New tool to track business cycles in Brazil

The Brazilian Institute of Economics (IBRE) of the Getulio Vargas Foundation (FGV) has created the Business Cycle Dating Committee (CODACE) to maintain a reference chronology of business cycles in Brazil. The first task entrusted to the seven CODACE members — all renowned economic experts — was to date periods of expansion and recession in the Brazilian economy between January 1980 and March 2009.

Definition of business cycles by an independent committee lends more efficiency to government economic policies and to allocation of resources by the private sector. It also serves as a reference for scholarly research. CODACE's organization and methodology follows the same model adopted in other countries, particularly that of the US Business Cycle Dating Committee, created in 1978 by the National Bureau of Economic Research (NBER).

The members of CODACE are Affonso Celso Pastore (coordinator; former governor of the Central Bank of Brazil); Dionísio Dias Carneiro (Institute for Economic Policy Studies, Casa das Garças); João Victor Issler (Graduate School of Economics of FGV, EPGE/FGV);

Brazil: Business cycles – Dates and durations

Reference dates		Duration in quarters			
		Contraction	Expansion	Cycles	
Peak	Trough	Peak to trough	Previous trough to this peak	Trough from previous trough	Peak from previous peak
4th Quarter of 1980	1st Quarter of 1983	9	-	-	-
2nd Quarter of 1987	4th Quarter of 1988	6	17	23	26
2nd Quarter of 1989	1st Quarter of 1992	11	2	13	8
1st Quarter of 1995	3rd Quarter of 1995	2	12	14	23
4th Quarter of 1997	1st Quarter of 1999	5	9	14	11
1st Quarter of 2001	4th Quarter of 2001	3	8	11	13
4th Quarter of 2002	2nd Quarter of 2003	2	4	6	7
3rd Quarter of 2008	-	-	21	-	23
Average duration	-	5,4	10,4	13,5	15,9

Sources: Brazilian Institute of Geography and Statistics (IBGE), and Business Cycle Dating Committee.

Marcelle Chauvet (secretary; University of California); Marco Bonomo (Graduate School of Economics of FGV, EPGE/FGV); Paulo Picchetti (São Paulo School of Economics of FGV, EESP/FGV); and Regis Bonelli (Brazilian Institute of Economics, IBRE/FGV).

The dating of Brazilian business cycles that CODACE carried out was based on economic statistics expressed in levels, i.e., each maximum (peak) point of the cycle refers to the end of an expansion period, which was followed by the start of a recession in the next quarter; each local minimum (trough) point refers to the final quarter of a recession, which was followed by the start of economic expansion in the next quarter.

CODACE determined turning points in the Brazilian business cycles according to classic expansion and recession concepts adapted to the unique characteristics of the Brazilian economy. Over the last three decades, compared with the economies of developed countries the Brazilian economy has been more volatile and underwent more exceptional periods, such as hyperinflation surges and economic shocks typical of the late 1980s and early 1990s.

The concept of business cycles was created by Arthur Burns and Wesley Mitchell, both NBER researchers. They defined the business cycle as:

None of the four recessions registered during the period of lowest inflation, after 1994, lasted longer than five quarters

"... expansions occurring at about the same time in many economic activities, followed by similarly general recessions, contractions, and revivals which merge into the expansion phase of the next cycle; this sequence of changes is recurrent

Brazil: Quarterly chronology of business cycles – duration and amplitude *

Contraction				Expansions			
Period	Duration in quarters	Cumulative fall %	Quarterly average growth %	Period	Duration in quarters	Cumulative growth %	Quarterly average growth %
1st Quarter of 1981 to 1st Quarter of 1983	9	-8,5%	-1,0%	2nd Quarter of 1983 to 2nd Quarter of 1987	17	30,0%	1,6%
3rd Quarter of 1987 to 4th Quarter of 1988	6	-4,2%	-0,7%	1st Quarter of 1989 to 2nd Quarter of 1989	2	8,5%	4,2%
3rd Quarter of 1989 to 1st Quarter of 1992	11	-0,9%	-0,1%	2nd Quarter of 1992 to 1st Quarter of 1995	12	19,2%	1,5%
2nd Quarter of 1995 to 3rd Quarter of 1995	2	-2,8%	-1,4%	4th Quarter of 1995 to 4th Quarter of 1997	9	8,2%	0,9%
1st Quarter of 1998 to 1st Quarter of 1999	5	-1,6%	-0,3%	2nd Quarter of 1999 to 1st Quarter of 2001	8	7,3%	0,9%
2nd Quarter of 2001 to 4th Quarter of 2001	3	-1,0%	-0,3%	1st Quarter of 2002 to 4th Quarter of 2002	4	4,9%	1,2%
1st Quarter of 2003 to 2nd Quarter of 2003	2	-1,7%	-0,8%	3rd Quarter of 2003 to 3rd Quarter of 2008	21	29,9%	1,3%
Since 4th Quarter of 2008	-	-3,6%	-	-	-	-	-

Sources: Brazilian Institute of Geography and Statistics (IBGE), and Business Cycle Dating Committee (CODACE/FGV).

* Growth measured as seasonally adjusted quarterly GDP at market prices.

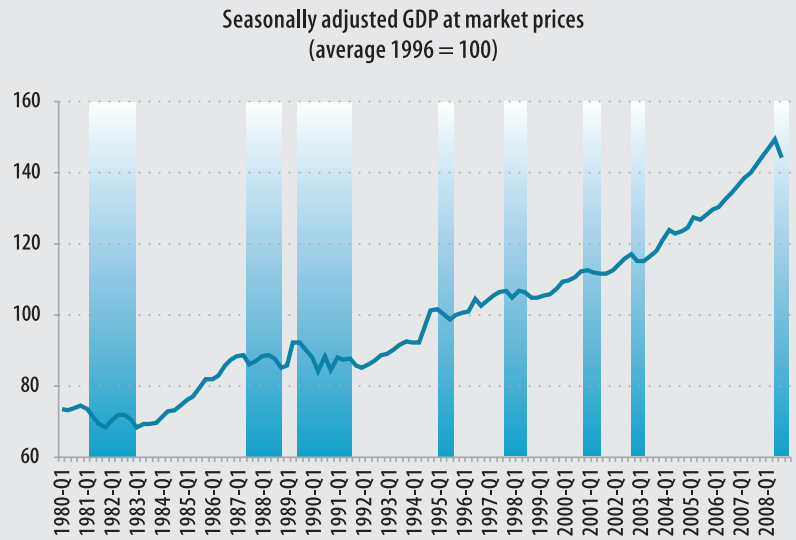
but not periodic; in duration business cycles vary from more than one year to ten or twelve years ..."[1]

Periods of recession

CODACE considers a recession to be a period of substantial decline in economic activity in several sectors of the Brazilian economy lasting for a minimum of two consecutive quarters. The principal variable adopted in the dating exercise is quarterly seasonally adjusted GDP at market prices as calculated by the Brazilian Institute of Geography and Statistics (IBGE). To confirm turning points detected in the quarterly GDP series, the committee resorted to all economic series available, particularly those that better expressed the state of production, sales, employment, and income in the Brazilian economy over the period concerned.

A quarterly interval was adopted for the first exercise of dating business cycles in Brazil because there is a relative lack of continuous monthly statistics of good quality. In addition to monitoring economic activity to be able to date future cyclical events on a quarterly basis, CODACE will also carry out monthly dating for the period between 1980 and 2008 and the dating of cycles before 1980.

Brazil: Quarterly chronology of business cycles, 1980Q1-2008Q4*



*Shaded areas are recession periods.

The chart shows the results of CODACE's quarterly dating of business cycles in Brazil since 1980. Over less than three decades the Brazilian economy underwent seven complete business cycles, lasting on average 13.5 quarters between two troughs and 15.9 quarters between two peaks. The average duration of expansions was 10.4 quarters; recessions lasted on average 5.4 quarters.

The longest expansion phase lasted 21 quarters, between the third quarter in 2003 and the third quarter in 2008; it led to a growth accumulation of 30% as measured by real quarterly GDP. The deepest recession lasted 11 quarters, between the third quarter in 1989 and the first quarter in 1992. None of the four recessions registered during the period of lowest inflation, after 1994, lasted longer than five quarters.

[1]Arthur F. Burns and Wesley C. Mitchell (1946). *Measuring Business Cycles*. New York: National Bureau of Economic Research, page 3.