

# A star model of monetary policy: how it works in developing economies

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**M**ONETARY policy in developing economies mainly includes five major macro variables: output growth, inflation, interest rate, exchange rate, and money supply. The success of monetary policy hinges on a skillful interaction of these variables by the central bank. A pictorial presentation of a star usually features five corners where five major variables related to monetary policy can be placed and hence the star model of monetary policy has been coined in this article. If we connect all the corners with outer lines, the star turns into a pentagon without changing the essence of the model that describes the interconnectivity of the major variables of monetary policy.

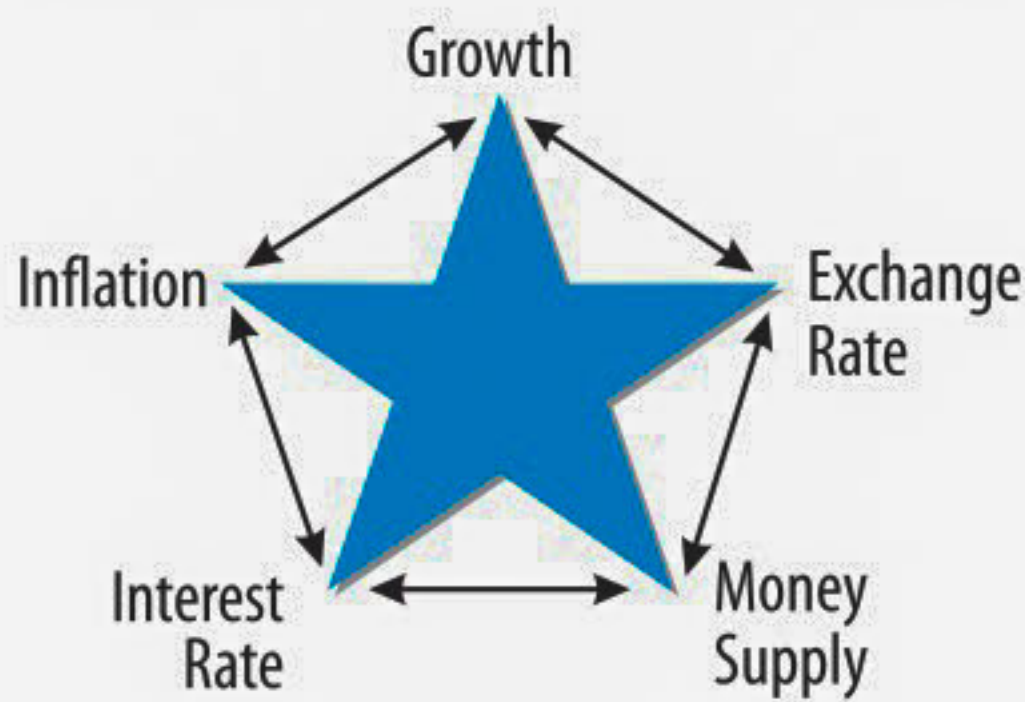
The variables fall into three different levels: operational, intermediate and final. Money supply and interest rates are often used as operating targets to influence the intermediate targets such as inflation and exchange rates. Economic growth is the final target whose rise increases employment and thus reduces unemployment and poverty.

That is how monetary policy works in developing countries like Bangladesh. However, level-wise demarcation is not always effective. Operating and intermediate targets may change their places based on the preferences of the central bank. Sometimes the exchange rate, as an operating target, is used to steer inflation.

Sometimes inflation steps up from the intermediate level and becomes a final target along with output growth. In 1923, Keynes asserted that price stability is the main objective of monetary policy. But prices may remain stable along with a poor performance in growth. So, most developed nations adopted the dual mandate of monetary policy that targets maximum employment and low inflation. Since developing countries lack the data on employment, growth is used as a proxy for employment. The

higher the growth the higher the level of employment or the lower the level of unemployment.

Emerging economies like Bangladesh and India assign moderate inflation and respectable growth as the dual mandate of monetary policy. While developed countries target 2 percent to 3 percent inflation, the desirable number for a developing country can be between 3 percent and 5 percent. Empirically, these ranges of inflation can support output growth between 2 percent and 4 percent for the developed nations and



THE STAR MODEL OF MONETARY POLICY

between 5 percent and 10 percent for developing nations. Keeping these two prime targets of inflation and growth in mind, the central bank formulates monetary policy which becomes challenging because growth is often inflationary.

For example, the positive correlation between growth and inflation in Bangladesh has been 45 percent over the period since liberalisation of the early 1990s. When an economy is growing, wages rise because business firms hire more people or demand extended work hours from the existing employees. Thus, higher wages push inflation further upward. This is simply the bottom line of the Phillips

curve.

Who cares about inflation if growth, which we care most, is commendable? Actually, that is not the case. Higher inflation at some point will act like a mythological monster -- high inflation will eat up growth potentials through reduced consumption and twin deficits (both fiscal and trade deficits). That was the destiny of most Latin American countries for decades when hyperinflation drastically eroded their growth momentum.

If a central bank exercises monetary targeting, we start from the bottom level of the star model. Monetary expansion or higher money growth reduces the interest rate, because more funds are now available to be disbursed.

As a result, the price of fund or the interest rate will slide down, inducing more entrepreneurs to invest. This transmission mechanism raises output and thus GDP growth. If the economy is open, lower interest rates will pull the exchange rate down, improving the trade balance and output -- because exports are now cheaper, imports costlier. That is why a country with adequate economic openness enjoys the dual channel of growth following any monetary expansion.

But the game is not over, if money growth is excessive, it pushes the price level too high. Then inflation takes a toll on growth. High inflation will raise the real effective exchange rate and worsen the trade balance. In the domestic front, higher inflation will make consumption expensive and will also raise the lending rate as asserted in the Fisher equation. Investment will shrink and growth will lose its steam. Thus, the variables in the star model of monetary policy may change interrelationships based on the direction of causality. The model, however, encapsulates the story of dynamics involving the major elements of monetary policy in developing countries.

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REUTERS

Many Japanese accustomed to years of deflation are content with old-style flip-phones offering voice calling, email and in most cases basic internet services.

## Japan's old flip-phones soldier on while smartphones shrink

REUTERS, Tokyo

**J**APANESE shipments of traditional flip-phones rose in 2014 for the first time in seven years while smartphone shipments fell, highlighting Japanese consumers' tenacious attachment to the familiar and typically less expensive older models.

Dubbed "Galapagos" phones because they have evolved to meet unique Japanese standards and tastes, flip-phone shipments rose 5.7 percent to 10.58 million in 2014, data from market researcher MM Research Institute Ltd shows. Smartphone shipments fell 5.3 percent to 27.70 million, down for a second year.

Users in Japan pay some of the highest smartphone fees among developed nations, the telecommunications ministry says, while flip-phone rates are among the lowest. Many Japanese accustomed to years of deflation are content with old-style flip-phones

offering voice calling, email and in most cases basic internet services.

Japanese electronics companies Panasonic Corp and NEC Corp have pulled out of the consumer smartphone business, unable to compete with dominant brands Apple Inc and Samsung Electronics Co Ltd. They still make flip-phones, though, competing in a crowded market with Fujitsu Ltd and Sharp Corp, among others.

But with a mobile penetration rate of 98.5 percent, or 125 million subscriptions, there is little scope for significant overall growth in Japan's mobile market, MM Research said. "Smartphones are also peaking in terms of functionality and they tend to last a long time as well, so there are fewer renewals," said MM Research Executive Analyst Hideaki Yokota. He said 2014 was a particularly strong year for renewals in the subscription cycle for flip-phones, suggesting that last year's growth may not be repeated this year.

# Saudi initiative brews business success

AFP, Riyadh

**L**ATEEFA al-Waalan just wanted to make Arabic coffee simple: no more labourious mixing of ingredients and careful attention to boiling.

Supported by a Saudi programme to foster, or "incubate", technology-based businesses with high growth potential, she developed a machine to produce Arabic coffee at the push of a button -- the first of its kind.

In the process, Waalan and her Yatoq company became emblematic of efforts to diversify the oil-dependent kingdom's economy and employ more Saudis, particularly women.

Yatoq is one success story from the business incubation programme, known as Badir (meaning "to initiate"), but it's not the only one.

After hitting the market in 2013 Yatoq has grown to employ 15 people with another 75 on contract.

"The factory is completely run by women," Waalan said at the Riyadh plant where she directs operations from her laptop and telephone in a spartan office.

Women covered from head-to-toe in black, as is the custom in Saudi Arabia, handle administrative tasks in an adjoining office while the coffee is roasted and ground on large machines in another room.

Her business was driven by one idea: "I love coffee but it's very complicated. I want to make it simple."

John Mercer, an Australian consultant to Badir, calls Waalan's success story "quite stunning."

Badir helped Waalan create a prototype in its industrial lab and provided legal, accounting and other advice as well as valuable connections.

Traditional Arabic coffee blends the ground beans with cardamom and saffron, giving the liquid a yellowish hue. It takes about 30 minutes to brew in a home kitchen before it can be savoured, typically accompanied by dates.

Yatoq's innovation was a type of electric kettle that uses patented computerised technology to brew with consistent quality a ready-made blend of ingredients.

"We wanted to make a machine that you can press a button and then make the coffee without you needing kitchen equipment and so on," said Waalan, 30, who comes from a computer science and information technology background.

She declined to discuss revenues but said the machine is now available in about 80 percent of electronic retailers, is moving onto the shelves of more supermarkets and exported to neighbouring Gulf countries as



AFP

Lateefa al-Waalan, a Saudi woman who founded the Yatoq company and developed a machine to produce Arabic coffee, works at her factory in the capital Riyadh.

well as the United States.

Badir is also proud of Ahmed Khalaf and his Stability Laboratory, which last August became the first private lab accredited by Saudi Arabia's Food and Drug Authority to test pharmaceuticals, along with other products.

His licence is posted proudly on the door of his lab at Badir's biotech incubator on the sixth floor at King Fahad Medical City in Riyadh.

British-educated Khalaf said Badir gave him "full support in many, many things" including idea-development and problem-solving.

The Stability Laboratory already employs four staff with masters degrees and is turning a profit.

It is among 82 businesses at various stages of incubation with Badir, from start-up to revenue-producing.

Several others including Yatoq have "graduated" and are operating on their own, Mercer said.

Incubation also includes help for budding enterprises to develop their business models, install the right management teams and get funding.

Badir offers free laboratories, office space and even support for prototype development from its own workshop with

three-dimensional printers and more traditional tools like a lathe.

With four incubators throughout the kingdom now, Badir plans to expand and broaden its focus from the current sectors of advanced manufacturing, biotechnology and information technology.

Its economic role in the world's biggest oil exporter is, for the moment, tiny but Badir is focused on longer-term impact, said Mercer.

"It's only a small part but it has a massive impact over time," he said. "Because what you've done in incubation is set a foundation for that company to grow".

The fall by roughly 50 percent in global oil prices last year has left Saudi Arabia projecting its first budget deficit since 2011.

This has emphasised the need for economic alternatives, and the diversification effort is expected to continue under new King Salman who acceded to the throne in January.

Badir "is probably the best example" of a local effort to tap the dynamism of dedicated and talented Saudis, belying stereotypes which said they are lazy or only want to work for government, a diplomatic source said.

The programme was set up five years ago by King Abdulaziz City for Science and Technology, the national science agency.

The government has since intensified efforts to bring into the workforce more Saudis -- including women who have traditionally faced cultural barriers to employment in a conservative Islamic country where the sexes are strictly segregated and women are not allowed to drive.

Millions of foreigners in Saudi Arabia still do everything from management to construction.

Analysts say government efforts have boosted the employment of locals.

But Saudi Gazette columnist Khaled Almaena has blamed rampant "bureaucracy, red tape and complacency" for limiting the role that small and medium-sized businesses can play.

"In most countries these businesses constitute 80 to 85 percent of the economy," though not in Saudi Arabia, he wrote.

But some things are changing, said Waalan, who sees in the kingdom a growing recognition of business people.

"Now more than ever, it's very cool to be an entrepreneur", she said.

## Europe's airlines race for Wi-Fi in battle for new revenues

REUTERS, Berlin/London

**E**UROPE'S airlines are racing to add Wi-Fi to their planes, eager to attract Internet-hungry customers in a cut-throat short-haul market and potentially add millions of dollars of revenue through entertainment, services and advertising.

US airline passengers already have a chance of accessing Wi-Fi on 66 percent of miles flown, against a world-wide average of 24 percent, according to data from Routehappy, which rates flights worldwide on amenities such as seats and entertainment.

In Europe, adoption of a ground-to-air service such as that in the United States, is harder due to the number of countries in the region, while satellite-based services have been too costly for short flights.

But with more satellites being sent up, bringing costs down, and airlines more aware of the money-making possibilities, price is no longer such a stumbling block, industry watchers say.

Lufthansa, Air France-KLM, Ryanair and Vueling are some of the major European carriers looking at on-board Wi-Fi on short-haul flights, following low-cost carrier Norwegian, which offers it for free on 74 of its 76 Boeing 737s.

As well as potentially charging passengers to stream TV shows and music on their mobile devices during flights of a couple of hours or less, airlines can use onboard connectivity to offer restaurant bookings, shopping or hotel offers in conjunction with advertisers and partners.

"Nowhere else in the world do you get that captive audience where you know everything about the people that got on the plane and what kind of advertisements you should offer them," said Robin Cole, Vice-President Global Business Development at Global Eagle Entertainment, which provides satellite-based Wi-Fi for airlines Norwegian and Southwest.

Global Eagle is due to trial a fee-paying system on two Air France A320s this summer in conjunction with mobile firm Orange, and believes the retail and sponsorship opportunities of onboard Wi-Fi could boost industry revenues by hundreds of millions of dollars a year.

The revenue opportunities are attracting attention across the European industry, with low-cost carriers particularly quick to move, said AT Kearney consultant Rene Steinhilber. "There's a huge logic to having Wi-Fi on board, even in Europe," he said.

Ryanair will use advertising or other revenue streams to ensure Wi-Fi access doesn't add to its costs, CEO Michael O'Leary said, adding it had begun talks with mobile phone companies over charges, and with technical companies over fitting the lightest possible aerials for the lowest cost.

In the United States, moves by low-cost carriers such as JetBlue to offer basic onboard Wi-Fi services for free were putting pressure on mainline carriers, Routehappy data research manager Jason Rabinowitz said.

Britain's Inmarsat, which partners with Honeywell to offer Internet onboard using its satellites and the US company's hardware, currently has over a 9 percent share of the commercial cabin connectivity market.

"It's growing faster than anything else in the space that I can think of. Almost every airline in the world is asking about it right now," Jeff Sare, Inmarsat's vice president for Airline Market Development, told Reuters.