

Analysis of the business cycle in the economy



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One of the most difficult subjects in economics is the business cycle or the pattern of contraction and expansion seen in the overall economy, this is a major factor that will effect the profit and sales performance of all companies to an extent. On average business productivity in EC has expanded at a rate of 3% per year in terms of real Gross Domestic Product (GDP). During an expansion in the business cycle, the real GDP can increase to a rate of 5-6% or even more and during a recession it can decline for an extended period.

During the years the economy is growing - output, income, and employment are increasing. In other words, the trend in business and general economic activity is upward. But there are fluctuations around what we might call the 'growth-path' line. We have terms for the periods when business activity have temporarily pulls us below our upward growth-path, and others for periods when business activity moves with, or in excess of, our normal growth -path. We call the former recessions or depression and the latter expansions or booms. During the boom period employment level is up as are expectations, sales and profits and imports. During this period high risk investments will be undertaken and may inefficient firms will be able to operate, as margins are high. This will subsequently lead to shortage of resources (supply-side effects), this occurs at the highest point.

In figures 1. 1 the coloured line represents the long-term 'growth-path' around which the economic activity fluctuates, moving in some consistent pattern from expansion to recession and back again. This was one of the reasons why UK did not join the Single Currency, as to ensure EMU succeeds in the long-term; all participating member states must operate at the same stage of the business cycle.

The Phillips curve illustrates the short-term trade off between inflation and unemployment. The trade of between unemployment and inflation is temporary as government microeconomic policies can in the short-term exploit a trade-off between them using various policy instruments, such as public spending and taxation. Therefore, the government can influence the combination of inflation and unemployment the economy experiences. Therefore, the Phillips curve is critical in the understanding of the business cycle, via measurements such as rate of unemployment or the production of goods and services.

When real GDP grows rapidly, business is good. During such periods of economic expansions, businesses will have excess demand and profits are growing. However, when real GDP is declining during a recession, demand is slow and most companies record declining sales and profits.

The term business cycle is somewhat misleading, as it would suggest that the fluctuations within the economy follows a regular and predictable pattern. However, fluctuations are not at all regular and very difficult to forecast. If we examine the real GDP within the UK between 1971 and 2004 and define a recession as occurring when GDP declines for two or more successive quarters, then we would see that the UK economy has experienced four recessions since 1971. Recessions can occur quite close together as in the 70's, but sometime the economy can go one for many years with a recession, as is the case in UK, where we have not suffered a recession since 1991.

Real GDP is the most commonly used measure for monitoring changes within a country's economy, as it provides a broad measurement of economic activity. " Real GDP measures the value of all final goods and services produced within a given period of time." [1]

Changes in the economy's output of goods and services are strongly correlated with changes in the economy's utilisation of its labour force. Therefore, when real GDP decreases the rate of unemployment increases. This is not every uncommon as companies will decide to make a smaller quantity of goods, and make redundancies, and this in turn will raise the level of unemployment in the economy.

There are two main classes of factors that offer an explanation on business cycles. The first are internal and those occur from actual changes within the economy, for example, changes in stocks. The second is external, and there are factors outside the control of the economy, for example, rise in oil prices, conflict in Iraq etc.

Examples of explanations are:

1. Fluctuations in the money supply - when money supply increase at a faster rate than GDP the rate of interest is low and spending increases. Therefore the economy goes into a boom. The increase in demand subsequently results in both firms and individuals wanting more money and therefore, interest rates rise and this reduces investment and consumptions and the economy goes into a recession. This is a Monetarists explanation for business cycles.

2. Stop-go cycles/Political cycles - Government stimulate growth and employment in the economy and this in turn increase demand. This reflationary action results in expansion in the economy and then the government may be concern about inflationary pressures and as a result adopt a deflationary policies, like increase in taxation. This will lead the economy back into a recession.
3. Keynesian cycles - A rise in exports will raise national income by a multiple amount. This will cause investment to increase and subsequently generate more national income. This will reach a point when the economy will experience supply-side shortages like labour and this in turn will mean income grows more slowly then investment will decrease (leading to a recession).
4. Demand and supply-side shocks - caused by unforeseen shocks such as the global financial crisis in 1997 resulting in decreased demand for goods and services across the globe.
5. Real Business Cycle Theory - " explains cyclical shocks in terms of spurts and starts in technological advance." [2] Innovations in technologies like MP3, MP4 players, HD Digital Televisions, etc causes an increase in productivity and subsequently higher real wages and more willingness to participate in the labour market. Seasonal work patterns within the leisure and tourism industry is a prime example of cycles that are generated by rational economic agents, hence, the term ' real' factors. Other examples or real factors affecting the real business cycle would be bad weather, increase regulation for CO2 emissions, terms of trade, energy prices and oil price fluctuations. Those factors do not require money supply and Keynesian cycles

(amongst others discussed earlier) to explain the existences of why business cycles exist. Demand and supply shocks as discussed above and natural disasters like the Tsunami also can have comparable effects to the technology shocks analysed in real business cycle theory.

Real Business Cycle Theory (RBC)

The notion of Real Business Cycle (RBC) evolves from a macroeconomic viewpoint that attributes the fluctuations in terms of economic recessions and booms to productivity (GDP) that is as a direct result of random occurrences across the global. This school of thought argues against any form of government intervention via the use of monetary or fiscal policy instruments such as money supply, taxation, government spending etc, to bring the economy out of a recession or control an economy during a period of rapid growth in a boom.

The RBC believes the level of GDP will maximise utility at any one time. RBC models are seen as an extension of a neoclassical growth model Therefore, RBC theorists believe that the business cycle is 'real' and not a result of market failures, but a reflection of efficient works of the economy.

Various criticisms of real business cycle theory has come to light in recent times and also as a result of the research conducted by Kydland and Prescott (Econometrica 1982), who modelled economic variability as "real" business cycles with efficient markets. This study failed to recognise the impact of any government intervention via monetary policy upon the business cycle, underestimates the existence of market inefficiencies and the role of unemployment (as discussed via the Phillips Curve). Therefore, it is clear that

the economic debate on whether business cycles are 'real' or a function of cyclical movements is still very much alive.

Importance of Business Cycle within EMU

The important role of business cycle can be illustrated by the example of the Euro. The introduction of economic and monetary union across 11 of the 15 member states of the European Union is an interesting economic experiment. It has been driven by a political aspiration to create a unified trading block to rival any other trading block in the world. To ensure EMU succeeds in the long-term all participating member states must operate at the same stage of the economic cycle. Reaching that stage will represent the greatest threat to EMU.

A very rough way to assess the similarity of the business cycle is to look at the correlation coefficient for annual changes in Gross Domestic Products (GDP) for pairs of countries. Using data from OECD for the period 1971-2000 for Austria, France, Germany, Italy, Belgium, Netherlands, Spain, Finland, Luxembourg, Portugal and Ireland, it appears that only France, Germany, Spain, Netherlands, Austria, Belgium, Portugal and Italy with correlation ranging between 0.83 (France/Belgium) to 0.47 (Italy/Spain) have similarity in business cycle.

The Finland business cycle is closest to France (0.49), Belgium (0.43) and Spain (0.41), but distant from Germany (0.005) and Netherlands (0.19). In this sample, the country that is indeed not well integrated into a common European business cycle is Ireland. The Irish economy is closest to that of Netherlands (0.32), Finland (0.32) and most distant from Italy (-0.02). The

Irish business cycle has a negative relationship to that of the Italian. This suggests that when Italy is experiencing a boom Ireland will be in a recession or steady economic growth. The Irish economy is the acid test of whether or not the Euro works. Most members are coming out of a recession whereas Ireland is in a state of boom.

	Aust.	Fra.	Ger	Italy	Nethe r	Spai n	Ire	Bel.	Fin	Lux.	Port.
Aust.	1										
Fra.	0.71	1									
Ger	0.65	0.61	1								
Italy	0.57	0.71	0.57	1							
Nethe r	0.63	0.63	0.71	0.54	1						
Spain	0.67	0.74	0.47	0.46	0.61	1					
Ire	0.12	0.21	0.14	-0.02	0.32	0.28	1				
Bel	0.67	0.70	0.70	0.75	0.68	0.74	0.70	1			

		83	63				23		
		0.	0.				0.	0.	
Fin	0.26	49	00	0.39	0.19	0.41	32	43	1
		0.	0.				0.	0.	0.
Lux	0.30	34	41	0.31	0.49	0.40	13	42	12
		0.	0.				0.	0.	0.
Port	0.74	82	63	0.69	0.51	0.67	17	73	37
									0.
									34
									1

Source: OECD Economic Outlook December 1998 & July 1991, Own calculation of correlation matrix

The subject of business cycle and real business cycle still has many questions to answer; the primary is what is the principal source of cyclical movements in GDP of an economy? Are the fluctuations in GDP caused by technology or are the movements in GDP due to government interventions via monetary and fiscal policy implementations?

Those are critical questions, and the answers to which would serve as a great benefit to both firms and governments. It would provide firms at a microeconomic level a greater ability to accurately forecast business cycles and hence, consolidate their profits, and government in estimating the resulting welfare costs of a shift in macroeconomic policy like increase public spending, lower taxation, lower interest rates etc.

In my opinion the dominant view of a business cycle is still one that is caused by a change in monetary policy and not just as a result of 'real'

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factors like technological innovation or political events like war or trade disputes. We believe that those real events do play some part in the fluctuations around the business cycle but business cycles are still primarily caused as a result of fluctuations in economic activity such as employment and production as measured by GDP.

1. OECD Economic Outlook December 1998 & July 1991
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Footnotes

[1] Gregory, M. and Taylor, M. P. (2006)

[2] McAleese, D. (2004)