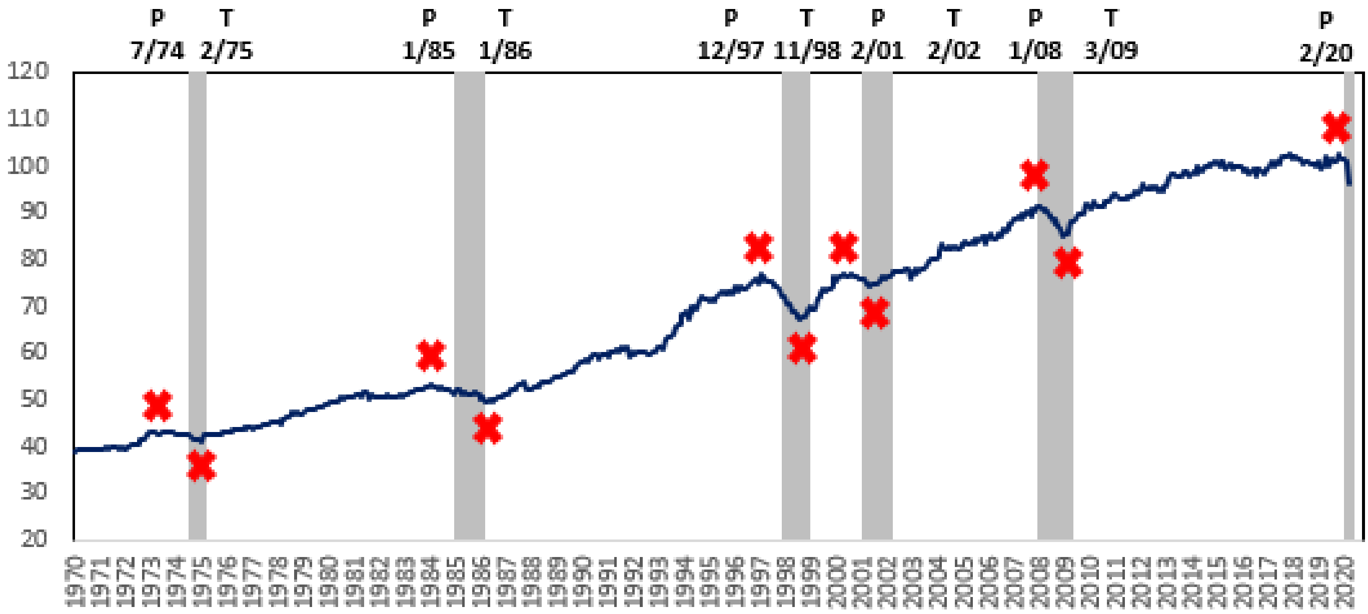
The US and China trade war which occurred until 2019 affected open economies namely Malaysia, and economists have also warned of a possibility of economic recession in 2020. The economic prospect worsened by the outbreak of COVID19 pandemic that was first detected in China at the end of 2019 and spread throughout the world as an additional shock to the economy. The implementation of Movement Control Orders (MCO) to control the spread of the pandemic also have a direct impact on Malaysia's economic activity. Based on the Malaysian Economic Indicators: Leading, Coincident & Lagging Index, April 2020 indicates that the closure of businesses in April 2020 weigh down the economic scenario in Malaysia as indicated by the year-on-year fall of CI to negative 19.3 per cent compared to 3.6 per cent the previous month.

In terms of annual LI, the index slumped further to negative 5.5 per cent in April 2020 as against negative 3.6 per cent in March 2020. Considering the weaker performance of annual LI and the LI growth cycle deviation from the long term trend, it is anticipated that the economy will remain in the contraction trajectory in the coming months. An early signal of economic recession has been shown by the LI since October 2019. The economy began to slowdown since then due to global trade tension and the contraction worsened with the outbreak of the COVID19. Based on the latest CI behaviour it seems that February 2020 is the highest point of cyclical turn which means that the end of expansion phase or beginning of recession phase in the Malaysian economy.

IS THE LEADING INDEX ABLE TO PROVIDE ADVANCE SIGNAL?

The LI anticipates the overall economic activity in the months ahead. The index tells us where the economy is going. Among the earlier signs that an ongoing expansion may start to decelerate is a sustained decline in the LI growth rate. This index contains components that are generally "lead the economy on average".

Chart 3: Leading Index (2015=100), January 1970 to April 2020 and Business Cycle



Notes: P - Peak; T - Trough

The LI provides the advance signal for all five economic crisis as in Chart 3. The question is whether Malaysia has experienced a recession? This can only be verified by looking at the CI. A fall of CI for at least six months in a row can determine if the recession has occurred. Based on previous economic behaviour, the LI is able to predict 1997/98 Asian financial crisis 3 months ahead while, 2000/01 dot-com crisis 10 months in advance and 2008/09 Sub-prime in the US and Euro-zone crisis in 2 months earlier.

The aforementioned Asian financial crisis had a substantial impact on the Malaysian economy in 1997/98. The Malaysia's Gross Domestic Product (GDP) which portrays the nation's economic performance fell from 6.1 per cent in the fourth quarter of 1997 to negative 11.1 per cent in the fourth quarter 1998. The Malaysia's economic recession began in December 1997, indicated by the peak of CI at 71.3 points and lasted for twelve months which ended with a trough of CI at 67.5 points in November 1998.

Another scenario was the Malaysia's economic downturn which triggered by the infamous housing price bubble in the United States that affected Malaysia. Malaysia's GDP decline to negative 5.8 per cent in the first quarter of 2009 from 7.6 per cent in the corresponding quarter of the previous year. In line with the crisis, the LI provided an one month earlier signal with its peak in December 2007 with 91.3 points. The crisis began on January 2008, identified by CI of 87.7 points lasted over than a year until March 2009 with CI 79.4 points. Generally, the LI predicts the direction of Malaysia's economic movement on average of four to six months ahead.

LEADING INDEX OF OTHER COUNTRIES

The prolonged disruptions in the economy continued to affect the performance of Composite Leading Indicators (CLIs) compiled by the Organization for Economic Corporation and Development (OECD, May 2020) where the CLIs of most major economies showed unprecedented collapse in April 2020 due to severe impacts on production, consumption and confidence. Sharp slowdown were posted by the United States, United Kingdom, Germany, France and Russia. Conversely, China showed an initial sign of positive momentum based on partial information in April 2020.

Given the exceptionally degree of uncertainty in the global economic outlook, the pandemic is anticipated to mark deep recession globally in 2020 as supply is strongly affected by a worsen demand and weaken sentiment. However, world economic growth is expected to gradually rise in 2021 and followed by a slow recovery with no second wave of outbreak in mind (OECD Economic Outlook, 2020).

CONCLUSION

The ability of LI in predicting the direction of economic movement ahead is proven in the Malaysian scenario where it is able to provide advance signal in the average of four to six months. A fall of CI for at least six consecutive months can determine if the recession has occurred where the downward trend is confirmed by the CI.

Considering that the Malaysian economy is moving towards a contraction trajectory, short-term and long-term recovery plans are essential to bring back the economy on track. A localised short-term measures together with global long-term measures will boost production, consumption and confidence.

REFERENCE

Anas, J and L. Ferrera. (2003). Detecting cyclical turning points: the ABCD approach and two probabilistic indicators - 26th CIRET Conference, Taipei, October 2002, Working Paper and Studies, European Communities.

Department of Statistics, Malaysia. (April 2020). *Malaysian Economic Indicators: Leading, Coincident & Lagging Index.* Putrajaya: DOSM.

Latib, A. (2018). *The Leading Indicators as an Early Warning Signals for Detecting Malaysia's Business Cycle Turning Points.* Universiti Sains Islam Malaysia.

OECD Composite Leading Indicators News Release. Paris, (2020, May 12). Retrieved from https://www.oecd.org/sdd/leading-indicators/composite-leading-indicators-cli-oecd-05-2020.pdf

OECD. (n.d.). *OECD Economic Outlook, Volume 2020 Issue 1: Preliminary version, No. 107, OECD Publishing, Paris,*. Retrieved from https://doi.org/10.17.87/0d1d1e2e-en.

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