



Inflation Dynamics and Unemployment Rate in the Philippines

By Faith Christian Q. Cacnio¹

The months of March and April are traditionally known as graduation months in the Philippines. Every year, during these months, millions of students from all levels of education receive their completion certificates or diplomas. As these new graduates, particularly the university graduates and some of those who completed secondary school, try to find employment, they become part of the country's labor force. However, not all of these job seekers are able to find jobs immediately. This is the reason why the unemployment rate is usually the highest during the April round of the Labor Force Survey (LFS) of the National Statistics Office (NSO) compared to the other survey periods (i.e. January, July and October).

High unemployment rate is one of the main challenges facing the Philippine economy. Table 1 presents the country's unemployment rate during the last seven (7) years.

Table 1: Unemployment rate (in percent)

2005	7.9
2006	7.8
2007	7.2
2008	7.5
2009	7.4
2010	7.4
2011	7.0

Source: NSO Labor Force Survey

While the unemployment rate in the Philippines has been declining over time, the 7.0 percent posted in 2011 is the highest compared to the unemployment

rates of neighboring Southeast Asian countries during the same period (i.e. Indonesia, 6.7 percent; Malaysia, 3.1 percent; Thailand, 1.0 percent; and Singapore, 1.9 percent). In the January 2012 LFS, the number of unemployed persons in the country was estimated at 2.9 million. Almost 49.0 percent of the unemployed were in the age group 15-24 years. Of the total unemployed persons, 33.7 percent were high school graduates, 17.8 percent were college graduates and 13.5 percent are college undergraduates.

In the US, promoting sustainable output and employment is one of the two basic goals of monetary policy; the other is promoting stable prices. However, unlike in the US, monetary policy in the Philippines is primarily geared toward ensuring the stability of prices in the economy. The Bangko Sentral ng Pilipinas (BSP), the institution tasked with the conduct of monetary policy, is an inflation-targeting central bank. While this may be the case, developments in the labor sector, particularly the level of unemployment in the economy, remains important to the conduct of monetary policy. Both theory and empirical evidence support the existence of a short-run tradeoff between inflation and unemployment.

This newsletter provides a discussion of the short-run tradeoff between inflation and unemployment. It looks at how the relationship between these two variables has behaved over time in the Philippines and its implications on the conduct of monetary policy.

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Short-run tradeoff between inflation and unemployment

The relationship between inflation and unemployment has long been a focus of study in economics. Since the 18th century, noted economists such as David Hume, Henry Thornton and Irving Fisher, already outlined the connection between inflation and unemployment. However, it was not until 1958 that the link between inflation and unemployment gained prominence in the field of economics. Using British data from 1861 to 1957, A.W. Phillips observed that nominal wages and unemployment tend to be inversely related. During periods of high unemployment, nominal wages declined and when unemployment was low, nominal wages increased. When graphically represented, this negative relationship provides a nice, smooth curve, which has become known as the Phillips curve. Phillips eventually turned the nominal wages-unemployment curve to an inflation-unemployment relationship by subtracting long-term productivity growth. A crucial implication of the findings of Phillips (1958) is that a short-run tradeoff exists between inflation and unemployment. Lower unemployment rate can be achieved at the expense of higher inflation while lower inflation can be obtained by sacrificing employment. It is important to note that the inverse relationship between inflation and unemployment only holds in the short-run. In the long-run, it ceases to exist due to price and wage adjustments.

Mankiw (2000) argued that the short-run tradeoff between inflation and unemployment is essentially a statement about the effects of monetary policy on these economic variables. Figure 1 provides a simple illustration of how changes in monetary policy affect inflation and unemployment.

Figure 1: How monetary policy affects inflation and unemployment

Expansionary (contractionary) monetary policy → higher (lower) aggregate demand → increase (decrease) in the level of production → lower (higher) unemployment → higher (lower) inflation

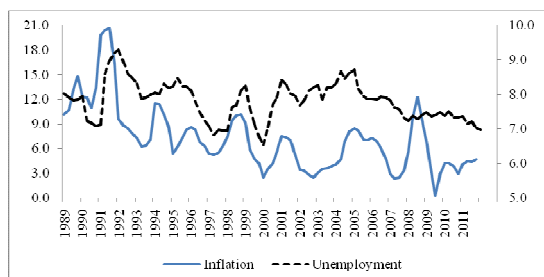
In the case of an expansionary monetary policy, the central bank increases the supply of money in the economy. Increased money supply, holding all other things constant, causes a decline in interest rates. With lower interest rates, consumers would have less incentive to save and instead would prefer to increase their consumption. Moreover, lower interest rates (i.e. lower cost of borrowing) encourage investors to undertake business expansion or investment projects. Higher consumption and investment lead to higher aggregate demand. The increase in aggregate demand causes an increase in production in the economy. This, in turn, generates higher demand for workers which reduces unemployment in the country. However, as the economy approaches full employment equilibrium,² the increase in aggregate demand and higher employment put an upward pressure on prices and wages which eventually lead to higher inflation. A change in monetary policy therefore caused inflation and unemployment to move in opposite directions. The same conclusion will be observed if one considers the case of a contractionary monetary policy.

Various studies have been conducted on testing and validating the short-run tradeoff between the inflationary process and unemployment in the Philippines. However, these studies have come up with different findings regarding the relationship between inflation and unemployment. Some obtained robust results that confirmed the inflation-unemployment tradeoff (e.g. Bagsic [2006]; Dumlao [2005]) while others observed the

² Full employment equilibrium occurs when the economy is producing at its maximum potential by utilizing all of its available resources (e.g. capital, labor).

non-existence of the tradeoff in the Philippines (e.g. Dua [2006]). A simple graphical representation of this relationship is given in Figure 2. Figure 2 plots quarterly inflation and the four-quarter moving average of unemployment between 1989 and 2011.³ Except for periods of financial and political crisis (i.e. 1997-1998; 2000 - 2001) and economic shocks (i.e. natural disasters in the early 1990s; high oil and food prices in 2004 and 2005), the negative relationship between inflation and unemployment was evident for the Philippines. However, starting in the early 2000s, the short-run tradeoff between inflation and unemployment seemed to have weakened. Even with increasing (or decreasing) inflation, unemployment stayed at relatively the same level.

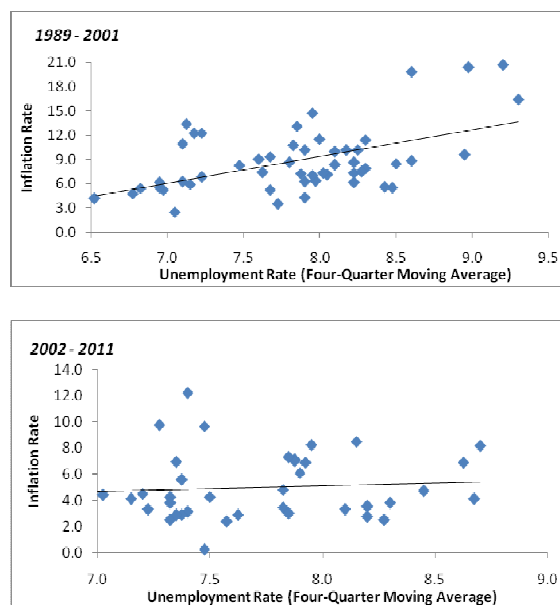
Figure 2: Inflation and unemployment: 1989 – 2011



“Flattening” of the Philips curve

Recent literature has observed this weakening link between inflation and economic activity (i.e. unemployment or output). This phenomenon is referred to as the “flattening” of the Phillips curve. Figure 3 provides scatter plots of inflation and unemployment in two periods: 1989 – 2001 and 2002 – 2011. These plots show a “flattening” of the Phillips curve for the Philippines.⁴

Figure 3: Inflation and Unemployment



There are various reasons being cited to explain this phenomenon. One, the implementation of inflation targeting as the framework for monetary policy in the Philippines has helped anchor expectations. Second, globalization has resulted in intense competition which constrains firms from changing prices too often. Third, which is relevant for the case of the Philippines, is the existence of a large pool of excess workers which causes rigidities in the country’s wage structure.⁵

³ Starting in the April 2005 Labor Force Survey (LFS), the definition of unemployment was revised to include the availability criterion and to impose a cut-off period for the job search of the discouraged workers (i.e. six months). The series used in Figure 2 was adjusted to make the unemployment rates comparable across the survey periods from 1989 – 2011.

⁴ The Phillips curve in Figure 3 corresponds to the trend line.

⁵ The issue of minimum wage often dominates the discussion on the Philippines’ wage structure. Since its implementation, minimum wage remains as one of the most fiercely debated issues in the country. Sicat (2009) regarded the minimum wage as the second most problematic among labor policies after restrictions on worker termination. According to Esguerra (2010), 38 percent of non-agricultural workers and 78 percent of agricultural workers receive wages that are lower than the minimum. Moreover, close to 50 percent of individuals in the 15-24 age group earn below the minimum wage. By sector, proportions of workers paid below the minimum wage are: wholesale and retail (50 percent); manufacturing (30 percent); transport, communication and storage (more than 30 percent) and community, social and personal services (27-32 percent). Exacerbating the problem of minimum wage is the presence of a large excess supply of unskilled, semi-skilled and even skilled labor which causes rigidities in wage determination.



Inflation targeting has helped anchor inflation expectations

The BSP has been an inflation targeting central bank since 2002. Under this framework, the BSP announces an inflation target that it commits to achieve over a given policy horizon. It has been observed that the implementation of a more credible and efficient monetary policy has helped anchor inflation expectations. Expectations about the future rate of inflation are important in the wage setting process. The anchoring of inflation expectations mitigates the possibility of an upward wage spiral that leads to increasing production cost and in turn to higher prices and inflation.

Globalization factors

According to the IMF (2006), more than half of the decline in the sensitivity of inflation to economic activity (i.e. unemployment or domestic output) can be accounted for by globalization factors. Globalization has fostered intense competition among domestic and international firms. Strong international competition constrains businesses from increasing prices even when demand rises (and unemployment declines). Studies have shown that, in some instances, firms resort to squeezing their profits rather than increasing prices to stay competitive. Thus, increased demand and lower unemployment do not necessarily translate into higher inflation rate.

Large excess supply of labor

In the Philippines, a large supply of excess labor exists. While the unemployment rate has been decreasing over time, the number of underemployed in the country remains in double digit figures. Underemployed persons include all employed persons who expressed the desire to have additional hours of work in their present job or an additional job, or to have a new job with longer working hours (NSO, 2005). Table 2 gives the underemployment rate during the last seven years. In the 2012 January LFS, the number of underemployed workers was

estimated at 7.0 million. Of these, 59.0 percent were working less than 40 hours per week.

The large pool of unemployed and underemployed (i.e. estimated at 7.9 million, combined) has resulted in rigidities in the labor market and in the wage structure of the country. Wages account for a large share of production costs. These costs are passed on to consumers through price changes. However, high unemployment rate and underemployment have contributed to wage stickiness in the country. Wages do not change as much in response to fluctuations in economic activity. This has caused the declining sensitivity of inflation to changes in the domestic output and unemployment rate.

Table 2: Underemployment Rate (in percent)

2005	22.3
2006	22.7
2007	19.5
2008	19.1
2009	19.5
2010	18.7
2011	19.1

Source: NSO Labor Force Survey

Implications for monetary policy

What are the implications of a weakening link between inflation and unemployment on the conduct of monetary policy in the Philippines? Research in this area concludes that this phenomenon brings mixed blessings for monetary authorities. On one hand, it implies that higher unemployment or real shocks will not translate into large movements of inflation. However, on the other side, if inflation remains above target, bringing it down to the desired level would entail greater output and employment variability.

Conclusion

Developments in the labor sector, particularly the level of unemployment in the economy, are important to the conduct of monetary policy. It has been shown theoretically and empirically that a short-run tradeoff exists between inflation and unemployment. However, in recent years, the relationship between these two variables has been observed to have weakened (i.e. the Phillips curve has flattened). Some of the reasons put forth to explain this weakening link include: i) adoption of inflation targeting which helped anchor inflation expectations; ii) intense international competition brought about by the globalization of markets; and iii) the existence of an excess supply of workers in the Philippines which has resulted in rigidities in the labor market and in the wage structure of the country. The flattening of the Phillips curve brings mixed blessings for monetary authorities. On one hand, it implies that higher unemployment or real shocks will not result in large movements of inflation. On the other hand, if inflation remains above target, bringing it down to the desired level would entail greater employment and output variability.

References

- Bagsic, C. (2004), "The Phillips Curve and Inflation Forecasting: The Case of the Philippines," *Philippine Management Review*, Vol. 11, No. 1.
- Dua, P. (2006), "Inflation-Unemployment Tradeoff in Asia," presented in the Project Link Meeting, United Nations, Geneva.
- Dumlao, L. (2005), "Capacity Utilization, Aggregate Supply and Phillips Curve in the Philippines," Ateneo De Manila University.
- Esguerra, Emmanuel (2010). "Job creation: What's Labor Policy Got To Do With It?" presented during the 10th AC-UPSE Economic Forum, 21 July.

Labor Force Survey (LFS), various survey periods (1989 – 2011).

National Statistics Office (2005), Technical Notes on the Labor Force Survey.

Sicat, Gerardo (2009). "Labor Policies and Philippine Companies: Analysis of Survey Opinions," University of the Philippines School of Economics Discussion Paper No. 13.