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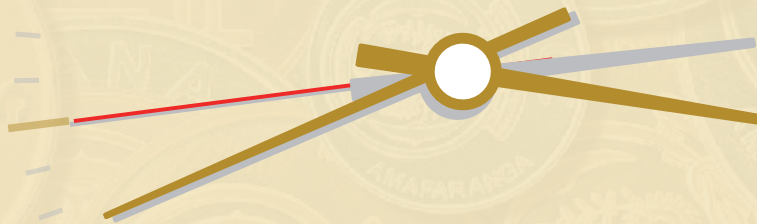
The Rationale for Adopting a Price Based Monetary Policy Framework at the National Bank of Rwanda

The Role of Forecasting and Policy Analysis Systems (Fpas) Under the New Monetary Policy Framework

BNR's Electronic Data Warehouse and Policy Effectiveness Under the Price-Based Monetary Policy Strategy

Role of Liquidity Management in Monetary Policy Implementation

TOWARDS A PRICE BASED MONETARY POLICY FRAMEWORK



INTEREST RATES



FORWARD LOOKING



POLICY

INFLATION



MARKET EXPECTATIONS



VISION & MISSION

Vision

To become a World-Class Central Bank

Mission

To ensure price stability and a sound financial system

CORE VALUES

Integrity

We uphold high moral, ethical and professional standards for our people, systems and data

Accountability

We are result-focused and transparent, and we reward according to performance

Mutual- respect and Team-work

We keep ourselves in high spirit, committed to each other for success

Excellence

We passionately strive to deliver quality services in a timely and cost effective manner.

We continuously seek improvement by encouraging new ideas and welcome feedback that adds value to customer services

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The National Bank of Rwanda (BNR) has an important objective of ensuring price stability. To achieve this objective, BNR implements its monetary policy to keep inflation low and stable.

Previously, the National Bank of Rwanda conducted its monetary policy through a framework called monetary targeting. However, BNR is now shifting from this framework to a price based monetary policy framework.

The Rwandan Banker caught up with the Governor, Hon. John Rwangombwa, to discuss these developments.

economic reforms have been implemented which continues to support the acceleration of economic growth.

This shift has therefore meant that the conditions under which monetary targeting strategy holds are no longer reliable and the strategy is becoming obsolete for the kind of economy Rwanda has become. For example, the implementation of the monetary targeting necessitates the stability of money demand function for which the velocity and the money that the multiplier are assumed to be stable and constant. However, with economic transformation Rwanda is going through, we have found evidence that these two elements are not constant anymore and have limited the effect of monetary policy actions. With payment systems modernization, the country is going through for example, it would be difficult to maintain the stability of the velocity of money. The National Bank of Rwanda therefore cannot continue to operate under this strategy.

As the Rwandan economy grows and transforms, the National Bank of Rwanda has decided to opt for a more modern monetary policy framework that suits our economic environment – the Price based monetary policy framework.

Under this new price based monetary policy, the National Bank of Rwanda will shift from relying on monetary aggregates to make policy and instead put focus on the use of interest rates to manage economic stability. A price based monetary policy framework is forward looking and in line with our economy's current state. It will help BNR to achieve its institutional commitment to price stability through; (1) an information inclusive strategy in which many variables and not just monetary aggregates are used in making decisions about monetary policy; and (2) increased transparency of the monetary policy strategy through communication with the public and the markets about policy objectives and economic outlook.

Q. For any policy framework to be successful, there are a set of preconditions that institutions must meet. To adopt a price based monetary policy framework, what are the conditions you need for its success?

Indeed, for the success of a price based monetary policy

Q. The National Bank of Rwanda has in the past conducted monetary policy under the monetary targeting strategy. What does this strategy entail, has it been successful?

Under the monetary targeting framework, the National Bank of Rwanda implemented its monetary policy by using monetary aggregates, with broad money (M3) as intermediate target and reserve money as operating target. The success of monetary policy under this strategy therefore depends on the reliability of the relationship of these monetary aggregates to nominal GDP and inflation. For monetary policy to be successful under monetary targeting strategy there should be stability of money demand function, for which the velocity of money should be stable and the money multiplier is constant. A monetary targeting framework also comprises three elements: 1) reliance on information conveyed by a monetary aggregate to conduct monetary policy, 2) announcement of targets for monetary aggregates, and 3) some accountability mechanism to preclude large and systematic deviations from the monetary targets.

Monetary policy under the monetary targeting framework has been very successful and helped us to achieve our objective of price stability in the past two decades. For example, since 2010, the stability of both core and

headline inflation were maintained. Between the year 2011 and 2017, annual headline inflation averaged at 4.4 percent, while core inflation averaged at 3.7 percent. This is lower than the 5 percent average we use as a benchmark. This level of price stability as a result has helped to support the overall macroeconomic stability of the Rwandan economy.

As a central bank however, we decide on a policy strategy depending on the structure of the economy. Although the structure of the Rwandan economy has allowed for the success of policy under monetary targeting regime in the past, the economy has gone through changes and these conditions under which the monetary targeting strategy works, may no longer hold, which now calls for a shift in the policy strategy.

Q. Why has the National Bank of Rwanda decided to adopt a Price based monetary policy if policy under monetary targeting was successful?

Although the monetary targeting framework has been very successful in ensuring that the National Bank of Rwanda fulfills its mandate of price stability in the previous years, there has also been a shift in the Rwandan economy, to a more modern economy. The financial sector is developing and becoming a key player in the country's growth, the economy is going through a technology transformation and many

strategy, there are different pre conditions central banks have to meet, including among others, 1) That the central bank have a strong research capacity, a well-developed technical infrastructure with inflation forecasting and modelling capacities and the continuously updated and available data needed to implement them. 2) That the country have a healthy financial system, where the banking system is sound and money markets are relatively well functioning. 3) That there is a reliable transmission mechanism of policy, where changes in central bank rates should influence changes in short term money market rates and in long term rates such as deposit and lending rates. 4) That the central bank is able to influence expectations of economic agents through clear communication of its actions to the markets and the public in general.

These pre-conditions have guided us to assess our readiness to adopt the new policy framework and prior to our commitment to move to the price based framework, teams at BNR have worked to ensure that the right operational framework of policy under the new strategy are in place and that we meet the conditions.

For example, we have built a strong in house modelling and forecasting team with the capacity to undertake cutting-edge economic research and analysis to guide our decisions. Technical infrastructure such as the forecasting and policy analysis system (FPAS) and various other in-house models are used in our day-to-day analysis.

The newly created data warehouse at the National Bank of Rwanda, an automated infrastructure where we can gather data electronically, will also help us to access key economic and reliable high frequency data to use in our analysis. I would also stress the fact that with continued collaboration with the National Institute of Statistics of Rwanda (NISIR), access to timely and reliable data is not a challenge.

On the transmission mechanism, we have also observed that whenever central bank rates change, money market rates follow suit. This should continue to support the transmission mechanism of our policy to the rest of market interest rates and to the aggregate demand, which will help BNR to control inflation through monetary policy actions.

Q. What will change in the institutional design of monetary policy in the new framework?

The new price based monetary policy framework is a more forward looking framework than the monetary targeting framework the National Bank of Rwanda has been using. Therefore, the institutional design of policy mak-

ing at the BNR will need a forward-looking dimension.

For example, expectations of economic agents will be a key guiding factor when BNR is making decisions and the ability of BNR to influence and measure these expectations will determine how we can successfully implement policy under this framework.

It is on this note that we have worked to strengthen our in-house policy communication function, and equipped it with the capacity to undertake this role effectively. Another important aspect for institutional design under this new framework is that BNR will have to embody forecast-based policy rules. As such, BNR ability to forecast and predict future inflation and agents' behavior will also be a key determinant in how successful the implementation of policy is.

Skills of our technical teams in both policy communication, economic research and policy analysis will also be essential for BNR to successfully transition to the new framework. This is an area that BNR has focused on to ensure that we develop the skills of our staff and we are happy that our teams are ready and capable to successfully execute this mission.

Q. For a Price Based Monetary Policy to work, the transmission mechanism of monetary policy should also work, is this the case for Rwanda?

On the issue of the transmission mechanism of central bank policy actions, although it has been weak in the past given the structure of our economy, we have observed that as economic transformation continues and the financial sector grows, the transmission mechanism improves. In addition, the experience in other countries show that the use of interest rates as the operating target and improved liquidity management and forecasting contribute to the improvement of monetary policy transmission mechanism.

As the National Bank of Rwanda prepares to transition to the new monetary policy framework, the financial markets operations committee (FMOC) in BNR has been proactive, working with all relevant teams within BNR and other stakeholders such as the Ministry of Finance and Economic Planning, the Rwanda Revenue Authority and commercial banks, to strengthen the transmission mechanism.

Since 2017, the financial markets operations committee convenes on a daily basis, with the task to forecast and manage the liquidity in the banking system. Strong liquidity forecasting is a key component that helps in the development of

the transmission mechanism, and BNR has made much progress on this front. In addition, the National Bank of Rwanda has and continues to organise workshops with bank treasurers, aiming to raise the awareness on existing opportunities in open market operations conducted by BNR.

As a result, money market interest rates have been evolving close to the key repo rate (KRR). With the reduction of key repo rate from 6% to 5.50% in December 2017, money market rates followed suit, with the 28-days T-bills and inter-bank rates respectively decreasing to 4.96% and 5.58% end June 2018 from 5.36%, 5.85% end December 2017. This reduction has also been observed in long term rates, where lending rates decreased to 17.03% end June 2018 compared to 17.19% end December 2017.

Q. Many EAC countries are adopting Price Based Monetary Policy frameworks. Is BNR adopting this new framework because the EAC dictates so?

The decision by the National Bank of Rwanda to transition from the monetary targeting framework to a price based monetary policy framework was made given the stage our economy has got to, which requires that we use modern policy frameworks. Indeed, as I explained in the first question, the conditions under which the monetary targeting policy framework would function, do not hold for Rwanda.

Economic transformation and modernization of the Rwandan financial system dictates that we adopt a framework suitable to deal with shocks that such an economy is susceptible to, rather than rely on a framework, although simple, but has shown limitations.

We hope that policy through a well-designed price based monetary policy framework will be successful, and will help to contribute macroeconomic stability, facilitate the stability and development of our financial system and increase the role of the financial sector in supporting economic growth. This framework will also help us to anticipate economic shocks beforehand and react in a way that prevents these shocks or limit their impacts.

I recognize and appreciate that some regional central banks within the EAC countries are also thinking of adopting price based monetary policy frameworks. Although this is not an EAC wide policy, the fact that regional central banks are also transitioning will help to ease our regional collaboration and make it easy for economic integration efforts, especially now that we are thinking of the EAC monetary union. ■

THE RATIONALE FOR ADOPTING A PRICE BASED MONETARY POLICY FRAMEWORK AT THE NATIONAL BANK OF RWANDA

By Prof. Kasai Ndashirwe,
Director – Monetary Policy
Analysis Department



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Unlike the monetary targeting, under which the NBR conducts its monetary policy, a price based monetary policy has the advantage that a stable relationship between money and inflation is not critical to success.

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According to the Lawgoverning the National Bank of Rwanda (NBR), its general mission is “to ensure price stability and

a sound financial system”. In the pursuit to price stability mission, the NBR can opt for a monetary policy regime fit for the purpose, such as exchange rate tar-

getting, monetary targeting and inflation targeting.

In 1995, after having abandoned exchange rate targeting, NBR adopted monetary targeting which is a monetary policy framework that uses monetary aggregates as intermediate targets to achieve the ultimate monetary policy objective of price stability.

Unlike exchange rate targeting, the major advantage of the monetary targeting regime was that it enabled monetary policymakers to consider macroeconomic fundamentals by responding to output deviations from its equilibrium level.

However, though one can be proud of the price stability and macroeconomic stability achieved and maintained under the monetary targeting regime over the past, financial innovations have weakened the relationship between monetary aggregates and inflation.

Literature shows that, in view of the monetary targeting setbacks, New Zealand pioneered the move

towards an inflation-targeting regime in 1990, as the best alternative monetary policy framework, which became since then, the most debated monetary policy strategy.

Unlike the monetary targeting framework which is quantity based and back-

In 1995, after having abandoned exchange rate targeting, NBR adopted monetary targeting which is a monetary policy framework that uses monetary aggregates as intermediate targets to achieve the ultimate monetary policy objective of price stability.

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ward looking, the inflation targeting regime is mostly applauded for being price based and forward-looking.

As elsewhere on the globe, Central banks of the East African Community (EAC), including NBR, are mindful of this disconnect between monetary aggregates and inflation, which may pose challenges on the effectiveness of monetary policy, unless new monetary policy approaches are adopted.

As stipulated by the Governor, National Bank of Rwanda, in the Monetary Policy statement of March

2018, NBR is committed to shift to the price based monetary policy framework.

A price based monetary policy has several advantages over other monetary policy frameworks. For instance, unlike the monetary targeting, under which the NBR

conducts its monetary policy, a price based monetary policy has the advantage that a stable relationship between

money and inflation is not critical to success.

The framework allows the monetary authorities to use all available information, not just one variable, to determine the best settings for monetary policy instruments.

In addition, prices such as interest rates and headline inflation levels can be easily understood by the public and markets, which enables a more effective communication, greater transparency and increased accountability of the National Bank of Rwanda. ■



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While it is useful to have several near-term forecasting tools, it is always good to have one medium-term quarterly projections model.

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THE ROLE OF FORECASTING AND POLICY ANALYSIS SYSTEMS (FPAS) UNDER THE NEW MONETARY POLICY FRAMEWORK

By Karangwa Mathias, Manager
Modelling and Forecasting Division

The National Bank of Rwanda will in December 2018 change from the monetary targeting framework to a price-based monetary policy framework. Under monetary targeting, the transmission mechanism of central bank policy depends on the relationship between the quantity of base money and inflation.

Within the monetary targeting framework, money supply (M3) is determined each year in line with targets on inflation and economic growth, assuming a stable money velocity.

The target on base money is defined, compatible with the estimated money supply assuming the stability of the money multiplier.

In the real world however, the velocity of money and money multiplier are rarely stable which leads to the breakdown of the link between inflation and money supply. This as a result complicates the work of a central bank in its efforts to keep low and stable inflation. Under the monetary targeting regime, forward guidance is also complicated since the public does not understand

the money supply targets. It is therefore difficult for monetary authorities to influence inflation expectations. This is why, a forward looking monetary policy framework, such as a price-based monetary one, is important.

A forward-looking monetary policy however, should have a medium-term focus: policy-makers need to think about how their decisions can affect the real economy not in the next quarter but after a couple of quarters ahead. The time it takes for monetary policy to stabilize inflation along

the desired path is then defined as the “Monetary Policy horizon”.

To have such a medium-term view of the economy, monetary authorities need the support of a team in charge of economic analysis and medium-term forecasting. The team should be able to conduct risk-assessment and run policy scenarios. The path of preemptive policy actions should be consistent with the medium-term objective.

In a forward-looking monetary policy framework, it is important to make monetary policy choices/decisions today consistent with desired outcomes in the future. Indeed, the central bank needs to ensure that economic agents understand the logic of these choices/decisions and this is achieved through increased communication.

The policy actions need to be consistent with those choices/decisions and this helps to build the credibility of the central bank and to help anchor inflation expectations.

WHAT IS FPAS AND HOW DOES IT HELP MONETARY POLICY?

Forecasting and Policy Analysis Systems (FPAS) is a system, not just a model, designed to help policy makers in decision-making and communicating decisions.

It has three main components:

- Building capacity for macro economic analysis and forecasting
- Integrating forecasting and empirical analysis into decision making

- Improving internal and external communication

While it is useful to have several near-term forecasting tools, it is always good to have one medium-term quarterly projections model.

It is also imperative to build sustainable capacity to operate this quarterly projections model. Implementation of the FPAS requires more rigorous scheduling of the forecasting process and more structured policy analysis and discussions. It also calls for greater integration of FPAS inputs into decision-making to make them more relevant to the Monetary Policy Committee.

FPAS therefore helps to have more coherent and objective policy analysis to better re-

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FPAS therefore helps to have more coherent and objective policy analysis to better reflect policy opinions on current situations and perceptions on future risks.

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fect policy opinions on current situations and perceptions on future risks. It also facilitates the central bank to provide forward guidance in communication on monetary policy decisions, integrating the FPAS-based medium-term projections and risk analysis into central bank communications.

WHAT IS THE EXPERIENCE OF THE NATIONAL BANK OF RWANDA

The National Bank of Rwanda has for long, been preparing for the above mentioned shift to a forward-looking price-based monetary policy framework.

The support of evidence-based policymaking will be provided by teams in charge of economic analysis, research and modeling and forecasting, who have been equipped with the right technical skills and infrastructure. A Quarterly Projections Model (QPM) has been built and is currently used for medium-term projections.

The NBR has and continues to strengthen its communication by increasing outreach to the public. The team in policy communication is leading efforts to improve communication to market experts, bankers, academia, government agencies and the general public, so that people understand all central bank actions. Whenever policy decision are made at the National Bank of Rwanda, a press release is published, press conferences are organized for a conversation between policymakers at the central bank and journalists.

Reports such as the quarterly inflation reports and MPC documents are published by the bank in an effort to communicate to the market and the public about views on the economic outlook.

Overall, with the preparations that BNR has done to ensure a smooth transition to the price-based monetary policy framework, it will undoubtedly be a successful one. ■



Data from financial institutions on loans, deposits is key when analyzing performance of the financial sector, because such information is used in analyzing commercial bank performance, credit demand, and other banking activities.

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By Kamali Wilson,
Director – Statistics Department

BNR's Electronic Data Warehouse and policy effectiveness under the price-based monetary policy strategy.

As the National Bank of Rwanda transitions from a monetary targeting to a forward looking price based monetary policy framework, strong economic analysis, modelling and forecasting and research will play a key role. Availability of timely, high frequency data that is reliable and credible will therefore be essential for these functions to operate successfully.

As part of these preparations and part of BNR's wider ambition of becoming a world-class central bank, a SupTech tool referred to as "Electronic Data Warehouse" (EDWH) has been

developed. The EDWH tool is set to help in data collection and data analytics in addition to data centralization.

HOW DOES THE ELECTRONIC DATA WAREHOUSE (EDWH) OPERATE?

The EDWH's main function is data collection:

This electronic system has the ability to pull data directly from institutions' IT systems, perform automated data validation and consolidation. Within data analytics, this system is able to generate customized, structured reports and dashboards.

Prior to the development of the EDWH, BNR team had to endure painful processes of manual data collection for over 200 structured reports. With the introduction of the EDWH, the system is able to pull data from to over 600 external stakeholders including BNR's internal systems and also has capability to validate data and generate instant output reports.

The 600 stakeholders are in categories of, banks, insurance, microfinance and SACCOs, money transfer operators, telecoms, forex bureaus, credit reference bureau and Rwanda Revenue Authority. All data is centralized in one place, which helps to ease retrieving of data.

The system helps to pull data on a daily, monthly and quarterly basis, which helps to provide high frequency data. It also helps in data standardization, data quality and data completeness.

The system aims to cut-off the manual approach of data collection by September 2018.

To ensure standardization, quality and completeness of data, the Bank (NBR) developed a data dictionary (taxonomy) where every variable is defined and supplemented with harmonized guidelines to ensure consistence in definition of data and/or business process flow across all reporting entities.

WHY ELECTRONIC DATA WAREHOUSE IS IMPORTANT IN POLICY IMPLEMENTATION?

Research, economic analysis and modelling and forecasting are key to the policy-making process of the central bank. Members of these teams gather, analyze, evaluate, and share information about the economy. Before each Monetary Policy Committee meeting, for example, researchers survey key industry players in the country and assemble analysis reports highlighting meaningful trends in economic activity to guide decision making.

To do this successfully, reliable data is required. For example, data from financial institutions on loans, deposits is key when analyzing performance of the financial sector, because such information is used in analyzing commercial bank performance, credit demand, and other banking activities.

It is therefore key that such data is available whenever needed and is reliable. Manual processes may create bar-

riers to the availability of reliable and timely data, but the development of the electronic data warehouse will help to provide this access.

Furthermore, the electronic data warehouse is intended to enhance and/or support risk-based supervision, for example, generate risk indicator dashboards, centralized data warehouse for reports and early warning indicators (EWI). From a supervision point of view- it will help to digitize reporting and regulatory process, which in the end has multiple benefits and advantages to both the regulator and supervised institutions.

Other benefits for supervised institutions such as commercial banks include reduced compliance costs (unlike before it has been challenging to prepare over 40 excel worksheets resulting into delays and errors and as thus leading to pecuniary sanctions) and improvement in risk management effectiveness (as a result of ensuring quality and complete information is captured by customer-wise and product-wise).

The electronic data warehouse is BNR's one source of data (data repository). It will enable access to robust granular data from financial system, a key aspect of decision making as it is built on the "micro-to-macro" approach that examines microeconomic industry trends to better understand the broad macroeconomic functioning.

This will help to make policy effective as the National Bank of Rwanda moves to price based monetary policy. ■



PUBLIC PARTICIPATION IN THE DECISION MAKING PROCESS OF THE NBR:

ROLE OF MARKET INTELLIGENCE

By Bruno Mwenese,
Senior Economist - Research

Modern central banks do face two major challenges: one related to accountability and the other to effective communication. Accountability means monetary policy should be evidence-based, that is, based on clear reasoning relying on substantiated data. Here communication means that central banks must communicate with the public effectively. Effective communication is also about the dissemination of facts supported by data. Data can be quantitative and qualitative.

The Bank for International Settlement (BIS) defines Market Intelligence as “the information, primarily qualitative in nature that central banks gather through direct interaction and dialogue with market participants”. This informa-

tion is used to supplement or enhance the quantitative data. Market intelligence (MI) is preponderant in modern central banks because of its importance for forward-looking monetary policy. MI may cover the recent, the current and the near future periods.

MI is also another channel through which economic agents participate in the decision making process. It is an opportunity for the public to give its appreciation about a market phenomenon, provide suggestions for change and most importantly give its expectations about future market behavior.

WHY NBR CONDUCTS MARKET INTELLIGENCE?

Although information from MI is qualitative, it makes vital contribution for analysts and decision makers

to understanding the nuances and context in which economic phenomena evolved for the period under consideration. As the adage says “data speaks” but sometimes data do not speak enough. Therefore, the analyst needs to get insights behind the data that can only be obtained from the economic agents from whom the data are produced.

The MI that NBR gathers is a critical complement to the analytical work. Indeed, often in interpreting data, or through modelling, staff can develop a view about the future direction of the economy or inflation. The intelligence work then offers an opportunity to corroborate or, occasionally, refute the staff’s view from data.

Most importantly, the more the policy-maker is

informed the better the decision. In 2017, Lynn Patterson, Deputy Governor of the Bank of Canada, once noted that the reason why central banks carry out MI is related to their responsibility of promoting the efficiency and stability of the financial system.

They do this in a number of ways by considering financial stability issues in their decisions and operations. Central Banks need to understand how market developments could affect the financial system, vulnerabilities to it or the effectiveness of the instruments they use.

HOW IS IT DONE AT THE NBR?

In the NBR, the MI activities cover several markets in line with its mandate namely the money market, credit market, foreign exchange market, and commodities markets. Currently, MI is done through surveys and open direct conversations via telephone, face-to-face meetings or email. Some MI activities are regular while others may stem from one-time events.

In all these activities, NBR always tries to speak to a broad spectrum of contacts in order to solicit diverse perspectives. For instance in the food prices survey, NBR interacts with the individual farmers, farmer cooperatives and agronomists at sector and district levels as well as with the meteorology agency. Intelligence gathering from the foreign exchange market involves participants from forex bureaus, importers and international organizations among others.

HANDLING OF THE INFORMATION GATHERED

Similar to other modern central banks, NBR established practices and policies that govern the analysis and dissemination of the information gathered through MI.

Depending on the level of confidentiality, the collected information is incorporated into a wide range of briefings and analyses that may be shared with only policymakers or with other senior stakeholders and staff. Other information is condensed in reports and made available for the public.

Non-aggregated or counterparty-specific information is never shared with other contacts under any circumstances. This has helped the NBR to consistently build the trust and credibility it enjoys now from the public.

WHAT DOES NBR EXPECT FROM THE PUBLIC?

The NBR invests in MI activities to get quality and accurate information. All rely on the goodwill and ob-

This facilitates the two-way dialogue and mutual understanding. The more you apprehend what NBR does, the more you easily understand why it needs the information and the more you interact with it. That is, MI helps the NBR to build good relationships with stakeholders. Besides, the good work by NBR benefits all!

WAY FORWARD

The Rwandan economy is growing and getting more dynamic and by the end of 2018, the NBR will switch to interest-based framework. Even though MI activities are not new in NBR, these developments call for more MI. NBR has already started broadening these activities intensively and extensively.

New markets such as real estate market have been included this year and MI activities on financial markets have been intensified. New platforms to interact with diverse stakeholders are coming in. Therefore, the role of MI will keep increasing.

The NBR will also continue to share with the public what it does as much as

The information, primarily qualitative in nature that central banks gather through direct interaction and dialogue with market participants

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ligations of the citizens to provide correct information to best of their knowledge. NBR also encourages the public to follow and learn about all economic news especially from NBR.

it commits to respect the confidentiality of the information it collects from the public. The public is urged to take advantage of this channel of mutual communication with NBR and thus participate in the decision making process. ■

THE CASE FOR ECONOMIC LITERACY

By Samuel Baker,
Economist - National Bank of Rwanda



In 2016, just before the UK's Brexit referendum, on live TV, Professor Anand Menon of King's College London was explaining to an audience in Newcastle that, in the view of most economists, leaving the EU would be bad for their economic health.

He noted that GDP was likely to fall. Just as he uttered these words, a woman rose from the audience and, with finger pointed, shouted: "That's your bloody GDP, not ours!" Professor Menon had no right of reply.

Such cases are common in real life, when citizens feel disconnected from the world that Economists proclaim, one does not need to go far to find examples.

In March 2018, after the Monetary Policy and Financial Stability Statement by the National Bank of Rwanda, a friend came to me furious, "what is the problem with you experts" he shouted, "BNR claims that inflation is low in Rwanda, do you guys go to the market, do you buy stuff?" "everything has risen in prices, and we know it".

These stories are testament that the case for economic and financial literacy is strong. Economics is part of people's life. It affects our daily lives in both obvious ways and more subtle ways.

From an individual perspective, economics frames many choices we have to make about work, leisure, consumption and how much to save. Our lives are influenced by broader economic trends, such as inflation, interest rates and economic growth.

Since we live in a world where these trends affect us, we often try to make sense of them, in our day to day discussions, economic developments take the central seat.

In markets, chatter will be about food prices, hit the roads, and motorists will be discussing fuel prices, in homes, school fees for children and utility bills among others will be big discussion points. There is nowhere we can escape economics.

There's a problem however, although many people like to discuss these issues, there is a lack of basic understanding among the public on how the economy functions.

This is why, like my friend or the woman in the audience, many people feel that reality is disconnected from the world economic experts declare. Such problems however, can be tackled through initiatives that boost economic literacy, such as the #BNREngage, by the National Bank of Rwanda to raise awareness among the public on economy related issues.

Why do programmes like #BNREngage matter? Studying biology enables people to observe and marvel at many details of natural environments that otherwise would have escaped notice.

In much the same way, mastering a few basic economic principles can cast the mundane details of ordinary existence in a sharp new light. Ludwig Von Mises once noted, “Economics deals with society’s fundamental problems; it concerns everyone and belongs to all”, this is why economic literacy is important.

Thirty years ago, Nobel Laureate in economics, George Stigler, wrote: “The public has chosen to speak and vote on economic problems, so the only open question is how intelligently it speaks and votes.”

In his view, economic literacy is important because it serves as a “means of communication among people,

incorporating a basic vocabulary or logic that is so frequently encountered that the knowledge should be possessed by everyone.” And that it helps because, it is a “type of knowledge frequently needed by the people”.

Economic literacy gives people the tools for understanding their economic world and how to interpret events that will either directly or indirectly affect them.

Countries also benefit from having an economically literate population because it improves the public’s ability to comprehend and evaluate critical issues they face in daily lives. For policy, it is key because it helps to center the policy making

process on the active support and involvement of its citizens.

An economically literate population possess the tools for understanding their economic world. It helps to improve the competence of each individual for making personal and social decisions about the

multitude of economic issues that they encounter on a daily basis and will do over a lifetime.

For some economic decisions, such as buying a home or investing in the stock market, it is possible to hire professional or technical help when making a choice, but in most cases it is neither economical nor practical for an individual to hire a skilled professional

every time an economic decision needs to be made.

Even when such advice is given, the final decision must be made by the individual, not the adviser. Each person must therefore ultimately serve as his or her own economist in making many economic choices, whether those choices involve buying a product, getting a loan, or something else.

In Biology, cells are the basic building blocks of all living things. The human body is composed of trillions of cells, they provide structure for the body, take in nutrients from food, convert those nutrients into energy, and carry out specialized functions.

Without cells therefore there is no body. Likewise, in Economics, agents such as households, firms, buyers and sellers, aka - people, are the basic building blocks of an economy. Without people, therefore, there is no economy.

In the body, cells produce signals to control how much and how often they divide. If any of these signals are faulty or missing, cells may start to grow and uncontrollably multiply, which can cause cancer.

In the economy, people make economic decisions. If many of these decisions are ill informed, they may pose great risks to the economy.

It is therefore important that people understand the economy.

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THE PUBLIC HAS CHOSEN TO SPEAK AND VOTE ON ECONOMIC PROBLEMS, SO THE ONLY OPEN QUESTION IS HOW INTELLIGENTLY IT SPEAKS AND VOTES



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ROLE OF LIQUIDITY MANAGEMENT IN MONETARY POLICY IMPLEMENTATION

By Beza Hoziane Amen,
Young Economist – Monetary
Policy Analysis

Liquidity management is a key aspect of monetary policy implementation. While banks typically want to hold a certain level of liquidity for payment and precautionary purposes, excess liquidity can find its way into the interbank market, translating into lower interest rates, lead to higher volumes of credit or risk-taking on the part of banks, or increased demand for foreign exchange.

Tight liquidity conditions can increase the cost of funding for banks and lead to higher lending rates that curtail credit expansion with potential implications for growth and financial stability.

Central banks therefore manage liquidity for monetary policy implementation, to limit imbalances and ensure that short-term market interest rates reflect their policy rates and to avoid actions by banks that may run counter to the central bank's objectives. To adopt a price based monetary policy, central banks will need to develop interbank market to make sure that interbank funds are redistributed between participants. This will help central banks to manage liquidity at the level of the whole financial system. Liquidity management is a

key tool that help to strengthen the transmission mechanism of monetary policy. The process of liquidity management

- demand/supply of reserves
The central bank is in a monopolist position in terms of supplying reserves, so it can directly affect equilibrium. On the demand side, commercial banks' demand for reserves either to comply with the reserve requirements, or their clients demand for cash and their daily transactions. Banks can also get funds from other banks on the interbank market.

□ Central bank instruments for liquidity management

The central bank has many instruments for liquidity management to reach the operational target. They differ in the way they are used, the maturity period, and if they are discretionary or accommodative.

A) PURCHASE AND SALE OF GOVERNMENT SECURITIES

In order to influence liquidity in the market, a central bank transacts government securities on either primary or secondary market. If the central bank sells securities, it with-

draws liquidity from the market. When it buys securities, it injects liquidity in the market. The central bank initiates this transaction, but it is not binding for market participants.

B) ISSUANCE OF SHORT-TERM MONEY MARKET SECURITIES

The central bank issues short-term securities of its own on the primary market, thus it withdraws money from the market for a given period and it gives it back when matured.

C) SALE AND REPURCHASE AGREEMENTS (REPO)

A Repo transaction is a sale of assets and a simultaneous agreement to repurchase equivalent assets at a future date for the original value plus a return on the use of the cash according to the predetermined terms of the contract.

D) CENTRAL BANK ACCEPTANCE OF DEPOSITS

Another method of withdrawing liquidity from the system is the acceptance of deposits by the central bank. In this case, the banks places a deposit with the central bank, but the central bank does not provide a collateral to secure the deposit, unlike in the case of a reverse repo.

E) CENTRAL BANK LENDING

The central bank may choose to add liquidity in the system by directly lending to commercial banks against a collateral. These loans have predetermined interest rates.

F) RESERVE REQUIREMENT

Reserve requirements were initially introduced as a prudential instrument to ensure that banks had sufficient liquidity in case of deposits withdrawals. Today, the reserve rate has increasingly become a liquidity management tool. Banks are required to hold as reserves at the central bank a percentage determined by the reserve ratio of deposits collected and other liabilities.

The reserve requirement acts as a tool for liquidity management through two channels. First, the central bank may create a structural liquidity surplus (shortage) by lowering (raising) the reserve ratio.

Second and certainly the more important influence of reserve requirements is if the banks are required to comply with the reserve requirement over a given period on average, then reserves serve as a cushion in face of fluctuations in the overnight rate. From a monetary policy perspective, reserve requirements, if accompanied



by averaging provisions, change the interest rate sensitivity of banks' demand for reserves, and thus help manage liquidity shocks while reducing volatility in interbank rates. They also create stable demand for central bank money, which offers a predictable environment to conduct open market operations.

Within this operational framework of liquidity management, the central bank decides how much liquidity to supply or withdraw from the market, and it influences interest rates via the quantity of liquidity. A precondition for the efficient operation of liquidity management is the accurate forecast of liquidity position.

Liquidity Management Practices at the National Bank of Rwanda

The National Bank of Rwanda is moving from a monetary targeting regime to a price-based monetary targeting, thus liquidity management is more important now than ever. In light of the new monetary framework, there was a great need of a well-functioning interbank market. For the development of interbank market, Financial Market Operations Committee (FMOC) was put in place to conduct liquidity management.

□ Daily liquidity forecasting
The structure of the daily liquidity forecasting provides forecast of the

daily developments in commercial banks' settlement account balances and the outstanding stocks of instruments. The daily liquidity program helps establish the banking sector's actual and expected compliance with the reserve requirement.

This daily liquidity forecasting considers all the factors in the economy that will impact the liquidity on that specific day.

These factors are explained below.

The liquidity forecasting framework is now well established and daily forecasts are performed and discussed in the FMOC

- Forex transactions where sales to banks diminishes liquidity and SWAPS increases liquidity. The logic is that, when banks bring the local currency to purchase foreign currency it reduces the liquidity and vice versa.

- Government domestic operations through Ordinateur Tresorier du Rwanda (OTR) and Line Ministries. Revenues in OTR such as taxes, new issuance of government securities diminishes liquidity. Expenditures in both OTR such as salaries of government workers, repayment of government securities, coupon payment and Line Ministries such as local governments' and public institutions' invoices reduces liquidity.

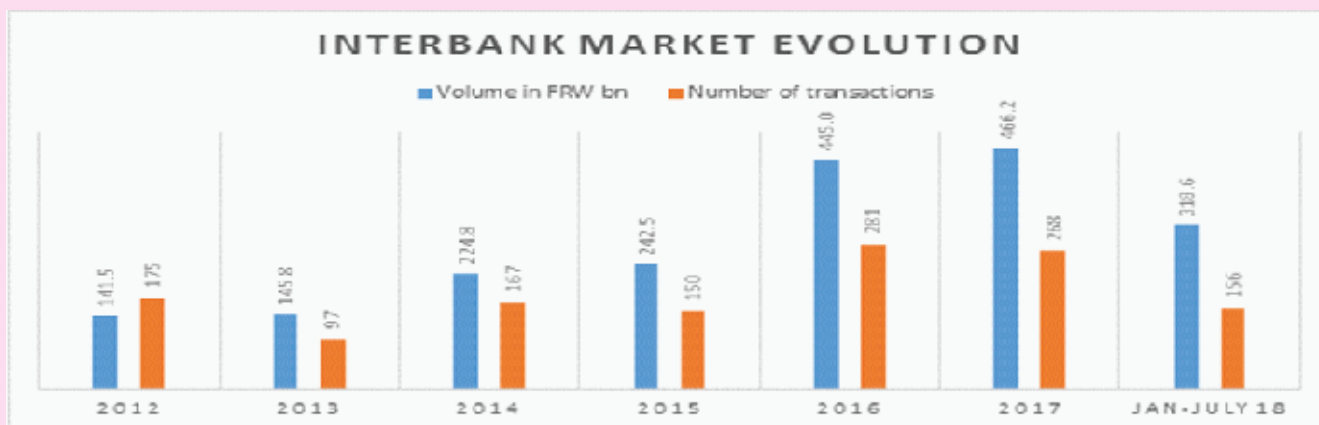
- Commercial banks operations with the Central Bank. Where government securities repayment such as Repo and Central Bank Bill repayment upsurges liquidity and the reverse of this reduces the liquidity

- Currency in circulation (CIC). Where withdraws of bank's deposits adds to the CIC cash in vault, but lessens liquidity. While deposits from banks reduces the CIC, they increase liquidity.

The liquidity forecasting framework is now well established and daily forecasts are performed and discussed in the FMOC. To ensure the quality of projections, FMOC calculates forecasting errors by comparing the actual outcomes with daily liquidity forecasts and identifies key sources of deviations. This practice contributed to improve the quality of forecasting by enhancing the collaboration with data providers, particularly with MINECOFIN on cash flow projections of government transactions.

NBR uses various instruments to manage liquidity through open market operations that include repos or reverse repos operations, treasury bills issuance, standing deposits facility and standing lending facility and refinancing window.

NBR has been able to improve the interbank market, and control interest rates due to good liquidity management.



Despite good progress achieved in the last two years, building capacity to forecast liquidity will be crucial for the efficiency of the new monetary policy

framework. Indeed, an effective capacity to forecast liquidity developments in the system (that is, to forecast changes in the central bank's balance sheet) will allow NBR to make informed decisions on the tim-

ing and size of its discretionary monetary operations. In turn, those operations will contribute to steering liquidity in the system to its optimal level, and create conditions for a smooth functioning interbank market. ■



THE CASE FOR PROPERTY PRICE INDICES

By **Christian Nyalihama**
Manager – Economic Research Division

For the last 15 years, Rwandan economy has experienced significant changes. Economic growth has been higher and sustained, coupled with social progress in various areas such as health care, infrastructures and urbanization. The number of population living in the cities continues to increase from 1.7 million in 2012 to around 3.3 million in 2017 (Estimation from the National Institute of Statistics of Rwanda) and the government has been trying to set up adequate infrastructure to cope with that trend.

As a result, the country experienced a boom in housing properties all over the country in general and mostly obvious in the cities. In Kigali City, increase of the number of dwelling units was estimated at around 32% between 2011 and 2014 (estimation from EICV4) higher than initially projected.

Indeed, growing urbanization has sustained demand for real estate properties for residential and business purposes. These dynamics required significant financing from both local and international financial institutions. However, local financial institutions have been playing a bigger role to fulfill that need.

The proportion of loans allocated to building and public works in total authorized loans by Rwandan banking sector reached 28% in 2017 from around 16% in early 2000s. Loans for housing projects have been perceived as less risky by Rwandan financial institutions given that these loans are usually backed by housing properties as collateral. Besides, in the last decade, it is evident that prices of housing and land properties soared up especially in urban areas amid increasing demand.

In the central bank perspective, it is paramount to monitor the evolution of housing property prices and understand its implications on credit conditions, economic activities and financial sector stability and soundness. In the aftermath of Global financial crisis, the IMF and Financial Stability Board (2009) explored the existing data and information gaps, which were hindering policymakers to undertake appropriate policy responses and one of the recommendations was that countries should disseminate comparable data on real estate prices. Hence, many countries especially developed countries have put more efforts in developing good real estate statistics, as the need to monitor assets prices becomes more

vital in an environment of very accommodative monetary policy stances. Currently, the Bank of International Settlements publishes residential real estate prices for 59 countries collected from the Central Banks.

In theory, as long as the markets for housing property remains bullish, the value of collaterals are perceived to increase, so is the size of the balance sheets of financial institutions and the soundness of the whole financial sector is likely to improve. Nevertheless, markets cannot remain bullish forever due to existence of shocks and headwinds in the economy.

In such a case, lower demand for housing property is likely to affect their values, and subsequently, the balance sheet and soundness of financial institutions holding them as collaterals. This exposure can even be exacerbated when loans are somehow concentrated in housing sector as in the case of Rwanda.

Actually, when there is no adequate measure of the values of the housing properties, the uncertainty surrounding the real value of collaterals can lead to a fire sale and vice versa, eventually triggering a major crisis in financial sector, likely to spread to other sectors of the economy.

One of the challenges is how to properly measure housing property prices, which can inform policymakers in charge of safeguarding financial stability, financial institutions and other economic agents, on the evolution going on in the housing sector.

The 2007-2008 global financial crisis is a salient example on how headwinds stemming mainly from housing sector can wreck a havoc in the whole financial sector and lead to a prolonged recession in the economy. Indeed, the relationship between house price cycles and financial crisis is well recognized and documented (e.g. Obstfeld & Rogoff 2009; Borio, 2012). In the aftermath of the crisis, macro prudential policy issues have gained prominence and central banks all over the world are putting more emphasis on them as a way to minimize risks and maintain soundness of the financial sector.

Therefore, given the significant proportion of mortgage loans in Rwandan financial sector, the National Bank of Rwanda in its mandate of ensuring price stability and a sound financial system, has begun to compile the real estate price index. This index will likely give more insights on evolution in housing sector and in addition to other indicators currently used, allow policymakers to take adequate and timely decisions in macro prudential policy design and analysis.

HOW IS IT DONE?

The compilation of real estate price index is not straightforward exercise. The matched model methodology typically used in compiling price indices is not appropriate given that housing properties are heterogeneous and their different quality make them difficult to compare.

Various alternative approaches are suggested notably by

Eurostat handbook on residential property prices indices (2013). All these approaches aim at adjusting for that quality changes and measure the pure price changes. That is why a range of data on price determining characteristics of housing properties transacted (e.g. size, location, age, etc.) is required to be able to measure pure price changes.

The Rwanda Land Management and Use Authority collects data on real estate transaction at National level. With the ongoing collaboration between Rwanda Land Management and Use Authority and the National Bank of Rwanda, a part these transaction data

Indeed, growing urbanization has sustained demand for real estate properties for residential and business purposes

is used at the National Bank of Rwanda in compilation of residential property price index on quarterly basis.

The methodology used (mix adjustment method) borrows heavily from the methods suggested by Eurostat Handbook but is adapted according to available data. Currently, the compilation of residential property price index at the National Bank of Rwanda is still at initial stage. Preliminary index is used internally during policy deliberations and going forward, with improvement in quality of data on properties transactions, a more comprehensive index with an improved methodology will be compiled and disseminated.

WHAT DIFFERENCE DOES IT MAKE?

For the National Bank of Rwanda responsible for ensuring a sound financial system, this is an additional indicator of economic performance in general and an important input for macroeconomic policies. Specifically, the dynamics in prices would help to better gauge the risks on

assets side of financial institutions balance sheets where exposure to housing sector had been gradually increasing due to upswing in housing loans disbursed. In the case of sizable price reversal, ensuing risks on health of financial institutions should be adequately measured in order to devise appropriate mitigating policies. The availability of housing property price index would be helpful in the whole process.

Similarly, other financial institutions also would have at their disposal, another indicator to use in their regular analysis especially for assessing real value of collaterals, managing risks and assessing investment opportunities. If the current demand for loans to build housing properties is sustained, it is vital for

Rwandan banks to know price dynamics in different segment of the housing market. This coupled with adequate analysis, would improve their decision process in channeling the available funds.

For other economic agents such as households, transaction on housing properties is one of the biggest decision in their lifetime. Being timely informed on price dynamics would help them to decide on whether or when to buy or sell a house, applying for a loan to acquire a house, saving or invest in other alternative assets, the value of their assets and wealth, etc. Decision-making based on some precise numbers such as this housing price index, is likely to be more efficient.

Rwanda's achievements in ensuring macroeconomic stability has been impressive, partially thanks to right policy decisions of the National Bank of Rwanda. As we shift to a new policy framework, it is appropriate to continue improving on existing indicators and tools, to cope with current and future policy challenges. ■



THE ROLE OF INSURANCE INTERMEDIATION

By Steven Biganiro
Inspector Insurance and Pension

INSURANCE HAS BECOME AN IMPORTANT PART OF TODAY'S MODERN ECONOMY.

Insurance is essential for businesses, individuals and households because it is a risk transfer mechanism. With insurance, businesses can operate cost-effectively because risk is transferred to a third party, in this case the insurer.

For individuals, it helps to protect and cushion them from the day to day uncertainties. For example, policyholders buy motor insurance to be protected against any

liabilities, it could be injury and property damage in case of accidents. Health insurance helps to transfer any health care costs that may arise in future in unfortunate cases of accidents.

The rationale is that the insurer will pay the policyholder once an insured event resulting to loss occurs. The insurer accepts this transfer of risk on the basis that the policyholder pays premium in turn.

INSURANCE IN RWANDA

Rwanda's insurance business is at a developing stage but growing. Today, the number of insurance companies have grown to 16, from only two in the 1990's. In 2005, there were no insurance intermediary but as of 2017, the market has sixteen (16) licensed insurance brokers and more than five hundred and fifty (550) insurance agents.

Due to a conducive business environment, the market has

attracted both local and international investors and new products are being developed by the insurance companies such as collateral replacement indemnity, weather index insurance, livestock insurance and crop insurance.

WHAT IS INSURANCE INTERMEDIATION?

Insurance intermediation can be defined as the business activity of promoting or facilitating an insurance contract between an insurer and a purchaser. It involves selling or attempting to sell insurance on behalf of an insurer, asking or urging potential purchaser to apply for a particular insurance product, or conferring with or giving advice to a potential purchaser concerning a particular insurance product by a person or entity who sells or arranges the insurance contract. Activities by an insurer are not included.

Insurance intermediaries tend to have the best knowledge of insurance in terms of prices, products and insurers or providers of insurance, which helps to bridge the information asymmetry problem that may arise if individuals dealt directly with insurers. Insurance intermediaries serve various roles, including advisory role

Intermediaries counsel and advise on the insurance products and arrangements that best cover the client's needs. To that end, they study clients' individual circumstances and means with respect to the risks for which coverage is requested. Brokers for example, offer more complete and objective advice, because they can show the client a broader range of products.

DISTRIBUTORS OF INSURANCE PRODUCTS AND SERVICES

Intermediaries are familiar with the technical basics of the insurance business: the general theory of insurance, insurance contract legislation, the economic and finan-

cial guarantees that may be required of insurers in the domestic market, the way an insurer operates, the regulatory and supervisory framework, and the like.

They also have detailed knowledge of insurers' products and related technical matters, including their general and specific conditions.

REPRESENTATIVE OF THE INSURER

Intermediaries may also serve as representatives of the insurer. As such, they should know the company well, including its history, lines of business and products, economic size, position in the market, structure, organization, procedures, and senior management.

In some cases, intermediaries present an image in keeping with that of the insurer they represent, using company documentation and its representation materials: logos, signs, business cards, leaflets, and the likes

INNOVATIVE MARKETING

Insurance intermediaries bring innovative marketing practices to the insurance marketplace. This deepens and broadens insurance markets by increasing consumers' awareness of the protections offered by insurance, their awareness of the multitude of insurance options, and their understanding as to how to purchase the insurance they need.

SPREAD OF INFORMATION TO CONSUMERS

Intermediaries provide customers with the necessary information required to make educated purchases/ informed decisions. Intermediaries can explain what a consumer needs, and what the options are in terms of insurers, policies and prices. Faced with a knowledgeable client base that has multiple choices, insurers will offer policies that fit their customers' needs at competitive prices.

DISSEMINATION OF INFORMATION TO THE MARKETPLACE

Intermediaries gather and evaluate information regarding placements, premiums and claims experience. When such knowledge is combined with an intermediary's understanding of the needs of its clients, the intermediary is well positioned to encourage and assist in the development of new and innovative insurance products and to create markets where none have existed. In addition, dissemination of knowledge and expansion of markets within a country and internationally can help to attract more direct investment for the insurance sector and related industries.

HEALTH AND SOUND COMPETITION

The spread of information to consumers, increase their knowledge, which in turn increase their insurance demand and up take and hence penetration rate increase in Rwanda. Increased utilization of insurance allows producers of goods and services to make the most of their risk management budgets and take advantage of a more competitive financial climate, boosting economic growth.

SPREAD INSURERS' RISKS

Quality of business is important to all insurers for a number of reasons including profitability, regulatory compliance, and, ultimately, financial survival. Insurance companies need to make sure the risks they cover are insurable – and spread these risks appropriately – so they are not susceptible to catastrophic losses.

Intermediaries help insurers in the difficult task of spreading the risks in their portfolio.

Intermediaries work with multiple insurers, a variety of clients, and, in many cases, in a broad geographical spread.

They help carriers spread the risks in their portfolios according to industry, geography, volume, line of insurance and other factors. This helps insurers from becoming over exposed in a particular region or a particular type of risk, thus freeing precious resources for use elsewhere.

REDUCING COSTS

By helping to reduce costs for insurers, broker services also reduce the insurance costs of all undertakings in a country or economy. Because insurance is an essential expense for all businesses, a reduction in prices can have a large impact on the general economy, improving the overall competitive position of the particular market.

Of course, the insurance cycle of “hard” and “soft” markets can have a significant impact on

the benefits – both good and bad – of increased availability. However, increased availability benefits the consumer by leading to product competition, price competition, and improved services. By reducing insurance costs across markets, intermediaries make an important contribution to improving the economic conditions in a country.

INSURANCE INTERMEDIARIES ARE A ONE-STOP-SHOP FOR ALL INSURANCE NEEDS

Auto, home, renters, life, and health insurance policies can be obtained through insurance intermediaries.

In addition, insurance intermediaries play a service provision function, whereby they help in issuance of insurance

policies, updating of insurance policies and coverage, monitoring client satisfaction, maintaining portfolios and assisting in the event of a loss to make a follow up.

As Rwanda’s economic progress continues, the insurance sector will continue to play a key role in de-risking some of the country’s key economic sectors. In this regard, it is important that individuals understand the role played by insurance intermediaries.

The insurance business is largely dependent on trust and intermediaries may be a key component in efforts to build trust between individu-

als and insurers.

Insurance intermediation in Rwanda involves the use of brokers and agents whereby they facilitate placement and purchase of insurance, and provide services to insurance companies and consumers that complement the insurance placement process.

Since 2005 when insurance intermediaries started in Rwanda, they have acted as a very critical link between insurers who seek to sell insurance policies and consumers who wish to have cover against disasters that may happen to them or their property.

In Rwanda, insurance intermediary is categorized as either insurance broker or insurance agents. The difference between the two comes

from the way they operate within the market.

INSURANCE AGENTS

Generally, insurance agents are insurance intermediaries who are licensed to do or conduct insurance related business on behalf of insurance companies. After testing their competencies, insurers offer certificate of competences to their chosen agents to operate on their behalf under the agency relationship contracts.

Insurance agents earn commission on each business placed to the insurer depending on the commission rate agreed. In Rwandan market, all insurance agents are insurer-employed, although some other markets have independent agents who work for more than one insurance companies.

INSURANCE BROKERS

In Rwanda like in other markets of insurance, insurance brokers are independent in relation to insurers and they work on behalf of insurance policyholders in the process of insurance placement.

Brokers assist clients who seek insurance coverage in making the right choices since the broker works and understands how insurance companies operate. In this regard, insurance brokers have alternatives in terms of insurer and product to offer.

Although brokers are typically working on behalf of policyholders, they are also agents to insurance companies. In Rwanda, brokers are not allowed to collect premium from people seeking to buy insurance, but rather take clients to insurers of their choice and then clients pay premium to the chosen insurer. ■

The spread of information to consumers, increase their knowledge, which in turn increase their insurance demand and up take and hence penetration rate



THE ECONOMICS OF INNOVATION

By, Munyankindi Pascal,
Manager Monetary Policy Analysis

Innovation is the process of using ideas to offer new or improved products or services for the same or lower overall cost of production. Today, innovation is at the center of the current economic policy discourse in many advanced, emerging and developing countries including Rwanda.

It ranks among the most important of human activities, driving economic growth through the creation of job opportunities, new products and services, as well as inspiring cities, regions and countries to create environments that foster it to improve their competitiveness in local and global markets.

The established definition of innovation is the implementation/commercialization of a product with improved performance characteristics such as to deliver objectively new or improved services to the consumer. It is the implementation/adoption of new or significantly improved production or delivery methods involving changes in equipment, human resources, working methods or a combination of these. (See, Oslo, Manual 2005).

Innovation represents the downstream embodiment of knowledge. It is the concrete application of knowledge to enhance our material well-being. However, knowledge and innovation are indistinct, intangible concepts with ill-defined borders. We know that its quality matters but the difficulty in research is that we have yet to find an undisputed measure of knowledge that is cardinal, transitive and robust. The term “innovation” includes technical change, and also includes many dimensions of eco-

nomonic change that do not fall easily into the category of technical change. The older term conjures up hardware and long assembly lines, but not the software of the digital world of computers, the internet, social networking, nor the reorganization of work that has followed innovation in these areas.

Although innovation and the production of new goods and services have always been a part of economic activity, economic research on innovation has been to some extent scattered among a number of quite disparate economic fields, including macroeconomics, industrial organization (the strategies and interactions of innovative firms), public finance (policies for encouraging private sector innovation), and economic development (innovations systems and technology transfer) to mention few.

To improve the understanding of innovation’s measurement, the Global Agenda Council on the economics of innovation set about to find, dissect and understand the complete set of the world’s existing indexes of innovation. This inquiry led to the discovery of 17 innovation indexes and 14 innovation surveys and reports, which together identify some 45 indicators of innovation (See, World Economic Forum, 2016).

There is need to note significant diversity in how these various indexes, surveys and reports approach the topic of innovation. Some, such as the Forum’s Global Competitiveness Report 2015-2016 and the European Commission’s Innovation Union Scoreboard 2014, have updated their innovation index yearly to provide a basis for comparisons over time, while others, such as the Alliance for Sci-

ence and Technology Research in America’s (ASTRA), Innovation Indicators for Tomorrow, have only published their innovation index once.

The geographical scope of innovation covered varies as well. For instance, most of the indexes, surveys and reports, such as INSEAD’s Global Innovation Index 2015, cover innovation on a global, multinational scale, including both developed and developing countries, while a few, such as Foro Consultivo Científico y Tecnológico’s (FCCYT) National Ranking of Science, Technology and Innovation 2013 (STI 2013), limit their scope to innovation on the regional level.

This article aims to give the reader a sense of the stylized facts about what makes some firms or countries attempt more changes compared with others. It is essential to review why one cares about innovation and its differential treatment in the economic and management literatures.

II. What the economic literature says

Some innovation economists have focused not only on the understanding of how the economic system generates economic change, but also upon how that change occurs as the working out of purely endogenous forces (See Joseph Schumpeter, 1937).

Others have attempted to explore the role of innovation in explaining the heterogeneity of firm performance. Attempts have been made to extend and develop traditional analysis of the relationship between research and development (R&D) and productivity by using firm-level data

and econometric framework. More specifically, Hans Loof (2002) analyzed data on the knowledge production function from extensive samples of manufacturing firms in Sweden, Norway and Finland and from an extensive sample of service firms in Sweden with the objective to investigate the role of innovation in explaining the heterogeneity of firm performance.

The ambition in the economics of innovation to obtain measurable and reliable output on innovative activity is achieved in a satisfactory way. There is need to point out an increased understanding of the relationship between innovation and firm performance in several respects especially the sensitivity of the relationship between innovation input, innovation output and firm performance in a variety of dimensions including different measures of firm performance, different types of innovations, different sectors of the economy and different types of models and estimation methods .

Economists list a number possible factors explaining the differences in innovation behavior among countries. One is the effect of firm size on the innovation behavior of firms. A second factor is the type industrial structure and thus the difference in the innovation behavior of firms independent of their country of location. These industries are different in export intensity, which affects their innovation behavior and performance. A common factor is the positive association between past and current R&D behavior.

Countries differ in the factors that could hamper innovation. Innovation is affected by a lack of appropriate sources of finance and qualified personnel, organizational rigidities and a lack of information on technology. This can be interpreted as meaning that an increase in the supply of skilled personnel, organizational innovations and more efficient diffusion of technology could be expected to stimulate innovation activities. Finally, countries differ in their view of external cooperation on innovation.

III. The case of Rwanda: Has innovation played a role?

More than a decade now, Rwanda has experienced one of the fast-

est period of growth and socio-economic progress and transformation in its history. It was tenth fastest growing economy in the world during the decade from 2000 .

At the same time, more than a million people have been lifted out of poverty. Population growth is stabilizing and the country is making great steps towards achieving the Strategic Development Goals (SDGs) and middle income status. A sustained economic growth (8 percent average), poverty reduction (12 percent points) and a reduction in income inequality were achieved over the EDPRS 1 period.

Innovation through various programs has helped to accelerate economic transformation and promote inclusive growth. Among others, the GIRINKA Munyarwanda Program for example, is transforming rural livelihoods and addressing poverty alleviation in Rwanda. The model is simple but the impact is high. One Cow brings nutrition, sustenance and employment, providing a stable income for a family and is a source of soil nutrients via manure to assist small scale cropping activity. To date, more than 203,000 families have now benefited from the program. However, many more families, some of the Rwanda's most poor still eagerly await to receive the many benefits the program can bring. The target was to reach 350,000 Rwandese families by 2017.

Such an innovative program was set up with the central aim of reducing child malnutrition rates and increasing household incomes of poor farmers. These goals are directly achieved through increased access to, and consumption of milk, by providing poor households with a heifer. The program has been crucial to addressing the fundamental needs of those parts of the country that are critically food insecure, thereby contributing to economic growth and change.

A second example of how innovation was used to support growth in Rwanda is "performance contracts" (Imihigo). Through performance contracts government agencies set targets on a number of issues related to governance, justice, economic and social indi-

cators that they need to be evaluated upon, (See Overseas Development Institute, 2012). Since 2006 this approach has been used by local government authorities for setting local priorities, setting annual targets and defining activities to achieve. The performance indicators provide a clear framework to establish domestic accountability at a level directly relevant to citizens.

These contracts as a result make public institutions and the leaders accountable to their actions, since they are judged based on how they deliver against the set targets. This accountability has helped to make public agencies more effective and efficient. Performance contracts has a strong focus on results which makes it an invaluable tool in the planning, accountability and monitoring and evaluation processes (See GoR, 2010a, p1).

Rwanda has also embraced innovation in technology, to support economic transformation. With the Rwanda Online project, Rwanda established an e-Government platform engineered to transform government service delivery, increase access to information and foster transparency. This project has enabled the public to access government services online, helping to cut costs, reduce delays in service provisions and increase efficiency and transparency in service delivery.

IV. Conclusion

The close relationship between economics of innovation and policy questions have two related causes: (1) the economic growth literature of the past years has identified technical change as the major contributor to productivity growth. (2) The invention and innovation that are the source of technical change also create knowledge.

For Rwanda, innovation has not only been a technology transformation but has been broad. As the case has shown, the country embraced innovation in policy, in service delivery and public operations. Indeed, innovation will put emphasis on shaping a new development strategy, aiming to achieve upper middle-income status by 2035. ■



HOW CAN GOVERNMENTS ACCELERATE PRIVATE SECTOR DEVELOPMENT IN EAST AFRICA?

By Jonathan Said

Head of Private-Sector Development at Tony Blair Institute, Kartik Akileswaran, Advisor at Tony Blair Institute and Linda Calabrese, Research Fellow at Overseas Development Institute (ODI)

East Africa is on the move. Kenya, Rwanda, Uganda, Tanzania and Ethiopia have all sustained average economic growth of 5% or higher since 2001. Ethiopia leads the pack with average growth of 9.1% between 2001 and 2016, followed by Rwanda, Tanzania, Uganda and Kenya. GDP per capita in Kenya hit \$2,900 in purchasing power parity terms in 2016, while Tanzania's hit \$2,600. Rwanda, Uganda and Ethiopia follow at between the \$1,600 and \$1,800 mark. As recently as in 2001, Ethiopia stood at just \$650, Rwanda at \$821.

The key question facing these countries now is how to maintain and even top this performance by transforming their economies. The region's booming population makes this ever more urgent. Ethiopia's population is set to hit 166 million

by 2040, Kenya's 81 million, Uganda's 84 million, Tanzania's 109 million and Rwanda's 19 million.

According to estimations by the Tony Blair Institute and the Overseas Development Institute, these five economies need to create 125 million new jobs and decent livelihoods in the next thirty years alone. To achieve this, governments in the region know that the main drivers of their economic growth need to change. They want to see their countries not only as exporters, but also as regional hubs for various sectors. Kenya wants to supply cars to the region, Ethiopia pharmaceuticals, Rwanda business tourism.

The region has made excellent progress in recent years in driving growth, boosting trade and investment and kick-starting sector development efforts.

One Stop Border Posts are now common across the region, electronic single windows for customs are in place, the trains from Addis to Djibouti and Nairobi to Mombasa are now operational and the ports of Mombasa, Djibouti and Dar-es-Salaam are functioning well. FDI in manufacturing in Ethiopia and Rwanda is growing rapidly, while industrial parks are proliferating across the region.

Yet despite these advances, East Africa has not secured the type of growth - rooted in job-creating high value sectors - that it aspires to. The region's growth in recent years has been driven primarily by mining, construction and non-exportable services rather than by high-productivity agriculture and manufacturing.

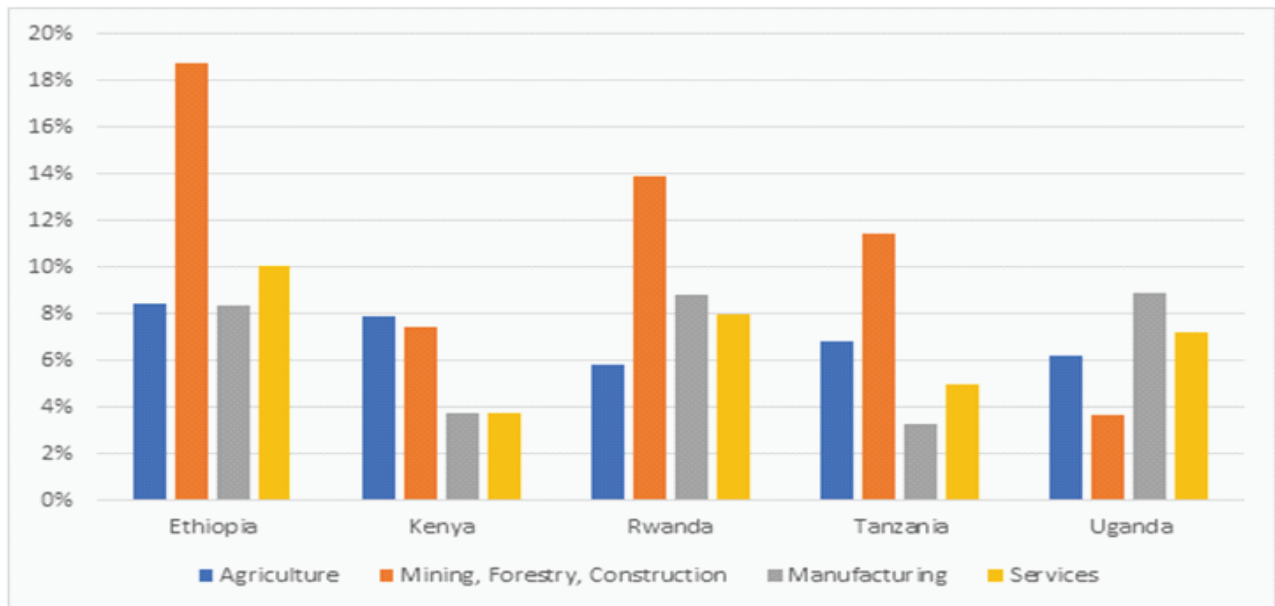
While the former sectors are valuable, they are much less

Figure 1:
Compound annual growth rate in gross value added by sector (constant prices), 2005-2016

able to be the ‘pull’ the economy through inclusive growth, that is, growth that can drive nationwide job creation, im-

prove the livelihoods of the poor, create extensive economic spillovers, rapid export growth and large scale product innova-

tion – the elements necessary for nationwide and region wide industrialisation.



Source: World Bank Development indicators

In addition, the industrialisation of East Africa requires synchronised efforts by government to support private investment. This entails lowering the costs faced by investors, facilitating the investment process and providing the right infrastructure.

The neoliberal tradition promoted under the Washington Consensus advised policy makers in developing countries to provide the optimal environment for investment, without selecting sectors or “picking winners”. In recent times, however, as governments realised that this “neutral” or “horizontal” approach has not delivered the results it promised, a selective industrial policy has experienced increased popularity. Promoted by the recent success demonstrated by countries like China and Vietnam, this “modern industrial policy” mixes a

“vertical” approach of sector promotion with “horizontal” measures.

Some of these traits can be seen in East African countries. They often identify sectors to be developed in a multitude of policy and strategy documents. For example, it is not uncommon to find different sectors being identified as priorities in the same country, with the national industrial policy differing from the export promotion policy, and both differing from the short- or medium-term planning documents. These differences are natural as they emerge from a sequenced policy process, with each document being drafted at a different point in time, and therefore reflecting the policy priorities of the moment. However, they can also generate confusion and not allow for a coordinated use of scarce government resources.

Moreover, this vertical approach is often not complemented by other measures that could make the sectors more successful. Investment promotion and trade facilitation are normally used in their purely horizontal or cross-sector nature, but are not used to serve the sectors that have been identified as priorities.

What is required for the region to industrialise is more effective policy and implementation coordination, particularly within governments. Intra-governmental coordination will also facilitate cooperation between countries in the region as well as with their neighbours. We believe the region is ripe for it.

There is plentiful evidence of the lack of coordination across the region on each of these three policy areas, for example :



These coordination mechanisms should be tailored not just to the different institutional frameworks in a country, but more importantly, to the different people and politics involved.



1. Trade policy and sector development:

- Critical imported inputs for priority sectors are still classified as finished goods, thereby incurring a high tariff
- Trade tariffs are applied to incentivise import substitution in sectors that are not prioritised for development
- Critical imported inputs are being restricted without efforts to ensure availability of an appropriate local substitute
- Priority imported inputs are being taxed as non-priority inputs
- Customs fast-tracking is not being implemented in the priority sectors.

2. Investment promotion and sector development:

- Special Economic Zones are not being targeted to priority sectors
- There is limited coordination in the planning of EPZs and SEZs across different levels of government
- Investment promotion efforts by promotion agencies are focused on too broad a range of sectors.

3. Trade policy and investment promotion:

- There remain cases of misalignment between export and investment promotion strategies
- Trade facilitation measures are being promised to investors but then not being met
- Membership of trade blocs is not always aligned to country's desires to be regional production hubs for certain products.

East African countries can best address these challenges by investing in two areas:

1. A coordination mechanism embedded in the centre of government
2. Using market-based sector development as a policy anchor

Coordination Mechanism

Fundamentally, the challenges described above are caused by insufficient coordination between government ministries and agencies at the planning and implementation stages. Trade policy, investment promotion and sector development fall under different Ministries and agencies.

Trade policy is owned by Ministries of Trade. Investment Promotion by the Investment Promotion Agency. Sector development can be driven by a range of line Ministries and agencies, ranging from the Ministry of Agriculture to the Ministry of Industry to Industrial Park or Economic Zone Agencies to the Ministry of Finance or Planning.

The solution lies in champions of the industrialisation agenda, who are embedded in government and backed by the private sector and development partners, to strengthen the systems and structures that allow for these three policy areas to be synchronised at the planning and implementation stages. These coordination mechanisms should be tailored not just to the different institutional frameworks in a country, but more importantly, to the different people and politics involved.

They should find solutions that are fit-for-purpose - based on sector needs. Successful implementation also requires being adaptive, politically smart and trying different alternatives. There is no one-size-fits-all solution, and it is essential to recognise that numerous coordination structures have failed in the past.

What matters is not whether there is a structure in place or not, but that the mechanism fosters sufficient co-design and co-implementation of policies and programmes.

Countries that have made significant progress provide examples of successful mechanisms. These include, the National Economic and Social Council in Mauritius, the Seychelles Tourism Board, the Ministry of International Trade and Industry in Japan, which was one of the most powerful Ministries in the Government of Japan and ran Japanese industrial policy, trade and investment, Cambodia's Trade Sector Wide Approach and Singapore's Economic Development Board.

The key functions that helped these succeed and that need to be present for a coordination mechanism to work are:

1. Overriding power across government – hence typically better if centred within a few degrees from the Head of State
2. Focused mandate
3. Politically and economically smart
4. Suitable managerial, analytical and financial resources made available, including an effective secretariat or delivery team as part of it, for follow

through

5. An integral part of the centre of government's development agenda

6. Focused engagement with the private sector in targeted sectors

Market-based sector development as a policy anchor

Given the realities of limited political capital and institutional bandwidth - which make the required degree of coordination across these three policy areas difficult - top leaders in government should identify a focal point around which different Ministries and agencies are asked to orient their priorities and operations - what we call a policy anchor. Establishing a policy anchor that is specific, tangible, and relevant across key Ministries and agencies is essential for policy coordination.

This is particularly essential for trade departments, industry departments, investment promotion agencies, export promotion agencies, industrial park and economic zone agencies and agriculture ministries, because often they lack structures that allow them to co-design and co-implement their programmes and policies.

Our recommendation is for governments to use market-based sector development as a policy anchor for the three policy areas. It is a natural anchor because it can implicitly serve as a prioritization mechanism for trade policy and for investment promotion.

If the latter two policy areas are approached in the absence of sector priorities, they are more likely to entail scattershot, ad hoc efforts that spread government resources thin. In addition, sectors - and products in those sectors - are concrete and

easy to relate to. This makes it straightforward for champions of industrialisation to communicate their priorities, thus setting a clear sense of direction for multiple stakeholders - both in the public and private sectors - to relate to and rally around.

It also allows government officials outside of the economic ministries to make industrialisation planning much more tangible and concrete. This is because the land policy, tax

What matters is not whether there is a structure in place or not, but that the mechanism fosters sufficient co-design and co-implementation of policies and programmes.

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policy, skills policy, labour policy, can be much more directly linked to a sector that exists on the ground, such as textile and food processing factories, than to investment that will come in the future or to trade negotiations which are often inaccessible or detached from the rest of government.

In addition, a major difficulty that arises when trade policy and investment promotion are carried out without a sectoral development anchor, as has typically been the case in Africa since the 1980s, is that, they have been more susceptible to being carried out in the abstract, without a tight enough link to the real potential on the ground to deliver jobs, the widening of the tax base and economic transformation. This has contributed to the disconnects presented above.

On the investment side, it may have led to relatively easier investments, such as in non-labour-intensive extractives, and to too little investment in value adding sectors. These need an “investment product” to succeed, i.e. a package of affordable access to land, electricity, logistics and a manageable reg-

ulatory and tax environment.

It is sector development that allows governments to put such an “investment product” in place, and this needs to be done smartly by listening to the types of investors that see a potential for a business case in inclusive sectors.

The same is true for trade policy. This policy area is highly technical, complex and requiring constant travel such that, unless there is clear sector development guidance, there is little bandwidth left to be connected to the businesses and sectors on the ground that have real growth and economic transformation potential.

As the example of EAC defining critical inputs as finished products shows, there is often a disconnect between trade policy departments and those that can understand what needs to happen for sectors and products to be able to exploit the market opportunities that trade policy is increasingly opening up. Hence, if trade policy is anchored to sector development efforts, even without coordination mechanisms in place, it becomes easier for trade negotiators and policy makers to know what to offer and what to ask in conducting their negotiations with their counterparts.

By focusing on improving coordination mechanisms and defining priority anchors, governments can address the policy disconnects between trade policy, investment promotion and sector development.

This would enable concrete policy and implementation improvements that significantly boost the region's industrialization rate. Without focused measures in these areas, it will be increasingly challenging for countries in the region to industrialise and meet the ever-increasing expectations of their rapidly growing populations. ■



BNR ECONOMIC CLUBS

The Economic clubs will be a channel through which the National Bank of Rwanda will engage with students across the country on issues related to monetary policy, financial sector policy and other policies in line with the Bank's functions. The clubs will be open to every student and the National Bank of Rwanda will ensure close supervision and support club members in activities related to its objectives.





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