

Non-technical summary

Understanding the sources of inflation is a prerequisite for devising effective economic policies to fight inflationary pressures. The six Gulf Cooperation Council (GCC) states present an interesting economic case to analyze the various channels of inflation transmission due to their unique characteristics of high dependence on hydrocarbon resources, pegged exchange rate systems, and flexible labor markets dominated by expatriate workers. In addition, four of the six GCC countries have agreed to create a monetary union with price stability being the primary objective of the proposed Gulf central bank. In this context, this paper empirically investigates the long-run determinants of inflation in the six GCC countries aiming to contribute to the regional economic policymaking.

Historically, inflation rates in the GCC countries have been shaped by movements in oil prices, international commodity prices, U.S. dollar, Federal Reserve's monetary policy stance, and the domestic absorptive capacity. As oil proceeds constitute more than three quarters of GCC's export revenues, changes in oil price have a significant bearing on government revenues (and therefore government spending) since oil and gas resources are owned by the government. Similar to many other commodity dependent developing countries, GCC's fiscal policies have been highly pro-cyclical to the movements in oil prices thereby exposing the non-hydrocarbon sector to periodic boom and bust cycles. The growing dependence on imported goods due to limited domestic production capacity also leaves GCC countries highly vulnerable to global volatility in international commodity prices. This vulnerability is exacerbated further by the pegged exchange regimes with the U.S. dollar, as GCC central banks are unable to adjust their exchange rate policies to partially insulate the domestic economy from international price shocks. The pegged exchange rate also put constraints on central banks' operations to use appropriate monetary policies to counter-balance expansionary fiscal policy and curb the mounting inflationary pressure.

In light of these historical patterns relating to inflation dynamics in the GCC economies, this paper identifies and estimates a reduced form panel data model over the 1980-2008 period to analyze the sources of inflation in GCC countries. Given the economic similarities among the

GCC states, a panel data approach (which treats the countries as a single economic block) seems a suitable modeling technique for this empirical exercise. In particular, this paper investigates the time series properties (unit root, cointegration) of the data followed by the estimation of the long-run equilibrium relationship between inflation and its determinants. Preliminary results indicate a near perfect positive correlation between money supply and non-oil output, suggesting that, in the GCC economies, money supply is primarily demand determined. In other words, GCC central banks have limited flexibility in altering the level of money supply in the economy. Technically, this strong money-output nexus stems from the pegged exchange rate systems whereby GCC central banks are powerless to alter the level of money supply in the economy. In practice, the pro-cyclical nature of GCC's fiscal policies coupled with the flexibility of the labor markets are behind the strong correlation between money supply and non-oil output.

Several important quantitative results emerge from the formal analysis. First, a one percentage point increase in international commodity prices, causes a 0.62 percentage points increase in GCC area price levels. This less than complete foreign price pass-through effect may appear surprising at first sight, since GCC countries are a price taker for commodity imports and heavily exposed to the global price changes in food items. One explanation for this finding is that to measure the foreign price pass-through effect, the present analysis uses a foreign price index, which essentially represents the export (or producer) price of tradable commodities and does not include transportation costs and the cost of freight insurance. Instead the use of domestic import price index – which reflects the c.i.f. import prices – is appropriate and expected to render a more accurate measure of the pass-through effect. Unfortunately, until today the GCC statistical authorities do not publish country-specific import price index.

Second, a one percentage point depreciation of the domestic currency vis-à-vis trading partners' currencies causes a 0.70 percentage points increase in the domestic price level. This estimate of exchange rate pass-through effect is comparably higher than previous estimates for GCC and other emerging countries. This is primarily due to the differing institutional settings between GCC states and emerging countries. For example, the exchange rate pass-through effect for emerging countries is smaller (around 0.20) because these countries have the flexibility to use contractionary monetary policy in the event of domestic currency depreciation and therefore

partially restraining the inflationary pressure. However, this kind of monetary flexibility is largely absent in GCC countries due to the exchange rate peg with the U.S. dollar. Besides, unlike their trading partners, GCC consumers do not have the flexibility of substitution in consumption away from costly imports to lower quality locally produced goods due to limited production capacity. These, along with the limited competition in the distributors/retails segments in the GCC countries, suggest a substantially higher pass-through effect of exchange rates into import prices and subsequently into consumer prices.

As the task of controlling inflation is often placed with the central bank, it is imperative to know to what extent changes in the money supply, contribute to the changes in domestic price level, a prerequisite for devising appropriate monetary policies to keep inflation under control. Results indicate that a one percentage point increase in domestic money supply, results in a 0.24 percentage points increase in the domestic price level, consistent with the findings of previous studies. In the GCC context, as government oil and gas revenues are generated in foreign exchange, money supply essentially captures the monetization of government spending on domestic economy. Money supply also captures the impact of net capital flows in the GCC countries as, for example, an inflow of capital may cause an increase in domestic money supply. These features have made money supply a key resource variable whose role is deemed far more crucial to the GCC economies compared to more diversified developed and developing countries.

Taken as a whole, results of this analysis offer relevant policy recommendations for individual central banks as well as the proposed Gulf Central Bank. First, rather than blindly importing Federal Reserve's monetary policy, the task of fighting inflation would become easier if GCC countries adopt their own state-dependent monetary policy rules – i.e., altering monetary policies from time to time, as the economic circumstances dictate. Sovereign monetary policies would allow the GCC central banks to use their own exchange rate policies that are conducive to long-run price stability.