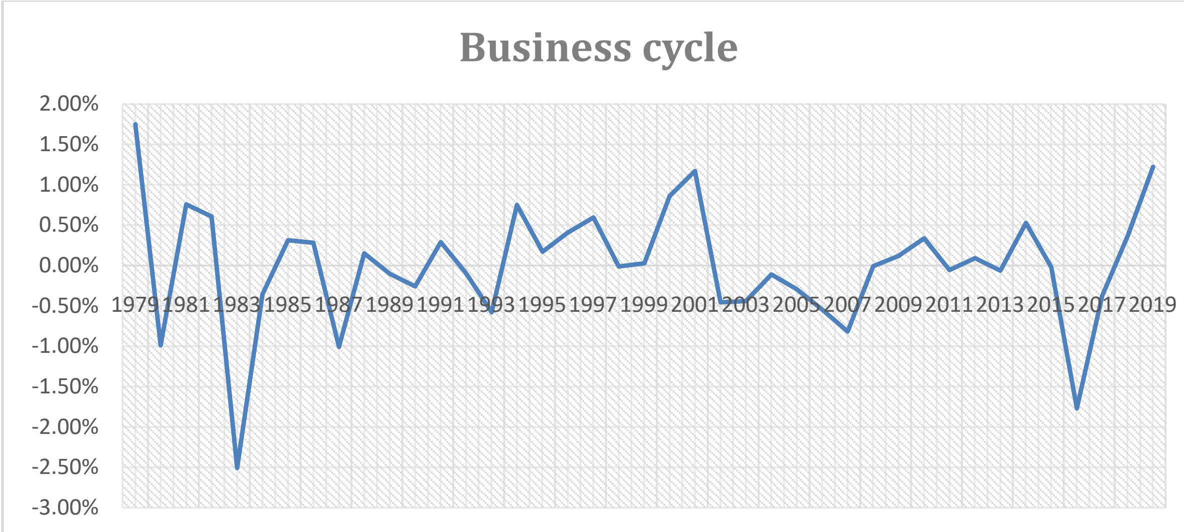

Figure 4: Business cycle or real gross domestic product's cyclical component

In above plotted figure blue line represent the business cycle of Nepalese economy. As mentioned earlier, HP filter decomposes time series into two parts. Trend component is plotted in figure 1 and second component (i.e. cyclical component) is plotted in figure 2. The result shows that in 1983-84 Nepal's economy has negative fall suggesting recession in year 1982-84. The Central Bureau of Statistics (CBS) has attributed contraction in economic activities to a drought happened in 1980-81 which led to a severe food crisis in Nepal. Similarly, in year 1987-88, 1993 and 2003-2008 Nepalese economy has seen some signs suggesting decline or contraction in economic activities.

Many economist has define recession in their own terms which varies according to their own study. The general idea about recession is it refers to massive contraction in economic activities of an economy. However, the most popular definition of recession was introduce by economist Julius Shiskin in year 1974. He suggested recession as decline in gross domestic product (GDP) for two consecutive quarters. In year 2015-2016, there is a contraction in economic activities which can be explained by the massive devastated earth quake happen in April 2015 followed by September blockade in terai border by Madhesi protesters which severely affected Nepalese economy. As of 2019, Nepal economy is witnessing expansion in economic activities.

Business cycle and financial cycle

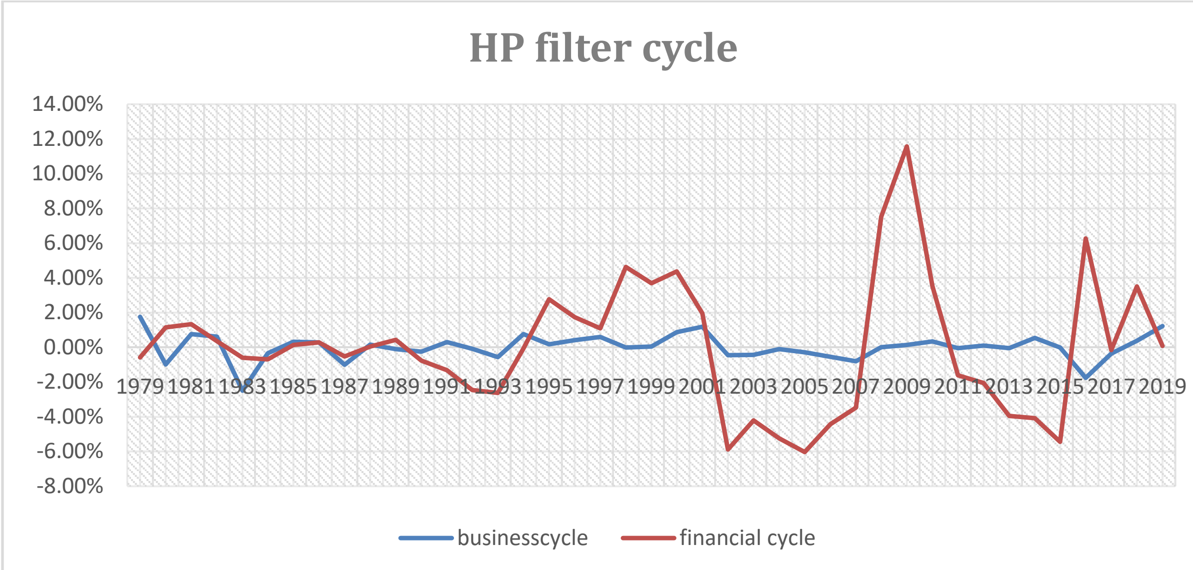

Figure 5: Business cycle and financial cycle of Nepalese economy

In the above plotted figure 5, blue line represents the business cycle of Nepalese economy extract from log of Real GDP whereas red line represents financial cycle of Nepalese economy extract from domestic credit to private sector (% of GDP) gap. In figure 5, we can see that the financial cycle are longer and deeper than the business cycle which is one of the major assumption of Basel committee on banking supervision (BCBS). BCBS assumes that the financial cycle is four times longer than the business cycle with direct impacts over its main indicators. The statistical features of financial cycle and business cycle vary in various aspects. First, business cycle shows recoveries and recession in the economy whereas financial cycle shows expansion and contraction in domestic credit (lending). Second, the duration of both the cycle also varies. Business cycles are shorter than financial cycle or financial cycle are longer than the business cycle in general and the amplitude of financial cycle also varies more than the business cycle and third, the synchronicity of both the cycle are low.

Conclusion

Various literature suggest that BIS gap (credit-to-GDP gap) works as early warning indicator to identify financial crisis or distress. However, there are also several criticism regarding the normalization of credit with nominal GDP and the problem of measurement with statistical filter (HP filter). As mentioned earlier, the complexities of economy and financial interlinkages are very hard to ideally provide an indicator that captures or guides to measures the systemic risks. Various Policymakers and economists address that there is no single indicator which can provide a perfect guide for systematic risks due to the tendency of financial market to evolve over the period of time and the time lags before the risks becomes clear or apparent. Policymaker has to monitor wide range of time varying variables indicators which totally depends on emerging risks. Therefore, this indicator should be used as a complementary indicator with other time varying indicators to identify upcoming future financial distress. The validity and reliability largely depend on the methodology of estimation and different statistical methodology can picture different results.

Figure 2 pictures financial cycle of the economy, it shows gap is higher than 2% in year 1998-2001, which implies banking sector should increase their capital requirement (i.e., CAR + CCyB). In year 2002 till 2007, the gap is in negative which suggest the safe amount of additional private lending remained unexploited. From year 2008 to 2011, we can see a massive positive increase in the credit to gap ratio of more than 9 %, which suggest regulator should strengthen the capital requirement for financial institutions by adding countercyclical capital buffer in capital adequacy ratio (CAR) and additional strict measures the minimize the unjustified exploitation. Later in year 2015, Nepalese banking activities saw contraction due to the devastated earthquake which was later followed by blockade of terai border by madhesi protesters. As of 2019-2020, the gap is near to zero which implies adequate lending is prevailing in the economy.

Figure 4 pictures business cycle of the economy, it shows that in 1983-84 Nepal's economy has negative fall suggesting recession in year 1982-84. Similarly, in year 1987-88, 1993 and 2003-2008 business cycle suggests decline or contraction in economic activities and from 2008 to 2014 business cycle indicates recovery from previous crisis and later in year 2015-2016, there is a again contraction in economic activities explained by the massive devastated earth quake happen in April 2015 followed by September blockade in terai border by Madhesi protesters. As of 2019, Nepal economy is witnessing expansion in economic activities.

In figure 5, we can see that the financial cycle is longer and deeper than the business cycle, the amplitude of financial cycle is also varying more than business cycle and the synchronicity of both the cycle are also low. Which is similar to the properties of financial cycle identified by the study of Basel committee on banking supervision (BCBS). This study provides evidence regarding the application of Basel gap (credit to GDP gap) in Nepalese context as positive gaps in year 2011 is captured by financial cycle and BIS indicator which raised serious concern regarding unjustified lending in year 2010-11. Hence, this indicator can be used as tool to identify the upcoming financial banking distress if the positive gap is too wide from its normal line (i.e., zero percent).

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