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Jordan: Fiscal Reform II Project

MACROFISCAL POLICY ANALYSIS AND TOOLS NOTES TO ACCOMPANY THE TRAINING

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Jordan: Fiscal Reform II Project

MACRO-FISCAL POLICY ANALYSIS AND TOOLS

NOTES TO ACCOMPANY THE TRAINING

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Prepared by: Dr. Mark Gallagher, Dr. Khalid Al-Hmoud, and Ms. Rawan Baddour

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This document is a series of training notes that were compiled by Mark Gallagher, Khalid Al-Hmoud, and Rawan Baddour under the USAID-funded Jordan Fiscal Reform II Project. These notes supplement the training presentations. Several sections of these notes are directly lifted from useful websites that explain clearly the concepts used in the training. Where these sections are lifted, paraphrased, or where charts and figures are directly taken from these other publications, citations are provided.

MACRO-FISCAL POLICY ANALYSIS AND TOOLS

NOTES TO ACCOMPANY THE TRAINING

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List of abbreviations and acronyms

ATM	Automated Teller Machine
CBJ	Central Bank of Jordan
ER	Exchange Rate
GDP	Gross Domestic Product
GDP _{fc}	GDP at factor costs
GDP _{mp}	GDP at market prices
GNP	Gross National Product
MTBF	Medium Term Budget Framework
MTEF	Medium Term Expenditure Framework
MTFF	Medium Term Fiscal Framework
n.e.c.	Not Elsewhere Classified
NFPS	Non-Financial Public Sector
NNP	Net National Product
PPP	Purchasing Power Parity
REER	Real Effective Exchange Rate
SNA	System of National Accounts
JD	Jordanian Dinar
USA	United States of America
USAID	United States Agency for International Development
VA	Value Added
VAT	Value Added Tax

I. INTRODUCTION

Using these notes

These notes are not meant to serve as a substitute for any text book or set of text books, rather they are meant to assist the person taking the course as she follows along the lectures with these more detailed notes. These notes provide greater technical detail than may be provided during the course discussions, but do not provide as much discussion as can be conducted during the course presentations.

The course participants should retain this set of notes as there are many references, charts and tables, definitions, and explanations of theory and practice that can be useful in the future analysis and planning work.

Goals and objectives

The overall goal of this training exercise is to enable participants to fully understand the inter-linkages among the various sectors of the national economy, especially with regard to the ties to the fiscal sector. Participants will understand how macroeconomic and fiscal planning and medium term budgeting work.

Specific objectives for this training include not only understanding of the fiscal system and how it fits into the overall economy, but also the development of indicators that can be very important in terms of monitoring the economy, monitoring budget implementation, and assessing macroeconomic and fiscal performance.

Each section of this training program includes specific objectives to be achieved. These objectives will lead to the attaining the overall training program goals and objectives.

II. NATIONAL ACCOUNTS

Goals and Objectives

The goal of this section of the training program is to ensure that participants fully understand the major concepts of the national accounting system, the consistency framework of national accounting and the differences between demand and output side of the national accounts system.

Participants will understand the following concepts:

- System of National Accounts (SNA)
- factors of production
- value-added
- incomes
- inputs
- output
- demand expenditure
- aggregate demand
- aggregate supply
- Gross Domestic Product (GDP)
- national and domestic savings
- integration of the national accounts
- balance of payments

The system of national accounts (SNA) is a methodology developed during the early part of the Twentieth Century with the aim of providing a broad composite indicator of economic performance of a country. The System of National Accounts tallies the value added to existing resources made by economic factors. The SNA must square the total value added by all factors with the total incomes of people in the country and the final demand for or use of all goods and services produced in the economy. Any discrepancies between the total value added by domestic resources and the incomes earned by people in any economy can be explained through transactions with the rest of the world.

Three aspects of the National Accounts

The national accounts can be seen from three perspectives: Expenditures, Income, and Sectors or Value Added. These are visualized in the following Figure.

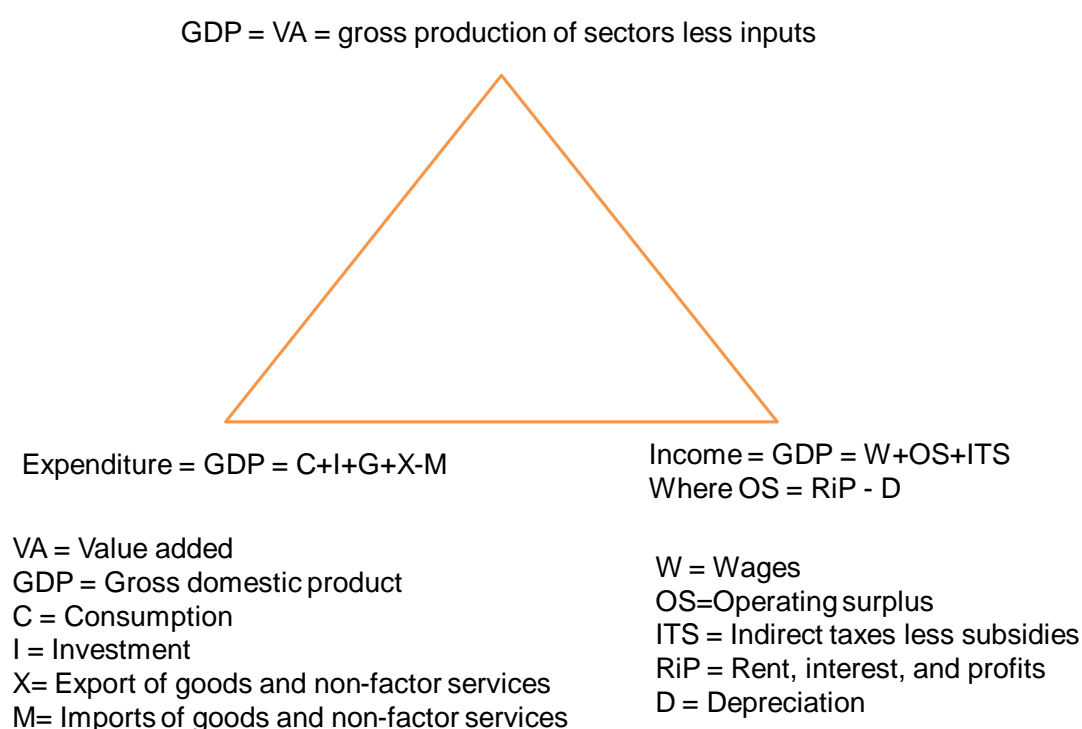


Figure 1: Three aspects of the national accounts

Factors of production

The factors of production in an economy in the crudest form are: land, labor and capital. Of course, there are refinements of these concepts. For instance, we often refer to human capital as an additional factor of production. The point of this elaboration is to account for increased productivity arising from education and learning that take place in a society. Well educated workers are expected to be able to perform tasks of higher levels of sophistication than would workers with minimal levels of schooling and experience.

To some, labor is not only the most basic factor of production, but, in fact, the only real factor of production other than land. In Marxian theory capital merely represents embodied labor. Hence, labor saving devices, such as capital machinery, represent the stored up value of labor applied at earlier times but whose fruits have not been consumed, but rather “stored” as capital.

Capital as a factor of production is generally considered to be the machinery, tools, and buildings that labor uses to add value and produce products.

Value added

Value added is the increase in “value” that derives from applying factors to inputs to transform them into a distinct, new product or service. In short, value added is the value

that factors, such as labor, capital and land, add to inputs as they are transformed into next stage products.

An example

- A baker owns a bakery with ovens, mixing bowls, etc. This is his capital.
- He purchases wheat flour, water, sugar and other ingredients. These are his inputs.
- Then he mixes these ingredients and bakes them in an oven. This is his labor.
- Next he sells the finished bread, for which he is remunerated.
- To calculate value-added we subtract the price the baker receives for the bread less his expenses on purchased inputs of flour, sugar, water and yeast.

Incomes

Incomes are the payment to factors of production. For instance, the baker receives a profit for the bread he has made. Really the profit must be seen as 1) a return to the labor he put into making and selling the bread, and 2) the return to the capital of the oven and equipment.

The three basic forms of income are from:

- wages, the return to labor
- rent, the return to land
- interest or investment yield, which are returns to capital,
- profit is often seen as a mixture of return to capital and a return to “entrepreneurialism” or management, which are other forms of labor.

In the aggregate, all incomes are paid out of value-added. In an economy, value-added is equal in the aggregate to total wages, rents, profits and interest payments.

We can also get personal income from gifts from our children when we are old, or from pensions we earned a right to during our working years. These are known as “transfers” and while they are income to us they are not remuneration for productive activity and hence are not returns to factors of production. For this reason they are not included in the calculations of national income.

GNP and GDP at factor and market prices

Gross National Product is the sum total of all final goods and services produced by DOMESTICALLY owned factors of production during the year. When measured at factor prices we exclude the indirect taxes, namely VAT and import duties and others that are included in their market price. When indirect taxation is deducted from our calculation of GNP we refer to this as GNP at factor prices.

Net National Product (NNP) is the same as GNP but with the depreciation of the capital stock deducted over the year.

Gross Domestic Product is the value of all final goods produced within the country.

Differences between GNP and GDP:

Part of GNP is earned abroad -- e.g., the income of a Jordanian living and earning in Saudi Arabia is part of the Jordanian GNP. But this is NOT part of the Jordanian GDP. On the other side, profits earned by HSBC in Jordan are part of the US GNP but not US GDP. These profits are part of Jordan's GDP but not its GNP.

The total value of final production is equivalent to all the domestic value added at each stage of production.

GDP by expenditure account

This refers to the "demand side" of national accounts. This refers to how we use our national product. In short it includes:

- Private and Public (Government) consumption
- Private and Public (Government) investment
- Exports of products and non-factor services to foreign countries
- Less Imports of products and non-factor services from foreign countries.

GDP by output sector

Here we count value-added by product and service sector.

Agriculture = value added of sector, total sales out less purchases of supplies in

Traditional sector = home produced and consumed or invested. For instance, subsistence agriculture, home construction

Industry Value-added, sometimes in protected economies or in state dominated sectors value-added in this sector is negative, i.e., we receive less for total sales than that paid on inputs.

Government services: essentially this is nothing other than total remunerations for general government. Hence, projections or targets for growth in this section of output are nothing other than growth in total remunerations. *This is a very important, but usually not reconciled, part of macroeconomic planning.*

Exports: total value of exports, generally calculated in foreign currency, usually dollar. Exports are usually projected based upon expectations of future prices (World Bank produces commodity price projections) for major commodity exports. This also includes (non-factor) services exports, such as: insurance, shipping, banking services, computer data entry, etc. For Jordan, the largest exports are apparel, potash, and fertilizers.

III. THE SIZE AND STRUCTURE OF THE JORDANIAN ECONOMY

Goals and objectives

This section treats the overall size of the Jordanian economy as well as the supply and demand sides of the economy. The participants will be better able to understand and appreciate how the Jordanian economy is structured and comes together into the framework of the national accounts, based upon the prior chapter learning.

Participants will know more about the economy, its size, structure, where growth has taken place, and will be able to discuss economic issues in Jordan with coherence and comprehension.

The economy and its recent growth record

GDP in Jordan is about \$32.6 billion, expressed in purchasing power terms (PPP). With a population of about 5.9 million people, the average per capita GDP in PPP terms is about \$5,530.¹ This comes higher than the nominal income per capita in financial terms of \$3,310 implying that the Jordanian Dinar's purchasing power, for basic needs, is around 60% of international prices.²

The Jordanian economy displayed a strong improvement over the past few years despite several external shocks such as the surge in the international oil prices, the conditions of uncertainty in the region and the decline in foreign grants. Gross Domestic Product (GDP) recorded an annual growth rate averaging 6.7 %, at constant market prices, over the period (2000-2008); twice the growth rate recorded during the period (1997-2001).

Though, Jordan achieved these high levels of growth, the prevailing view is that income not evenly distributed among Jordanians (the Gini Index in Jordan has been hovering around 38 during the period 1992-2007)³. Hence, Jordan needs to grow higher in order to absorb the current unemployment levels and alleviate poverty. Poverty is still a serious problem in Jordan though it declined significantly between 1997 and 2006 from 21% to 14.7%, nevertheless, the current poverty line in Jordan adopted by the World Bank is JD 504 (\$706) per capita. During the last decade the government has focused on devising and implementing measures to propel economic growth to higher and sustainable levels, in the hope to reduce poverty and unemployment.

¹ World Development Indicators, WB

² Purchasing Power Parity (PPP) indices are a means for taking into account important differences in domestic prices of household consumption in order to make more meaningful international comparisons.

³ Human Development Indicators, UN

Economic Growth Rate (Constant Prices)

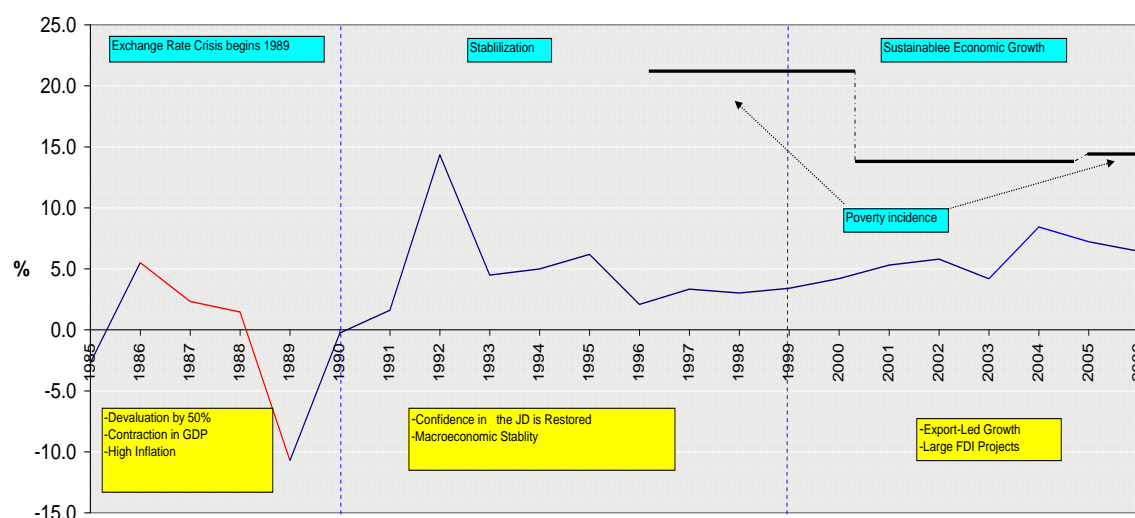


Figure 2: Economic growth rate

The next table puts the Jordanian economy into a Middle East & North Africa (MENA) context by making a few important comparisons.

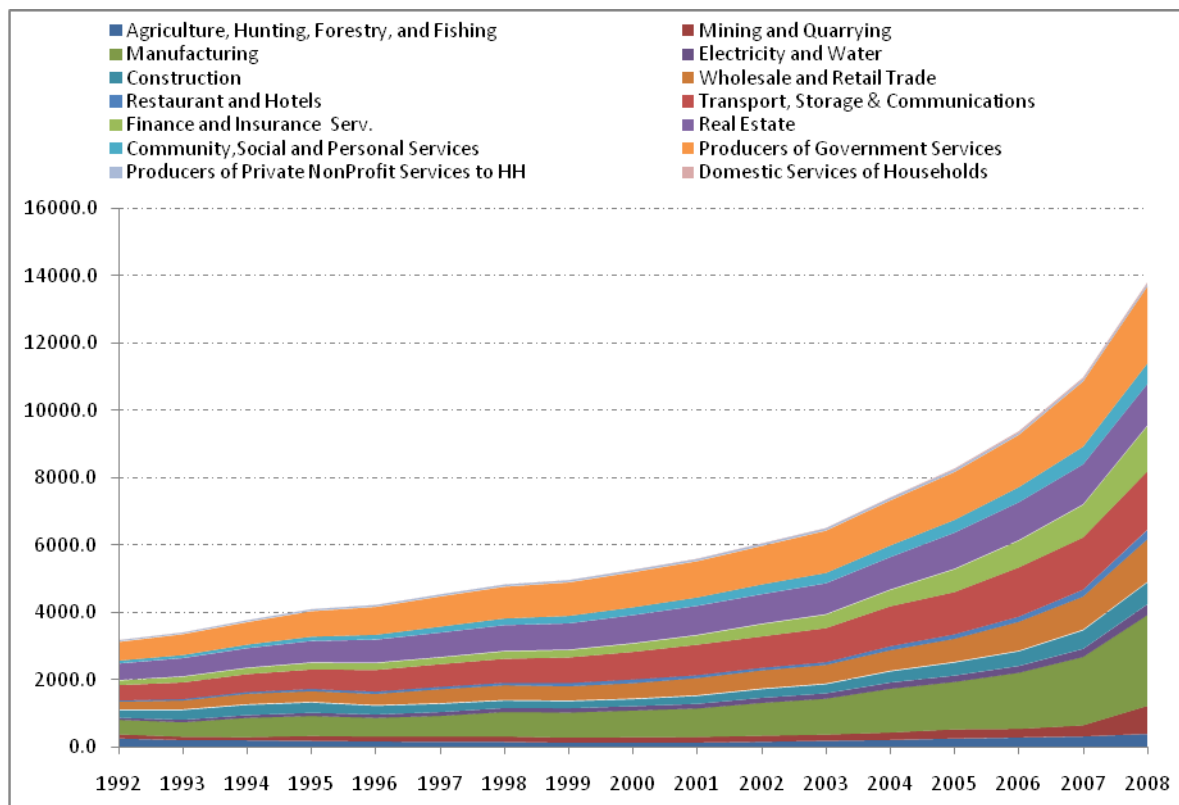
Table 1: The economy in MENA context

	Jordan	MENA	Jordan/MENA (%)
GDP (billion \$)	\$20.01	\$1,117.2	1.8%
GDP annual growth rate (%)	5.6%	5.8%	97%
GNI per capita (current US\$)	\$3,310	\$3,242	102%
Population (millions)	5.9	324.8	1.8%
Land area (000 Sq. Km.)	88.8	8,777.9	1%
Population/Land Ratio	66	37	178%
Agriculture in GDP (%)	3.6%	11.6%	25%
Gross investment in GDP (%)	19%	28%	67.9%
Government revenue, excluding grants in GDP (%)	31%	33%	93.9%
Source: World Development Indicators, World Bank, 2008			
All data are from 2008 except Revenue figures 2007			

There are a number of observations that can be seen from this table. The Jordanian economy is very small in terms of the entire region. This could be attributed to the relatively small land size and population number in comparison to the region. However, Jordan's economic growth rate and per capita GDP are almost identical to their regional figures.

The following figure presents the structure of the Jordanian economy by economic productive sectors. These data are in constant terms, with 1994 as a base year. This figure shows that GDP at factor (basic) prices has grown 9.6% in cumulative annual growth rate between the period 1992-2008.

Figure 3: Structure of GDP by economic productive sectors



By aggregating the various subsectors into only three: Services, Industry, and Agriculture, as in the figure below, a clear pattern can be seen. Namely, the figure reveals that services and industry have been enjoying growth of the recent past, with the latter enjoying faster growth than the former, while agriculture showing no or minor change.

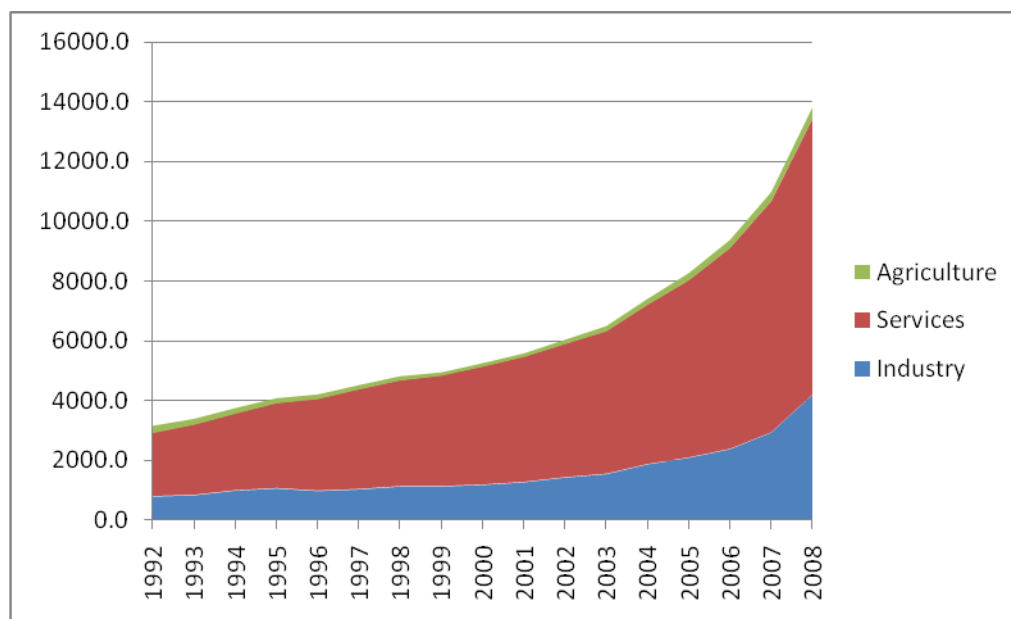


Figure 4: Summarized sector contributions to GDP

To better analyze the breakdown of the current economy, the next figure presents the same previously mentioned data but as percentages of total GDP. This figure reports that the industrial sector had minor, or even, no significant change when comparing its contribution to GDP in the early 90's with the later years of this decade. Its contribution to GDP remained around 67%. The figure also reports a decrease in the agricultural sector contribution by 5 percentage basis points during the comparison period, which was restored by the services sector.

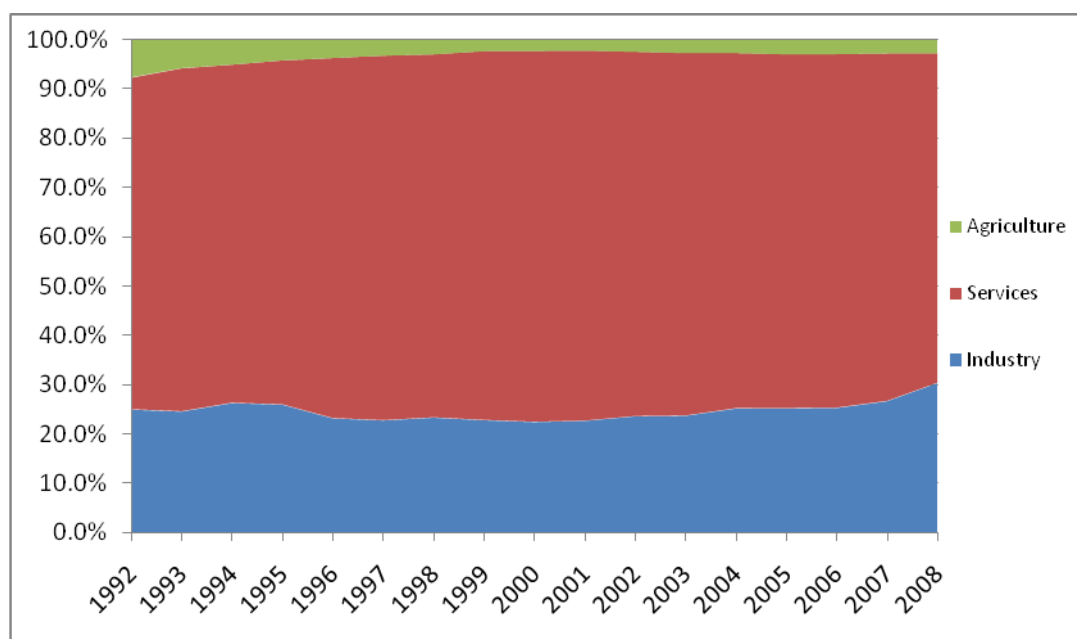


Figure 5: Structure of GDP by shares of economic productive sector

The following pie chart indicates the percentage share each sector contributes to the overall economy.

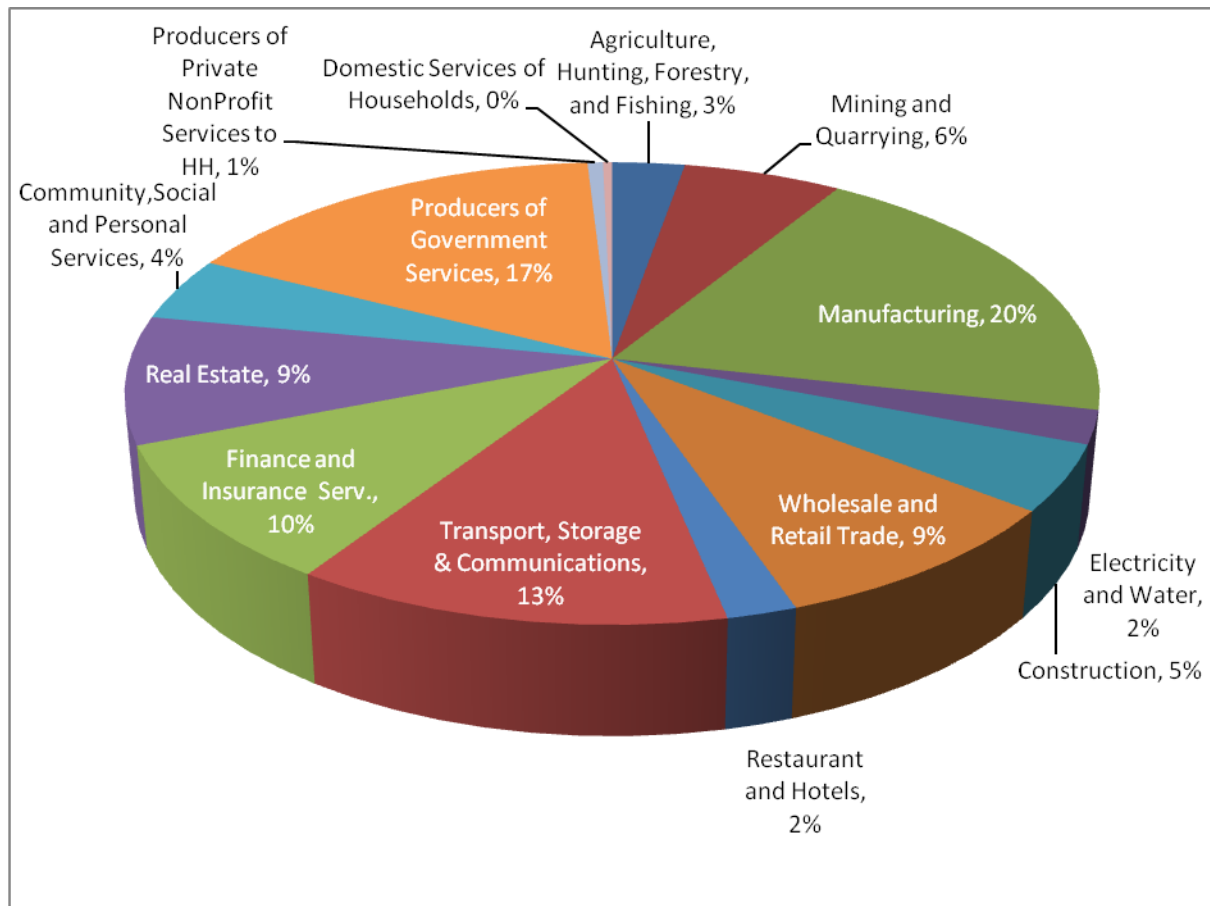


Figure 6: Contributions of sectors to GDP in 2008

The following table provides these data in tabular format. Note, the difference between reported GDP “at market prices” and the total GDP “at basic (factor) prices”. GDP at factor prices is an accounting of the economy without the distortions to prices created by the systems of subsidies and indirect taxes. GDP at market prices incorporates the value of goods and services based on the prices paid for them “in the market” and include all net subsidies and indirect taxes.

Table 2: Jordan's GDP by Sector

Economic Activity		2000	2001	2002	2003	2004	2005	2006	2007	2008
A	Industries	4153.2	4446.3	4832.3	5172.1	5987.1	6747.8	7719.9	8922.3	11395.8
1	Agriculture, Hunting, Forestry, and Fishing	120.9	124.3	148.9	178.3	202.1	246.2	275.8	307.1	383.9
2	Mining and Quarrying	171.5	176.4	188.7	192.1	230.4	279.9	264.0	338.9	839.1
3	Manufacturing	807.2	861.2	987.7	1082.6	1313.6	1426.3	1682.3	2047.4	2717.0
4	Electricity and Water	134.4	140.6	156.6	161.2	189.4	190.2	205.6	243.2	322.7
5	Construction	203.3	231.0	251.7	268.3	324.4	382.1	429.0	544.8	640.4
6	Wholesale & Retail Trade, Restaurants & Hotels	588.9	618.6	635.0	652.7	746.5	835.9	1025.6	1201.4	1552.6
6.1	Wholesale and Retail Trade	461.7	517.8	546.4	558.8	617.4	694.7	866.4	989.9	1272.3
6.2	Restaurant and Hotels	127.2	100.8	88.5	93.9	129.1	141.3	159.2	211.4	280.3
7	Transport, Storage & Communications	819.7	907.2	934.9	1015.6	1188.5	1256.5	1465.3	1553.0	1739.3
8	Finance, Insurance, Real Estate and Business Services	1072.1	1136.3	1236.3	1311.3	1444.4	1747.6	1920.3	2157.4	2585.9
8.1	Finance and Insurance Serv.	244.8	277.6	362.8	398.9	484.3	678.2	797.1	971.1	1351.4
8.2	Real Estate	827.3	858.7	873.5	912.4	960.2	1069.4	1123.2	1186.3	1234.5
9	Community, Social and Personal Services	235.3	250.8	292.6	309.9	347.8	383.1	452.0	529.0	614.9
B	Producers of Government Services	1042.2	1077.1	1141.4	1255.9	1338.6	1424.4	1554.8	1940.6	2291.1
C	Producers of Private Nonprofit Services to HH	59.9	58.2	63.0	64.8	74.4	75.6	67.8	76.5	82.1
D	Domestic Services of Households	9.7	11.5	12.5	13.9	14.5	28.2	43.3	46.5	48.2
Total (A + B + C + D)		5265.0	5593.0	6049.2	6506.6	7414.7	8276.0	9385.8	10985.9	13817.2
(minus) Imputed Bank Service Charge		-111.4	-123.0	-199.8	-205.3	-219.7	-312.4	-376.7	-503.3	-550.4
(equal) GDP at Basic Prices		5153.6	5470.0	5849.4	6301.3	7195.0	7963.6	9009.1	10482.5	13266.8
(plus) Net Taxes on Products		844.9	893.8	944.6	927.4	895.7	961.8	1369.5	1574.3	1789.2
(equal) GDP at Market Prices		5998.5	6363.7	6794.0	7228.7	8090.7	8925.4	10378.6	12056.8	15056.0

Demand side

The following sum up the structure of demand in the Jordanian economy. As is reported by the figure, the main driving forces of demand in the economy is the private final consumption (representing 10% of the Compound Annual Growth Rate (CAGR)), demand for foreign produced goods and services (13% CAGR) and gross fixed capital formation (10% CAGR). The following figure illustrates the structure of aggregate demand in Jordan between 1989 and 2007 in nominal terms.

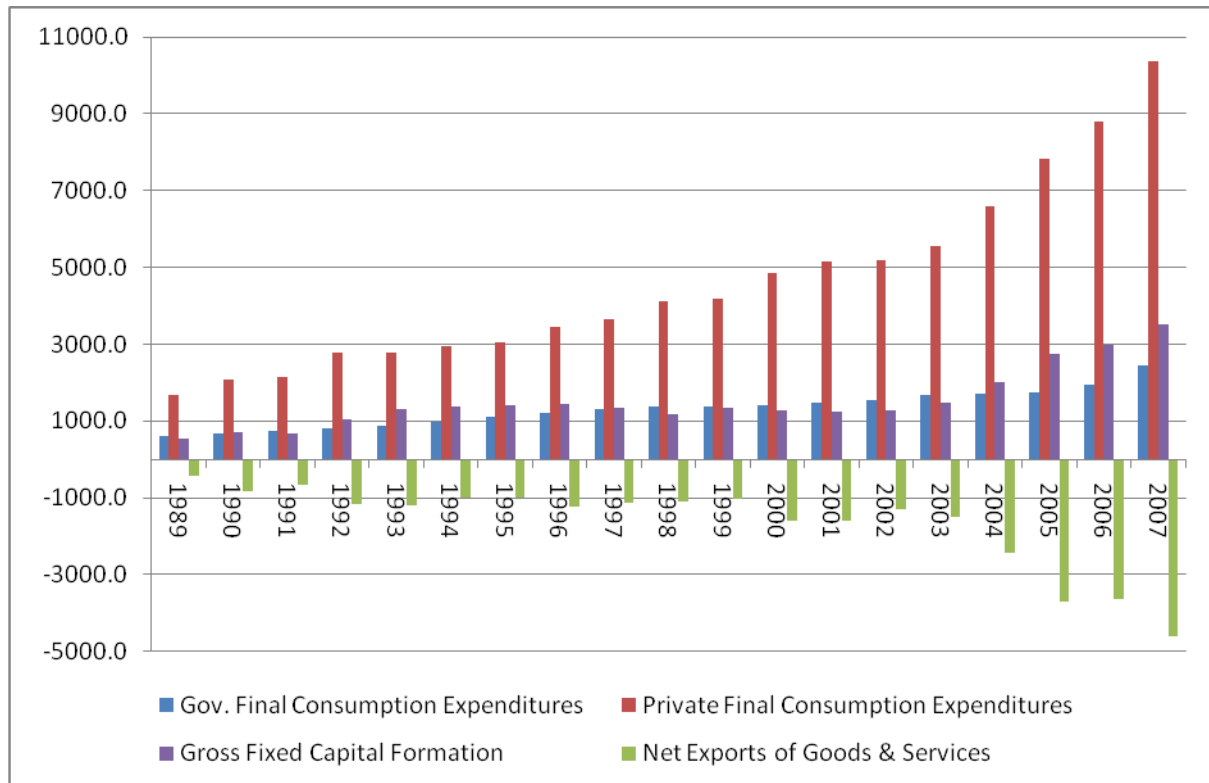


Figure 7: Structure of aggregate demand (million JD)

Furthermore, the following figure reports the breakdown of income earned by factors of production within the Jordanian economy. Not surprisingly, compensation of employees and operating surpluses are the biggest income types within the Jordanian economy – with each growing at 8% CAGR. Indirect Taxes, despite being less than half of the other two previously mentioned incomes, have been growing in a faster rate, with a 10% CAGR.

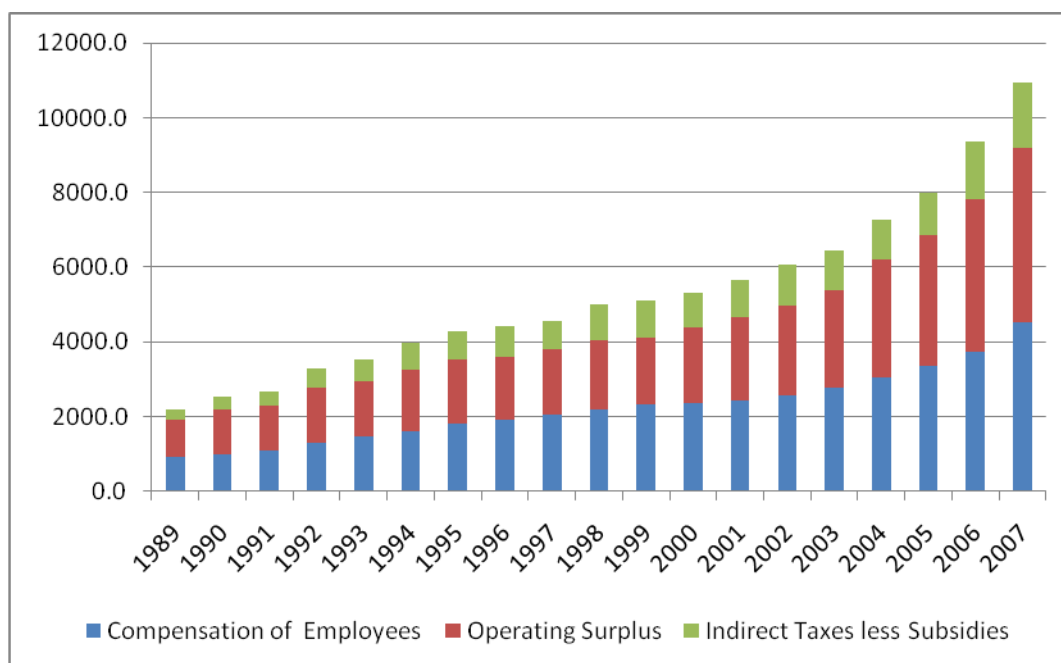


Figure 8: Income Breakdown of GDP 2007 (million JD)

IV. MONEY AND THE ECONOMY

Goals and Objectives

Participants will fully understand how money is created, the money multiplier, and how the financial sector is integrated into the broader economy, the role of money and relationships between balances, output and prices.

Participants will understand the following concepts:

- Money supply and its measures
- High powered money
- Money multiplier
- Quantity theorem
- Velocity
- Demand for Money
- Integration with national accounting

Creation of money and the money multiplier

It is first important to understand what money is. Money is but a mechanism to facilitate economic exchange among persons or organizations. It is used for immediate exchanges. It is a means for denominating values or for expressing prices.

There are many different versions or levels of money. The simplest version in today's world we refer to as M1. M1 is the most basic monetary aggregate that we look at in monitoring the economy. It comprises only two items, namely, cash (meaning coins and currency) in circulation, and demand deposits (meaning checking or immediate withdrawal rights bank accounts). In Jordan, M1 includes also the demand deposits that banks have on deposit with the Central Bank of Jordan (CBJ).

Cash that is **not** in circulation, for instance, sitting in bank vaults or hidden under mattresses or buried in your yard, is **not** part of M1.

A second common monetary aggregate is known as M2. M2 is M1 plus time deposits.

How money is created.

In the simplest form, you work for government; the government borrows money from CBJ to pay your salary. CBJ lends the government \$100 to pay your salary. This "emission" is considered **high powered money**. But this is not the full story.

You now take this high powered money that the government hands you in terms of salary and deposit in a bank account, with a commercial bank. This commercial bank, of course, is in the business of making money, which it does by lending your money to someone else.

The bank will now take \$10 of the \$100 that you have deposited and puts this in a special reserve account at CBJ. Your bank now lends the remaining \$90 to other people.

These other people each use the money by buying supplies for their businesses. They pay their suppliers, who then deposit their money into their own commercial bank accounts. Their banks then collectively deposit reserves of \$9 into their accounts at the CBJ, and on lend the money to their loan customers. This time, the banks only have \$81 to on lend, with \$9 ($81+9 = 90$) being held in reserve. This then repeats itself, with \$8.1 being put into reserve accounts and \$73.90 ($81 - 8.1 = 73.90$, OR $73.90 + 8.1 = 81$).

If the financial system is working well, this mechanism repeats itself over and over, until there is no more left to be on lent.

In somewhat more technical language:

The **money multiplier** is the mathematical relationship between the monetary base and money supply of an economy. It explains the increase in the amount of cash in circulation generated by the banks' ability to lend money out of their depositors' funds. When a bank makes a loan, it '*creates*' money because the loan becomes a new deposit from which the borrower can withdraw cash to spend. This money-creating power is based on the fractional reserve system under which banks are required to keep at hand only a portion of the depositors' funds. The rest may be converted into loans, thereby increasing the available cash by a factor that is a multiple of the initial deposit.

The **money supply** can be expressed as:

$M^s = Hm$ and $m = 1/\mu$, where

M^s is aggregate money supply

H is high powered money

μ is the reserve requirement, and

m is the money multiplier.

So, if μ is 10%, or 0.10, as may be required by CBJ or other legislation and regulations, then an increase in high powered money of say \$100 would result in an overall money supply increase of $100/0.10 = \$1,000$, that is, money supply will increase by ten times the amount of high powered money emitted into the financial system.

As state, money supply grows from an increase in “high powered money” multiplied by the multiplier.

Other high powered money includes foreign reserves, central bank loans, and other central bank assets. Therefore, an exogenous rise in exports not offset by rising imports or by other means, will lead to an increase in high powered money and hence money supply, *cet. par.*

Or $M^s = Hm = C + D$

And $H = F + A$

Where

M^s is money supply

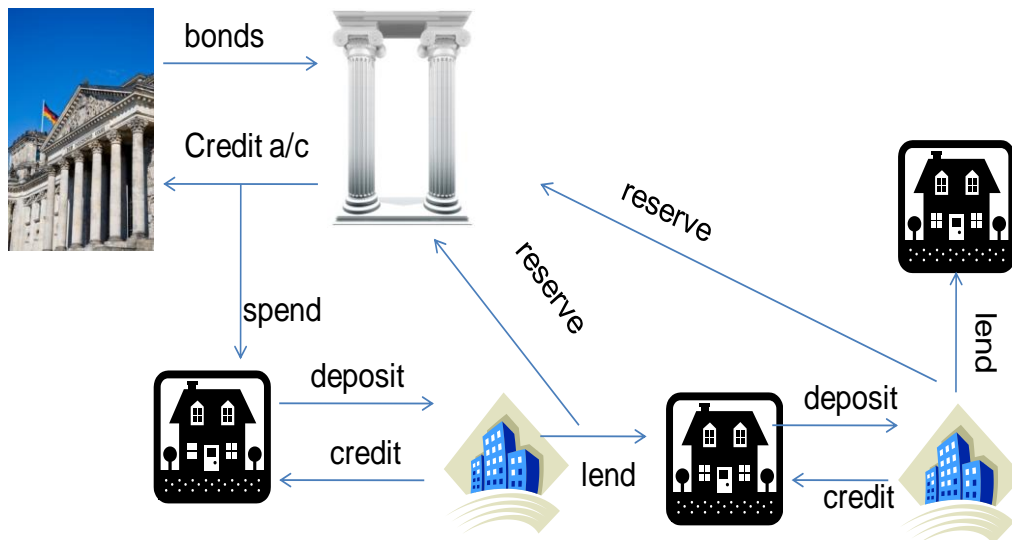
m is the money multiplier
H is high powered money
C is cash (coin and currency) in circulation
D is demand deposits in the banking sector
F is foreign reserves, and
A is currency and assets of the central bank..

In summary terms, money creation includes the following steps, which we later demonstrate in three figures.

1. Money is debt of the banking system.
2. Money in a modern economy is a creation of the “fractional reserve” banking system.
3. Fractional banking is when banks lend some of their money, but hold some aside for “reserve”
4. CBJ prints currency, which is a debt to the holders of this currency.
5. Commercial banks owe the public money in terms of our deposits.
6. Borrowers use borrowed money, these then are deposited.
7. Cycle repeats
8. Money is the debt of the banking system, including CBJ, to the public.
9. The cycle repeats over and over, each time with less of a base because of reserves.
10. Whenever the CBJ credits an account other than for reserves, this is “high powered” money.
11. Finally, the cycle is exhausted.
12. $dH_q = dM$
13. This is, an increase (decrease) in high powered money multiplied by the “reserve ratio” will equal (about) the change in the money supply

Figure 9 demonstrates how money is created via government deficit financing.

Creating money through government deficit borrowing



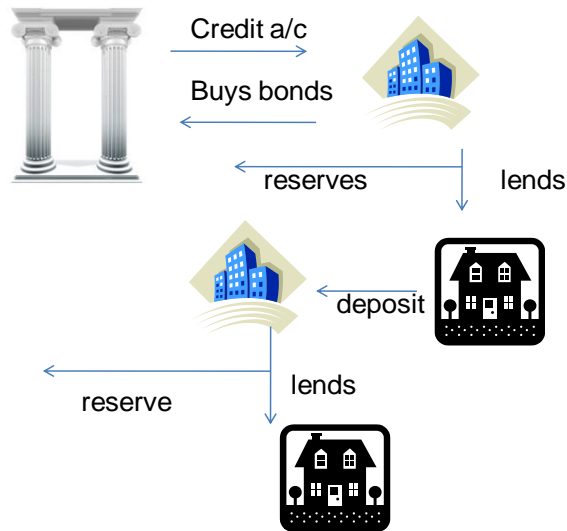
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Figure 9: Creating money through the issuance of new government debt

Figure 10 demonstrates how the CBJ can create new money by purchasing government bonds from the public, rather than from the government.

In both cases, i.e., Figure 9 and Figure 10, CBJ creates “high-powered” money when it purchases bonds, whether from the government or from the public, and enters a positive balance for either the government or the public in CBJ accounts, representing a debt of the CBJ to either the government or the public.

Creating money – buying bonds from public

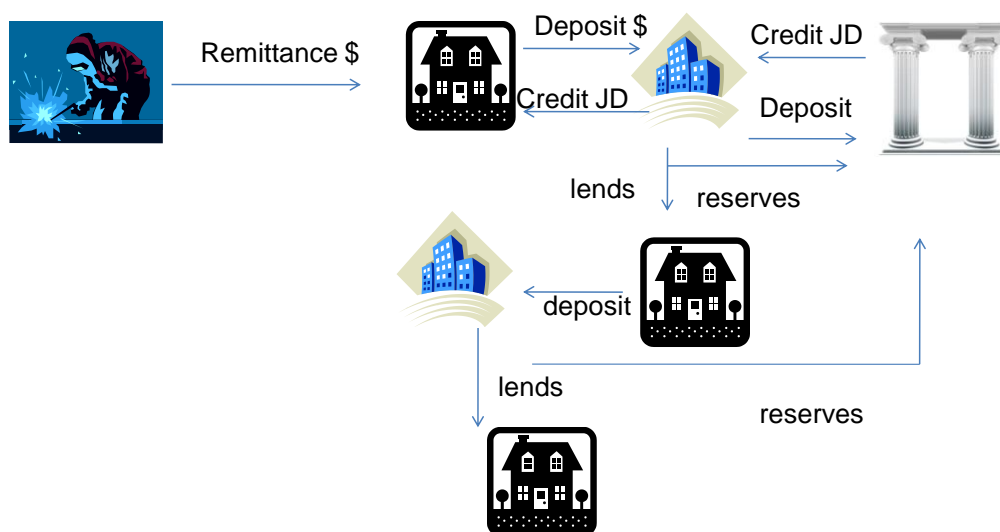


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Figure 10: CBJ creates money by buying government bonds from the public

Receipts of foreign exchange coming into the domestic economy can trigger the creation of money, too. In this case, foreign exchange, such as Dollars or Euros, can be exchanged with the banking system, either for cash payment or by having your bank account credit your deposit account. Your bank can then go to CBJ to exchange these foreign exchange currencies for credits to their reserve account with the CBJ.

Creating money – foreign exchange



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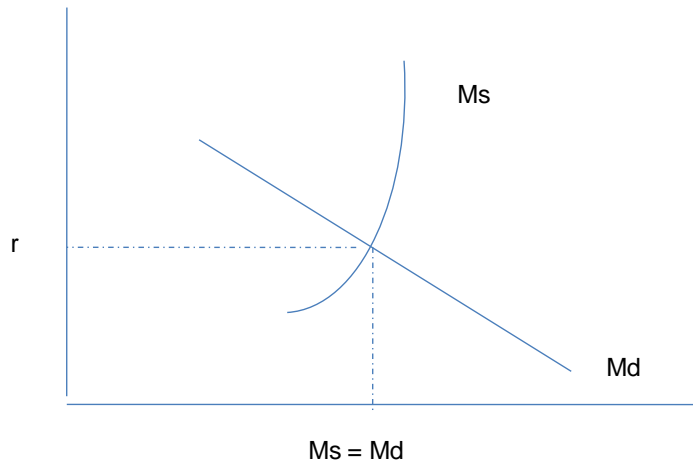
Figure 11: Creating money through foreign exchange

We can present the supply curve for money as a rather inelastic, upward sloping curve, in r, y space, i.e., in terms of interest rates (the price of holding money) and incomes. The Money Supply curve is not absolutely vertical since at low interest rates, banks may not on-lend all of their deposits preferring perhaps to hold more money in reserve. Holding more money in reserve when interest rates are low, presents little opportunity cost to bank, but it will reduce the money multiplier.

On the other hand, if interest rates are high, banks will choose not to hold any excess reserves since this would represent considerable loss in foregone potential income from lending at high rates. Indeed, in some countries, banks may even seek additional borrowing from short-term credit markets to both make their reserve requirement while on-lending as much as they possibly can.

This upward sloping money supply curve, along with a downward sloping money demand curve, is presented in Figure 12, below.

Supply and demand for money



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Figure 12: Upward sloping money supply curve

Quantity theory of money and price inflation

Money and the amount of times it turns over in a year, i.e., the number of transactions it finances, is equal to nominal GDP. Nominal GDP is the quantum of goods and services produced in a year multiplied by the price level and expressed in terms of a currency.

$$MV = PQ$$

Where

M=	Money
V	Velocity (how many times money changes hands)
P	Price level
Q	Quantity of goods and services exchanged

Using mathematical relationships we know that

$$MV = PQ$$

$$\frac{dM}{M} + \frac{dV}{V} = \frac{dP}{P} + \frac{dQ}{Q}$$

This reads: The percentage change in the money supply plus the percentage change in the velocity variable equals the percentage change in the price level (i.e., inflation) plus growth in the quantity of goods and services exchanged (economic growth).

The velocity indicator for money:

Velocity is the number of times a unit of currency turns over in transactions during a period, say one year. A simple and useful illustration is found on Wikipedia:

If, for example, in a very small economy, a farmer and a mechanic, with just \$50 between them, buy goods and services from each other in just three transactions over the course of a year

Mechanic buys \$40 of corn from farmer.

Farmer spends \$50 on tractor repair.

Mechanic spends \$10 on barn cats from farmer

then \$100 changed hands in course of a year, even though there is only \$50 in this little economy. That \$100 level is possible because each dollar was spent an average of twice a year, which is to say that the velocity was two times per year.

Usually we assume that V will not change, at least not in a rather short period. If we assume this, then we can eliminate the V variable from the above equation since it represents the percentage change in V , which we define as zero.

If

$$\frac{dV}{V} = 0$$

Then

$$\frac{dM}{M} = \frac{dP}{P} + \frac{dQ}{Q}$$

Then to determine inflation from this model, we move the percentage change in price level indicator to the left of the equation and the growth rate of money to the right, so that

$$\frac{dP}{P} = \frac{dM}{M} - \frac{dQ}{Q}$$

This final equation has profound meaning. It says that inflation will be equal to the amount that money growth exceeds GDP growth. Monetary policy that encourages the growth in money supply that domestic production cannot keep up with, will result in inflation.

In the real world, this is equation does not completely hold, however, experience has shown that over a few years time, it generally does hold, all around the world.

How big is V and is it really stable?

You may be thinking that V is just a concept and there is no real way to measure it. This is incorrect. V is one of the easiest things to calculate in macroeconomics. Consider the basic equation and how it can be manipulated.

$$MV = PQ$$

This implies:

$$V = PQ/M.$$

This equation means that V is nothing other than the ratio of nominal GDP (PQ) to the money supply.

The following figure shows a clear downward trend in V in Jordan and neighboring countries.

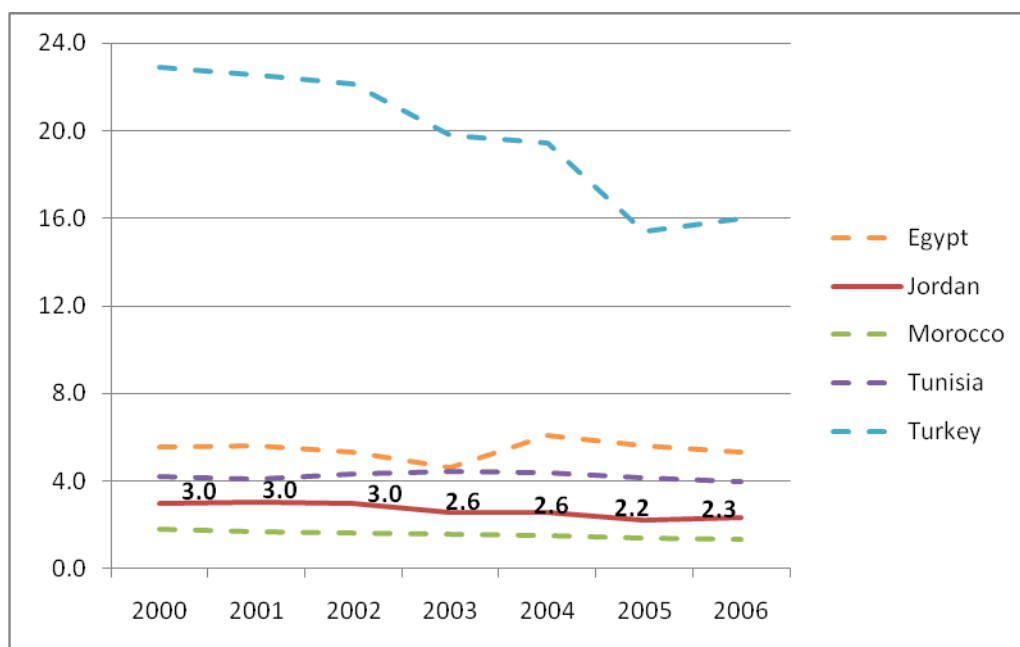


Figure 13: Money Velocity in Jordan and selected MENA countries⁴

Increasing sophistication and greater use of banks and reliance on quasi money in these countries has led to a declining money velocity (V) all around. Possible explanations of the decline in V for these selected countries are the greater use of financial innovations, such as more frequent use of ATM cards and the ever increasing usage of debit and credit cards in everyday transactions. These innovations have slowed down the number of times each Dinar exchange hands, i.e., Velocity.

⁴ Own calculations of nominal GDP/M1 based on IMF data.

Demand for money⁵

Many factors influence our total demand for money balances. The four main factors are

- the **level of prices**
- the **level of interest rates**
- the **level of real national output (real GDP)**
- the **pace of financial innovation**

The follow summarize the demand for money in a modern economy.

1. **Transaction demand** → income
2. **Precautionary demand** → income, but also consider the price of holding money ®
3. **Speculative demand** → r , if r rises, we will hold less money for speculative purposes and buy other assets instead.

These are further discussed below

TRANSACTIONS DEMAND - this is money used for the purchase of goods and services. The transactions demand for money is positively related to real incomes and inflation. As an individual's income rises or as prices in the shops increase, he will have to hold more cash to carry out his everyday transactions. The quantity of nominal money demand is therefore proportional to the price level in the economy.

(note: the real demand for money is independent of the price level)

PRECAUTIONARY BALANCES - this is money held to cover unexpected items of expenditure. As with the transactions demand for money, it is positively correlated with real incomes and inflation.

SPECULATIVE BALANCES - this is money not held for transaction purposes but in place of other financial assets, usually because they are expected to fall in price.

Keynes demonstrated that there was an inverse relationship between the price of a bond and the rate of interest. For example, suppose a bond is issued for £200 and its annual return (coupon) is £20. The annual rate of interest is 10%. If the market rate of interest falls to 5% the price of the bond will increase to £400. The rationale behind this is that in order to secure the same return of £20 in any other financial asset £400 would have to be invested.

Conversely, if the rate of interest increases, the price of bonds will fall

There is an inverse relationship between interest rates and the market prices of fixed interest government securities

Keynes argued that each individual has a view about an 'average' rate of interest. If the current interest rate was above the average rate then a rational individual would expect

⁵ From http://tutor2u.net/economics/content/topics/monetarypolicy/demand_for_money.htm

interest rates to fall. Similarly, if current rates are below the average rate then obviously interest rates would be expected to rise.

At high rates of interest, individuals expect interest rates to fall and bond prices to rise. To benefit from the rise in bond prices individuals use their speculative balances to buy bonds. Thus when interest rates are high speculative money balances are low.

At low rates of interest, individuals expect interest rates to rise and bond prices to fall. To avoid the capital losses associated with a fall in the price of bonds individuals will sell their bonds and add to their speculative cash balances. Thus, when interest rates are low speculative money balances will be high.

There is an inverse relationship between the rate of interest and the speculative demand for money.

The total **demand for money** is obtained by summing the transactions, precautionary and speculative demands. Represented graphically, it is sometimes called the **liquidity preference curve** and is inversely related to the rate of interest.

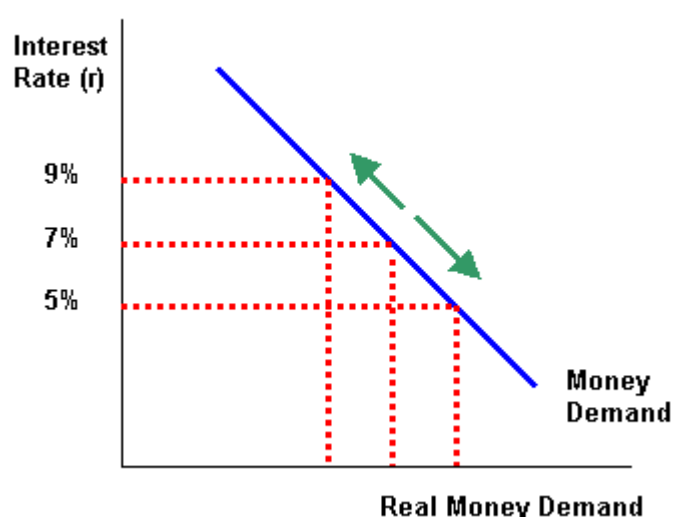


Figure 14: Money demand and the interest rate

MONEY DEMAND AND INCREASES IN REAL GDP

Consider a period of sustained economic growth in the economy. Rising real incomes and increasing numbers of people employed will increase the demand for money at each rate of interest. Therefore higher real national income causes an outward shift in the demand for money. This is shown in the diagram below

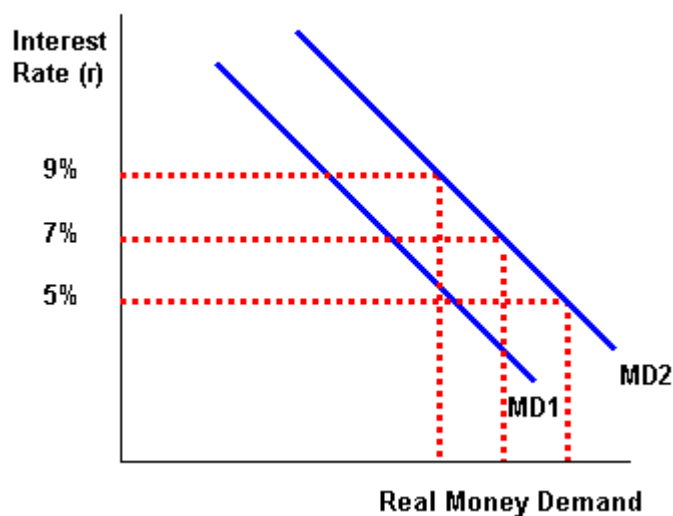


Figure 15: Money demand and changes in GDP

The pace of change in financial markets is rapid and this affects our demand for money balances in order to finance our purchases. In recent years the demand for cash balances (M_0) has declined relative to the demand for interest-bearing deposit accounts. Most people can finance their purchases using debit cards and credit cards rather than carrying around large amounts of cash. Financial innovation has reduced the demand for cash balances at each rate of interest - represented by an inward shift in the money demand curve.

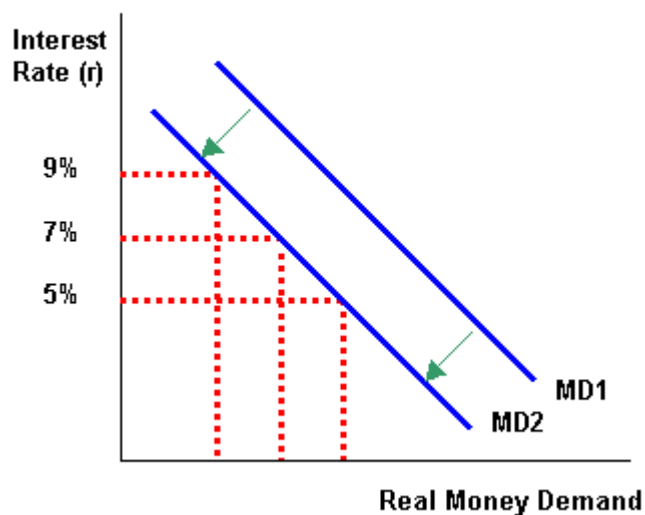
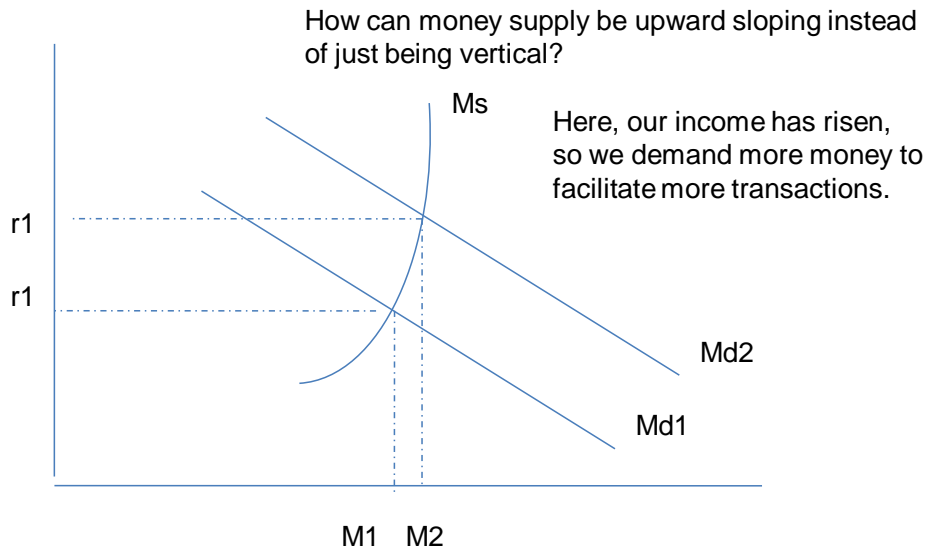


Figure 16: Money demand and financial innovations

Shifting the demand curve for money



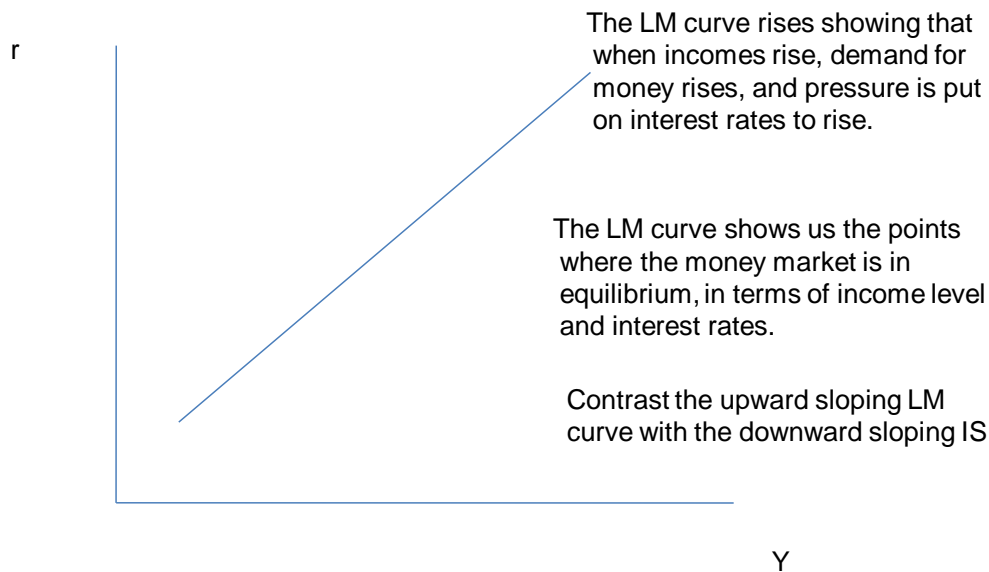
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Figure 17: Shifting the demand curve for money due to changes in income

These shifts in the money demand curve presented in Figure 17 can be presented instead from an alternative perspective through the presentation of the “LM curve” which relates these shifts in terms of interest rates and income.

Figure 18 presents the LM curve. Along the LM curve, higher income levels are positively associated with higher interest rates. The LM curve assumes that money supply, or at least monetary policy is constant. Changes in monetary policy would cause shifts in the LM curve.

LM curve

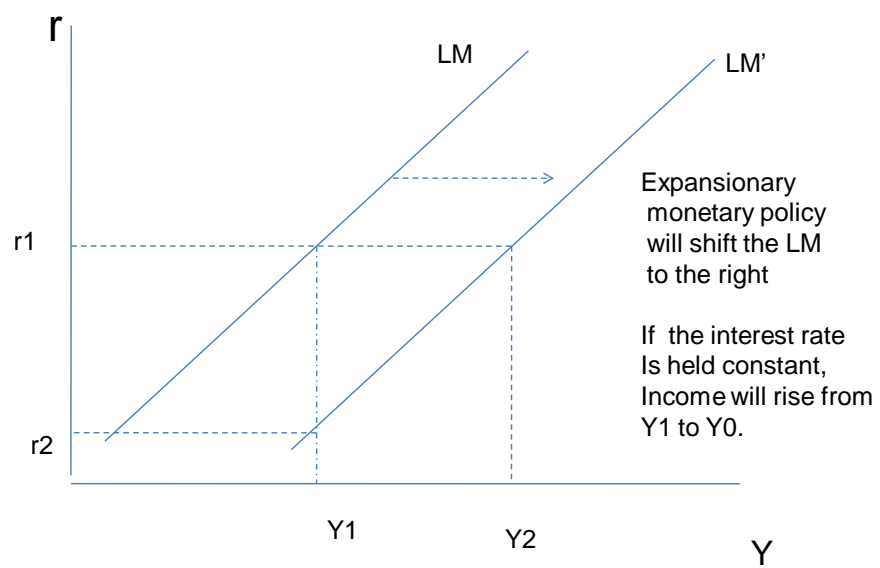


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Figure 18: The LM curve

Figure 19 demonstrates how expansionary monetary policy, by increasing the money supply, can result in a shift to the right of the LM curve. If for some reason, the increase in money supply does not result in lower interest rates, income will expand from Y_1 to Y_2 . Alternatively, if income for some unrelated reasons does not expand, then interest rates would instead adjust and decline from r_1 to r_2 .

Of course, it is more likely that interest rates will decline and incomes will increase, each less so than in this figure. Instead, interactions in the market will need to be seen later in this lecture to see how the goods and services markets, the money market, and even international balances will interact to arrive in a more refined, more realistic equilibrium aggregate demand.



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Figure 19: Shifting the LM curve via expansionary monetary policy

V. BALANCE OF PAYMENTS

Goals and Objectives

Participants will fully understand how the balance of payments is integrated into the macroeconomy and the internal consistency of the balance of payments accounting. Participants will appreciate the linkage between domestic resource availabilities and resources from abroad.

Participants will understand the following concepts:

- Trade in non-factor services
- Balance of trade
- Current account
- Capital account
- Net international reserves.

*Balance of payments*⁶

An accounting statement of the money value of international transactions between one nation and the rest of the world over a specific time period. The statement shows the sum of transactions of individuals, businesses, and government agencies located in one nation, against those of all other nations.

Few subjects in economics have caused so much confusion—and so much groundless fear—in the past four hundred years as the thought that a country might have a deficit in its balance of payments. This fear is groundless for two reasons: (1) there never is a deficit, and (2) it would not necessarily hurt anything if there was one.

The balance-of-payments accounts of a country record the payments and receipts of the residents of the country in their transactions with residents of other countries. If all transactions are included, the payments and receipts of each country are, and must be, equal. Any apparent inequality simply leaves one country acquiring assets in the others. For example, if Americans buy automobiles from [JAPAN](#), and have no other transactions with Japan, the Japanese must end up holding dollars, which they may hold in the form of bank deposits in the United States or in some other U.S. [INVESTMENT](#). The payments Americans make to Japan for automobiles are balanced by the payments Japanese make to U.S. individuals and institutions, including banks, for the acquisition of dollar assets. Put another way, Japan sold the United States automobiles, and the United States sold Japan dollars or dollar-denominated assets such as treasury bills and New York office buildings.

Although the totals of payments and receipts are necessarily equal, there will be inequalities—excesses of payments or receipts, called deficits or surpluses—in particular kinds of transactions. Thus, there can be a deficit or surplus in any of the following: merchandise trade (goods), services trade, foreign investment income, unilateral transfers ([FOREIGN AID](#)), private investment, the flow of gold and money between central banks and treasuries, or any combination of these or other international transactions. The statement

⁶ See: <http://www.econlib.org/library/Enc/BalanceofPayments.html>.

that a country has a deficit or surplus in its “balance of payments” must refer to some particular class of transactions.

Many different definitions of the balance-of-payments deficit or surplus have been used in the past. Each definition has different implications and purposes. Until about 1973 attention was focused on a definition of the balance of payments intended to measure a country’s ability to meet its obligation to exchange its currency for other currencies or for gold at fixed exchange rates. To meet this obligation, countries maintained a stock of official reserves, in the form of gold or foreign currencies that they could use to support their own currencies. A decline in this stock was considered an important balance-of-payments deficit because it threatened the ability of the country to meet its obligations. But that particular kind of deficit, by itself, was never a good indicator of the country’s financial position. The reason is that it ignored the likelihood that the country would be called on to meet its obligation and the willingness of foreign or international monetary institutions to provide support.

In short, the balance of payments comprises two accounts: the current account and the capital account. These two accounts generally balance each other, i.e., they add up to the same amount.

Table 3 presents Jordan’s international balance of payments for FY2008.

Table 3: Balance of Payments 2008 (million JD)

	Code	Formula	FY 08
Trade Balance	a	a1+a2	-5117.1
Exports (fob)	a1		5523
<i>of which apparel sector</i>			716.7
Imports(fob)	a2		-10640.1
<i>of which petroleum</i>			-1923
Services (net)	b	b1+b2+b3+b4	215.1
<i>Travel</i>	b1		1376.2
<i>Transportation</i>	b2		-988.8
<i>Government Services</i>	b3		-53.6
<i>Other Services</i>	b4		-118.7
Income (net)	c	c1+c2	675.1
<i>Compensation of Employees</i>	c1		411.1
<i>Investment Income</i>	c2		264
Current Transfers	d	d1+d2	2506.3
Public (net)	d1		661.4
Other sectors (net)	d2		1844.9
<i>of which remittances inflow</i>			2242
<i>of which remittances outflow</i>			-295.3
Current Account Balance	e	a+b+c+d	-1720.6
Capital Account	f		200.9
Financial Account	g	h+i+j+u	521.2
Direct Investment	h	h1+h2	1376.2
<i>Abroad (net)</i>	h1		-9.1
<i>In Jordan (net)</i>	h2		1385.3
Portfolio Investment (net)	i		398.7
Other Investment	j	k+l	-444.9
Assets	k	k1+k2+k3	637.3
Loans	k1		-226.7
Currency and Deposits	k2		734.4
Other	k3		129.6
Liabilities	l	m+n+s+t	-1082.2
Trade Credits	m		-43.7
Loans of which:	n	o+p+q+r	-1880.4
<i>CBJ</i>	o		-41.8
<i>General Government</i>	p		-1822.7
<i>Banks (net)</i>	q		-38.7
<i>Other Sectors</i>	r		22.8
Currency and Deposits	s	s1+s2	849.4
<i>CBJ</i>	s1		74.1
<i>Banks</i>	s2		775.3
Other Liabilities	t		-7.5
Reserved Assets	u		-808.8
Capital and Financial Account Balance	v	f+g	722.1
Net Errors and Omissions	w	e+v	998.5

Source: CBJ Annual Report 2008

There are numerous things that are interesting in Jordan's balance of payments, but I will only point out a few. Apparel is currently our largest import sector representing 13% of total exports, with Petroleum, our largest import representing 18% of total imports. Further, the JD 1923 million in Petroleum imports represents 34.8% of our total exports. Overall, exports merely cover 52% of the imports, causing a significant trade deficit. And although remittances inflows cover about 45% of the trade deficit, the remaining components of the current account are not enough to take the overall current balance out of a deficit.

As for the Capital and Financial Accounts, Foreign Direct Investment significantly helped lessen the affect of the country's loans, covering total liabilities by 1.28 times. It is worth noting the General Governments hold 96% of total loans. Overall, Jordan's balance of payments remains in deficit due to the dominant trade deficit.

An additional issue that needs to be highlighted is the significantly large net errors and omissions figure that equals 58% of the current account balance and 1.38 times the capital and financial accounts. In order to better understand the nature of this discrepancy, Table 4 and 5 below summarize the balance of payments for Jordan from 2004 to 2008, and a country comparison for 2008 respectively.

The net errors and omissions value for Jordan is significantly high for both 2007 and 2008, up from an extremely low value in 2006. In addition, in comparison to peer countries, Jordan and Lebanon have very large errors in their balance of payments, while Egypt, Turkey and other Peer countries like Morocco and Tunisia have significantly lower error values.

It is not quite clear what is the root of the large discrepancy in the balance of payments. What might be the causes of this?

Table 4: Balance of Payments Summary for Jordan over time (million JD)

	2005	2006	2007	2008
Current Account	-1,559.4	-1,133.3	-2,080.1	-1,720.6
Capital & Financial Accounts	982.7	1,173.9	1,158.8	722.1
Net Errors & Omissions	576.7	-40.6	921.3	998.5
<i>% of Current Account</i>	-37.0%	3.6%	-44.3%	-58.0%
<i>% of Capital & Financial Accounts</i>	58.7%	-3.5%	79.5%	138.3%

Table 5: Country Comparison (Balance of Payments 2008 in US \$ million)

	Jordan	Egypt	Turkey	Lebanon
Current Account	-2,426	-4,424	-41,866	-1,220
Capital & Financial Accounts	1,018	4,759	36,357	3933.6
Net Errors & Omissions	1,408	-335	5,509	-2,714
<i>% of Current Account</i>	-58.0%	7.6%	-13.2%	222.5%
<i>% of Capital & Financial Accounts</i>	138.3%	-7.0%	15.2%	-69.0%

Current account

The current account includes payments for imports, receipts for exports, earnings on capital or businesses in overseas locations, earnings by foreign owners of capital or businesses in Jordan, transfers or remittances that Jordanian workers living outside of the country send home, transfers or remittances made by foreigners sent to people outside of the country, other gifts and transfers going into or out of the country.

When we look just at the trade part of the current account, we refer to the trade account or trade balance, also called the balance of trade. The trade account incorporates the export of goods and services less the payment for the import of goods and services. When exports exceed imports, we say there is a *trade surplus*. When imports exceed exports this is a *trade deficit*.

Usually, for the trade account we account exports based on FOB basis, that is, the cost of the good at the port leaving Jordan. Freight and shipping insurance are not counted as part of the export value, as far as Jordan is concerned.

On the other hand, imports in most countries are included in the trade balance at their CIF price, that is, the price paid to the seller plus the cost of freight and insurance for that freight.

Jordan Balance of Payments Accounts Definitions

Current Account: The sum of the trade balance, the services account, the income account and net current transfers.

- **Trade Balance:** Exports less imports in the BOP.
 - **Exports:** Domestic exports (f.o.b) plus re-exports.
 - **Imports in the Balance of Payments:** Imports (f.o.b) less imports of nonresident agencies.
- **Non - Monetary Gold :** The gold which is held as a store of value and gold held for other purposes (industrial) , except the gold that is held as a reserve asset by the authorities (monetary gold).
- **Services Account:** The receipts less payments of the following services:
 - **Travel :**
 - **Travel receipts** represent expenditures of non-resident tourists visiting Jordan. These receipts are estimated on the basis of the results of the Arrivals and Departures Survey carried out by DOS, which provides estimates for expenditure averages according to the nationality of tourists. These averages are usually adjusted by the prevailing inflation rates. The number of arrivals and departures is provided every month by the Ministry of Tourism and Antiquities in coordination with the Ministry of Interior.
 - **Travel payments** represent expenditures abroad by Jordanian residents who travel abroad for the purpose of tourism, education or health treatment. These payments are estimated on the basis of the same survey used for the purposes of travel receipts.
 - **Transportation:**

- **Transportation receipts** represent the revenues of resident transportation firms accrued from offering services to nonresidents.
 - **Transportation payments** represent the amounts paid by residents to non-resident transportation firms against providing transportation services to residents including the cost of freight for imports. Data on this item are obtained from the sources of transportation firms as well as from information included in ITRS forms carried by the Central Bank and Commercial Banks every month.
- **Government Services:**
 - The **credit entries** cover mostly income from services rendered by Jordanian embassies and Jordanian diplomatic & political missions abroad as well as services provided by public institutions to non-residents.
 - The **debit entries** cover expenditures of Jordanian military, the government and public institutions to nonresidents for settlement of commercial payments and for the purchase of services. Related data are obtained from ITRS forms.
- **Other Services (Net):** This item includes all services that are not classified in the abovementioned items. The most important items are insurance services, communication and computer services, construction services, trade related services, financial services, and trademarks and licensing fees.
- **Income Account:** This account consists of the following items:
 - **Worker's Compensations (Receipts):** Represent income and benefits obtained by resident workers, including seasonal and cross border workers, as a compensation for being employed abroad by nonresidents.
 - **Workers Compensations (Payments):** Represent income and benefits obtained by non-resident workers, including seasonal and cross border workers, as a compensation for working in the kingdom.
 - **Investment Income:** The **receipts side** represents the return and accrued interests acquired by resident investors from their equity and financial assets (such as banks deposits, loans, securities and stocks) issued by non-resident institutions. The receipts side includes General Government, Central Bank of Jordan, commercial banks and private sector investments. The **payments side** represents the returns obtained by non resident investors from their equity and financial assets in the kingdom.
- **Current Transfers:** represent the counterpart entries of real flows of goods and services as well as financial and non-financial assets which do not result in transfer of ownership of fixed assets or forgiveness of a liability by creditor. These transfers include the following:
 - **Public Sector Transfers:** It includes grants and funds received or paid by the government from and to non-residents.
 - **Other sectors:**
 - **Worker's Remittances:** The **receipts side** represents inward transfers from non-resident Jordanians working abroad, for the purpose of current expenditures in Jordan. These remittances are estimated on the basis of the ITRS forms every month. The **payments side** represents outward transfers made by non-Jordanians residing and working in Jordan. These remittances are estimated on the basis of data from the Ministry of Labor on foreign workers, and the average monthly transfer per single worker in Jordanian dinar.

- **Other transfers:** Consist of grants and funds given to residents “except government and worker’s remittances” from non-residents, or that given from residents “except government and worker’s remittances” to non-residents. It also includes UN compensations.

Capital Account: Consists of both capital transfers and acquisition or disposal of non-financial non-produced assets. Where **capital transfers** represent the offsetting entries of forgiven debt and other capital transfers including the value of capital grants

Financial Account:

- **Direct Investment (abroad):** This item represents net residents investment abroad broken down by equities, reinvested earnings, and net other claims on non-resident subsidiaries.
- **Direct Investment (in Jordan):** This item represents net nonresidents investment in Jordan broken down by equities, reinvested earnings, and net other claims on resident enterprises.
- **Portfolio Investment (Assets):** Covers residents ownership of foreign equity, foreign debt securities and foreign financial instruments, other than those included in foreign direct investment and reserve assets
- **Portfolio Investment (Liabilities):** Covers non-residents ownership of domestic equity, debt securities and financial instruments, other than those included in foreign direct investment and reserve assets.
- **Other Investment (Assets):** Includes all financial transactions related to residents and not included in direct investment, portfolio investment or reserve assets. The instrument classification of this investment comprises trade credits, loans, currency and deposits.
- **Other Investment (Liabilities):** Includes all financial transactions related to non-residents and not included in direct investment, portfolio investment or reserve assets. The instrument classification of this investment comprises trade credits, loans, currency and deposits.
- **Reserve Assets:** External assets available and controlled by the CBJ and could be used for financing BOP imbalances. It includes monetary gold, SDRs, reserve position with the IMF and foreign exchange assets (currency & deposits, and securities).

Coverage of CBJ foreign reserves to imports (in months): Represents readily available foreign reserves of the CBJ divided by the monthly average value of goods and services less the monthly average value of re-exports.

International Investment Position: It is a statistical statement that shows Jordan’s stocks (positions) of external financial assets and liabilities at the end of each year. This stock is the result of BOP external transactions and other factors (such as revaluation, reclassification or write-offs), valued at market prices.

- **External Assets:** are financial claims, obligations and financial assets stocks (positions) for all residents sectors in Jordan on non-residents. It includes foreign direct investment abroad, portfolio investment in securities, currency and deposits, loans or other claims, valued at market prices. The data also cover the reserve assets of the Central Bank of Jordan.

- **Direct Investment (abroad):** This item represents stock claims to residents investment on non-resident enterprises broken down by equities, reinvested earnings, and net other claims on non-resident subsidiaries.
- **Portfolio Investment (Assets):** Covers stocks of residents ownership of foreign equity, foreign debt securities and foreign financial instruments, other than those included in foreign direct investment and reserve assets
- **Other Investment (Assets):** Includes all financial stocks related to residents and not included in direct investment, portfolio investment or reserve assets. The instrument classification of this investment comprises trade credits, loans, currency and deposits.
- **Reserve Assets:** External stock assets available and controlled by the CBJ and could be used for financing BOP imbalances. It includes monetary gold, SDRs, reserve position with the IMF and foreign exchange assets (currency & deposits, and securities).
- **External Liabilities:** are financial claims, obligations and financial assets stocks (positions) for all non-residents sectors on Jordanian resident sectors, it includes foreign direct investment in Jordan, portfolio investment in securities, currency and deposit, loans or other claims, valued at market prices.
 - **Direct Investment (In Jordan):** This item represents non-residents investment stocks in Jordan broken down by equities, reinvested earnings, and net other claims on resident enterprises.
 - **Portfolio Investment (Liabilities):** Covers non-residents stocks ownership of domestic equity, debt securities and financial instruments, other than those included in foreign direct investment and reserve assets.
 - **Other Investment (Liabilities):** Includes all financial stocks related to non-residents and not included in direct investment, portfolio investment or reserve assets. The instrument classification of this investment comprises trade credits, loans, currency and deposits.
- **Net International Investment Position** represents the difference between stocks of both foreign Assets and foreign liabilities, and it shows what the country owns and what it is obligated to.

Exchange rates

Fixed Exchange Rates

In two countries with identical inflation rates, similar growth rates and opportunities for investment and institutional arrangements, if the rate of interest is identical between the two, there should be NO reason for the flows of capital between these two countries to change. We could say there is equilibrium.

However, should, because of any variety of reasons, interest rates rise in one of the two countries, we would expect money to flow from the low interest rate country to the high interest rate country. The two countries are no longer in equilibrium. If the exchange rates are fixed, then money will flow into the high interest rate country causing 1) prices to rise in that country and to fall in the other, and 2) causing interest rates to fall in that country and to rise in the other.

A new equilibrium will be reached when “real interest rates” are equalized between the two countries.

Flexible Exchange Rates

Follows the same process except that changes in the exchange rate also play a part in the adjustment process.

Interest Rate Parity

This says that the expected change in the exchange rate is equal to the persistence of an interest rate differential between countries given inflation rates. I.e., as long as real interest rates are higher in one country than in another, cet. par., we should expect the forward foreign exchange rate to be different from the current foreign exchange rate.

Think about how otherwise one could make money on arbitrage. In fact, arbitrage is the key.

:

$$E[F_{X_{(t+1)}} / F_{X_t}] = f(r^i - p^i) / (r^j - p^j)$$

That is, the expected future exchange rate relative to the current rate is a function of the real interest rate differential between the two countries.

Real Effective Exchange Rate

According to the IMF glossary of economic terms and concepts,

>>Real Effective Exchange Rate

A broad summary measure of the prices of one country's goods and services relative to the prices of goods and services in that country's trading partners. It is typically calculated as a weighted average of the ratios of a country's domestic price index to the price indices of its foreign trading partners, where the indices are expressed in the same currency units.<<

What Does *Real Effective Exchange Rate - REER* Mean?

The weighted average of a country's currency relative to an index or basket of other major currencies adjusted for the effects of inflation. The weights are determined by comparing the relative trade balances, in terms of one country's currency, with each other country within the index.

Investopedia explains *Real Effective Exchange Rate - REER*

This exchange rate is used to determine an individual country's currency value relative to the other major currencies in the index, as adjusted for the effects of inflation. All currencies within the said index are the major currencies being traded today: U.S. dollar, Japanese yen, euro, etc.

This is also the value that an individual consumer will pay for an imported good at the consumer level. This price will include any tariffs and transactions costs associated with importing the good.

We can express the nominal exchange rate of Jordanian Dinars per dollar as follows:

$$ER = \frac{\$}{JD}$$

Here we express the exchange rate as the number of dollars one JD can buy. If the exchange rate rises, i.e., the number of dollars required to buy one JD increases, then we say there has been an appreciation of the JD. Of course, we can express the exchange rate in inverse terms, i.e., JD over dollars. In this case, if the number of JD needed to buy one dollar were to increase, then we would say the JD has depreciated.

The real effective exchange rate merely accounts for price level differences in Jordan and her trading partners. We would then have to incorporate a set of relative price indices to account for different price levels in the two countries. We can do this as follows:

$$REER = \frac{\$}{JD} \times \frac{P^*}{P}$$

In this case, the real effective exchange rate (REER) is equal to the nominal exchange rate (ER) multiplied (or weighted) by the ratio of the general price level in Jordan (P^*) over the general price level in the US (P).

Here things get a little tricky. If the general price level in Jordan increases, while in the US, it remains unchanged, and the nominal exchange rate (ER) remains unchanged, then we say the REER has appreciated.

If Jordan only trades with the United States, then its real effective exchange rate could be expressed with respect to the dollar, and weighted by the ratio of inflation in Jordan compared to inflation in the US. In this case, if inflation in both countries is the same, there would be no difference between the nominal exchange rate (JD/\$) and the real effective exchange rate.

Obviously, Jordan trades with many countries besides just with the US. So, a real effective exchange rate would include the relative inflation rate of Jordan compared to each of the country's trading partners each time weighted the percentage of its trade with each of these countries.

For instance, assume that Jordan trades with both the US and the UK, and that $\frac{1}{4}$ of trade is with the US and $\frac{3}{4}$ is with the UK, and assuming that we wish to express the exchange rate in only one current, in this case dollars, we would express the real effective exchange rate as:

$$\frac{\$}{JD} \times \left(\frac{P_j}{P_{us}} \times \frac{1}{4} \right) \times \left(\frac{P_j}{P_{uk}} \times \frac{3}{4} \right)$$

If for whatever reason the nominal exchange rate (\$/JD) does not change, but inflation in Jordan is higher than in the US and the UK, then we would say that there has been an appreciation in the real effective exchange rate.

Real effective exchange rate appreciation generally indicates deterioration in a country's competitiveness, all other things being equal.

Because of the complexity in the numbers used for calculating the real effective exchange rate, analysts do not usually publish the REER. Instead, they calculate the REER for a specific date or time then index that calculation to 100. Then changes in nominal exchange rates and relative price levels between Jordan and trading partners, result in deviations of the REER from the index number of 100. This is illustrated in the table below.

Table 6: Nominal and real exchange rates

	2004	2005	2006	2007	2008
Nom. exchange rate (JD/\$, average for year)	0.708	0.708	0.708	0.708	0.708
rate of depreciation		0%	0%	0%	0%
Real effective exchange rate (2000 = 100)	89.1	93.6	94.2	91.9	97
rate of depreciation of REER		5.1%	0.6%	-2.5%	5.5%
Real effective exchange rate (2004 = 100)	100.0	105	105.7	103.1	108.9
rate of depreciation of REER		5.1%	0.6%	-2.5%	5.5%
IMF					

The nominal exchange rate here is expressed as number of JD per dollar, which is the inverse of that discussed above. This is not important. As reported in the table, JD is pegged to the US dollar; hence, no change has occurred to the period 2004-2008.

The REER was originally calculated in the year 2000, at which time it was set to 100. By the year 2004 the REER, or the real value of the JD had already declined by 10.9% ($10.9 = 100 - 89.1$). To illustrate how REERs can be indexed at any time, we establish, as an exercise, 2004 as the index year. This is done by having all the REER observations divided by 89.1 (the base year number) and multiplied by 100. As can be seen from two separate calculations of the rate of depreciation of the REER, the results are the same.

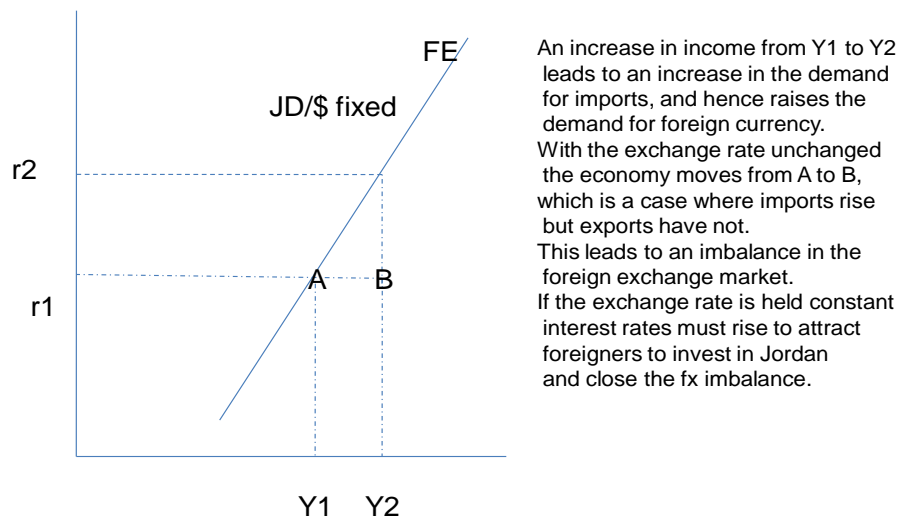
Equilibrium exchange rate

- Supply of foreign exchange comes from the sale of exports, transfers and remittances, borrowing, and from capital inflows.
- Demand for foreign exchange arises from need to import goods, can also fund outflows of moneys: i.e., a desire to hold foreign currency or other foreign assets.
- Demand for foreign exchange also from repatriation of profits.

Figure 20 presents the FE curve. This curve is very similar to the IS or the LM curves, in that it relates interest rates with incomes, while maintaining equilibrium in the foreign exchange markets. The FE curve assumes that the country's exchange rate is held constant and that

autonomous expansion of the demand for imports, which would result in an expanded demand for foreign currency, would immediately result in a larger trade deficit. This larger trade deficit can in this simple model only be managed by attracting foreign funds by offering higher interest rates in Jordan than would be available to investors in the rest of the world.

Foreign exchange equilibrium income-interest rates

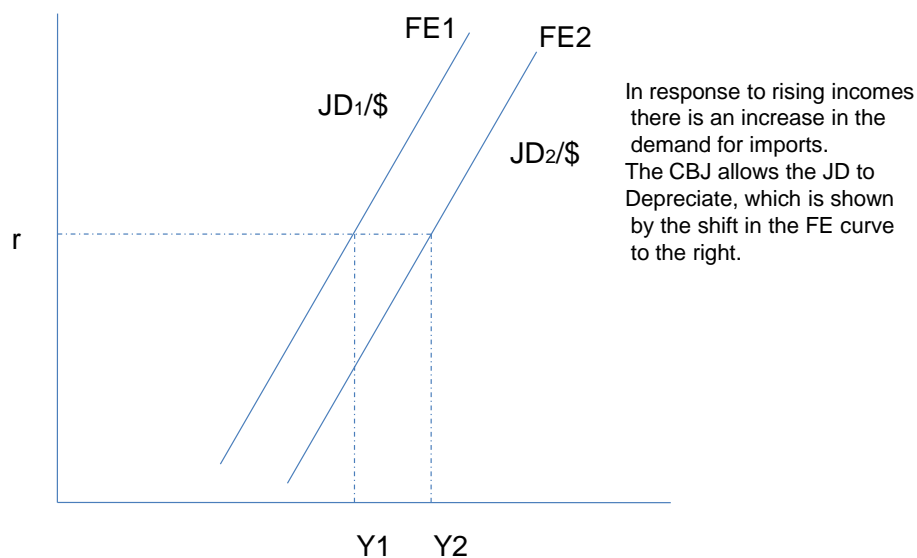


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Figure 20: Interest rates, income levels, and the foreign exchange market

Figure 21 demonstrates a shifting of the FE curve to the right by allowing the JD to depreciate. In this case, instead of having interest rates adjust, the cost of paying for imports rises due to the depreciation of the JD. The trade deficit is reduced since now, at least in immediate, nominal terms, imports are less in demand, and exporters are now encouraged to export more, since the JD price they receive for their exports has risen.

Foreign exchange rate adjustment



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Figure 21: Currency depreciation shifts the FE curve to the right

Questions

- Does it make any difference how we express the nominal exchange rate?
- Why did the JD depreciate over this period?
- What does the depreciation of the JD in real terms, i.e., appreciating REER, mean for Jordan and its ability to compete in international markets?

VI. STRUCTURE OF THE PUBLIC SECTOR

Goals and objectives

Participants will understand and be able to model the implications of macroeconomic programming on the fiscal sector. This will specifically include implications for balances and government spending.

Participants will understand the concepts of the Government Finance accounting or statistics system in terms of the various aspects of aggregation, in particular:

- Non-Financial Public Sector
- General Government
- Consolidated Central Government
- Central Government
- Extraordinary Budgets
- Local or Non-Central Government
- Gross Borrowing Requirement.

These concepts will be linked to the macroeconomic program and participants will fully understand the relationships between the macroeconomic program and implications for the following aspects of fiscal policy:

- Remunerations
- Goods and Services
- Transfers and Subsidies
- Interest Payments
- Capital Spending
- Prime Deficit
- Current Account
- Overall Balance

Institutional framework⁷

The following graphic describes the general structure of the fiscal sector according to internationally accepted standards.

⁷ See the IMF's Government Finance Statistics Manual, 2001.

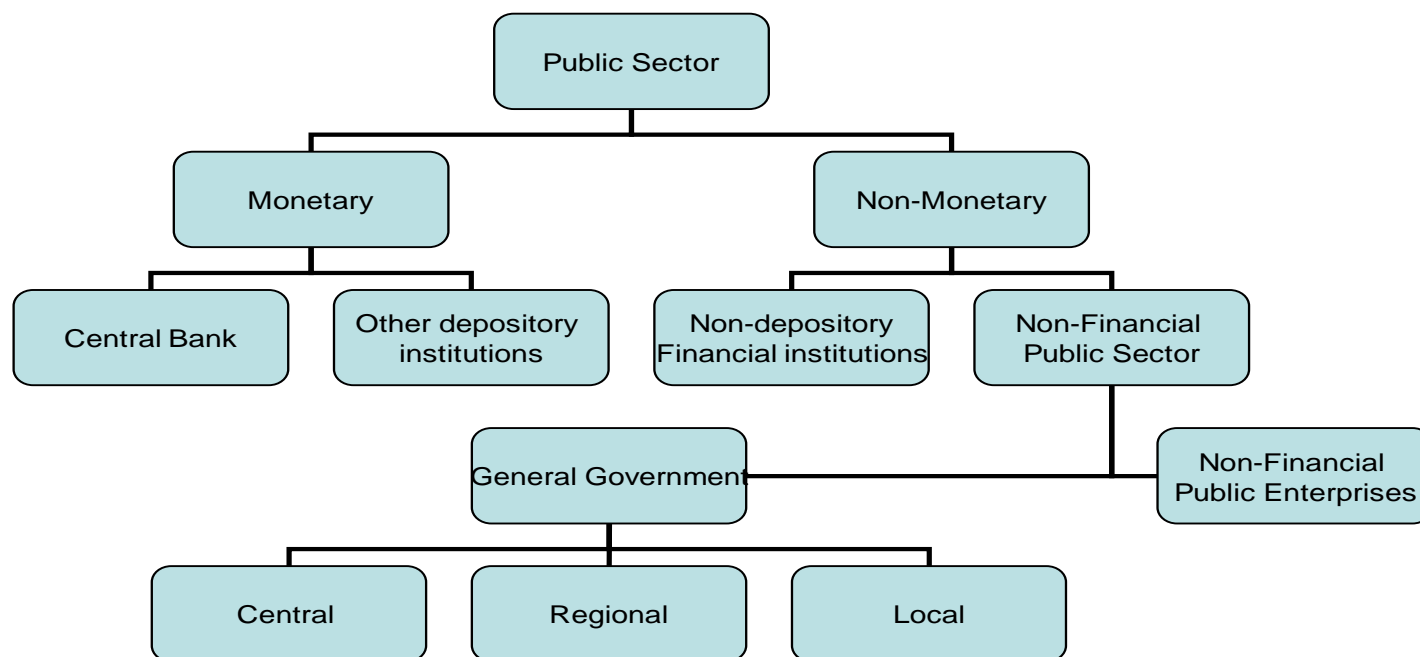


Figure 22: Structure of the public sector according to international standards

- The Non-Financial Public Sector (NFPS)
- Public Enterprise Sector
- Government
- Consolidated Central Government
- Central Government Ordinary Budget
- Central Government Extraordinary or Non-Budget
- Local Government

Budget coverage

The principal economic functions of a government are (1) to assume responsibility for the provision of goods and services to the community on a nonmarket basis, either for collective or individual consumption, and (2) to redistribute income and wealth by means of transfer payments. An additional characteristic of government is that these activities must be financed primarily by taxation or other compulsory transfers.

In principle, the GFS system covers all entities that materially affect fiscal policies. Normally, fiscal policies are implemented by entities wholly devoted to the economic functions of government, such as a government ministry.

In addition to those entities, however, fiscal policy may be carried out by government-owned or controlled enterprises that engage primarily in commercial activities. These enterprises, such as the central bank or national railroad, which are referred to as public corporations, are not considered part of government, but statistics should be collected on them.

Questions

- **What would this chart look like for Jordan?**
- **Where would the Extra Budgetary Funds fit?**
- **Where are all the data for all these levels of government centralized and where do we produce the overall numbers for the NFPS and the overall Public Sector?**

Fiscal accounts of Jordan central government

The following table summarizes the Government of Jordan fiscal performance over the past several years. Data are presented in percentage of GDP.

Table 7: Government of Jordan summary accounts

	2005	2006	2007	2008
	as % of GDP			
Total revenue	34.3	33.4	32.9	31.5
Tax	19.8	20.5	22.4	17.1
Nontax	14.5	12.9	10.5	14.4
Total expenditure	39.5	37.7	38.0	36.1
Current expenditure	32.6	30.0	31.1	29.8
Capital expenditure	7.1	7.7	7.0	6.3
Current account	-17.5	-10.9	-17.3	-11.3
Overall balance (including grants & contributions)	-5.3	-4.3	-5.1	-4.6

Revenues

Current revenues

These are revenues that government receives in a current year that are either taxes or fees charged for certain services. These can also include interest earning of government on debt that it holds. These are usually recurring revenues.

TAXES

Taxes are a transfer from person(s) to government. They do not add nor subtract from national product and income, they are coercitive and do not provide a specific counter-service or good.

Direct

These are taxes on or related to the factors of production (land, labor, capital)

Income and profit taxes, property and real estate taxes

Indirect

These are generally taxes on consumption or production. Usually charged at a transaction.

VAT, sales, excises, import duties, export duties.

For international standard reporting, social contributions are reported separately from taxes, but they are current revenue.

Capital revenues

These are usually revenues from the sale or liquidation of assets, such as money received for the privatization of a public sector company.

Usually “one-off” transactions

Questions:

Why do we care about the split between current and capital revenues?

Do businesses have a similar dichotomy, why or why not?

Questions

1. **Why do we say taxes are coercive?**
2. **Does paying tax give someone the right to any particular good or service?**
3. **How does a tax differ from a fee?**
4. **Is the payment for a dog license a tax or a fee?**
5. **What are the most common taxes found around the world?**
6. **What are the most common direct taxes and indirect taxes?**
7. **What are the types of fees that we must pay governments, at what levels of government?**
8. **Did you know that in some countries fees and other non-tax revenues come to a large portion of government revenues?**
9. **Name some other non-tax revenues that governments receive that are not fees?**

Expenditures

Current expenditures

These are expenditures made, usually on recurrent basis, and pay for the provision of services during the course of a year. Expenditures are by functional and economic categories, but are in budgets are usually provided by organization (Ministry of Foreign Affairs, Defense, etc.)

In economic terms, the following is a helpful taxonomy:

Personnel costs (remunerations)

Wages and salaries

Benefits and social costs

Goods and other non-personal services

Maintenance of equipment contracts

Maintenance of structures contracts

Other goods and non-personal services

Transfers

Subsidies to Government Owned Enterprises

Subsidy to petroleum consumption

Transfers to other levels of government

Transfers to households (pensions, other support)

Other transfers and subsidies

Interest payments

Domestic

Foreign

Lending minus repayments

Other levels of government

Other

Other (Non-Regular)

The following pie chart displays how the Government of Jordan dispenses its current expenditure, according to functional types. The data are from the 2009 budget.

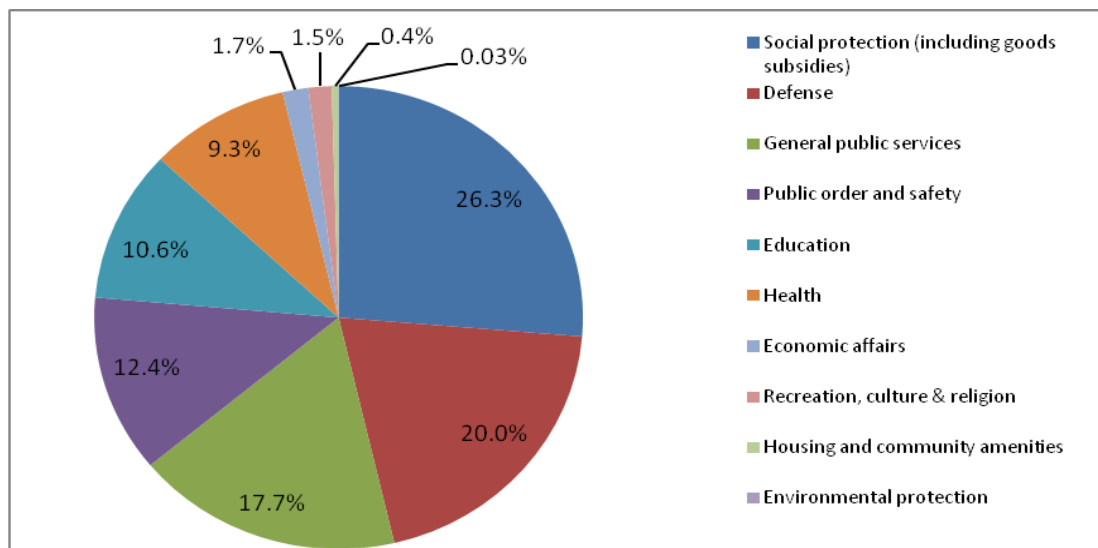


Figure 23: Current expenditure by function (2009 budget, MOF)

The following pie chart displays how the Government of Jordan dispenses its current expenditure, according to economic categories. These data are from the 2009 budget. **The breakdown excludes JD 1,621 million allocated for the military in the 2009 budget.**

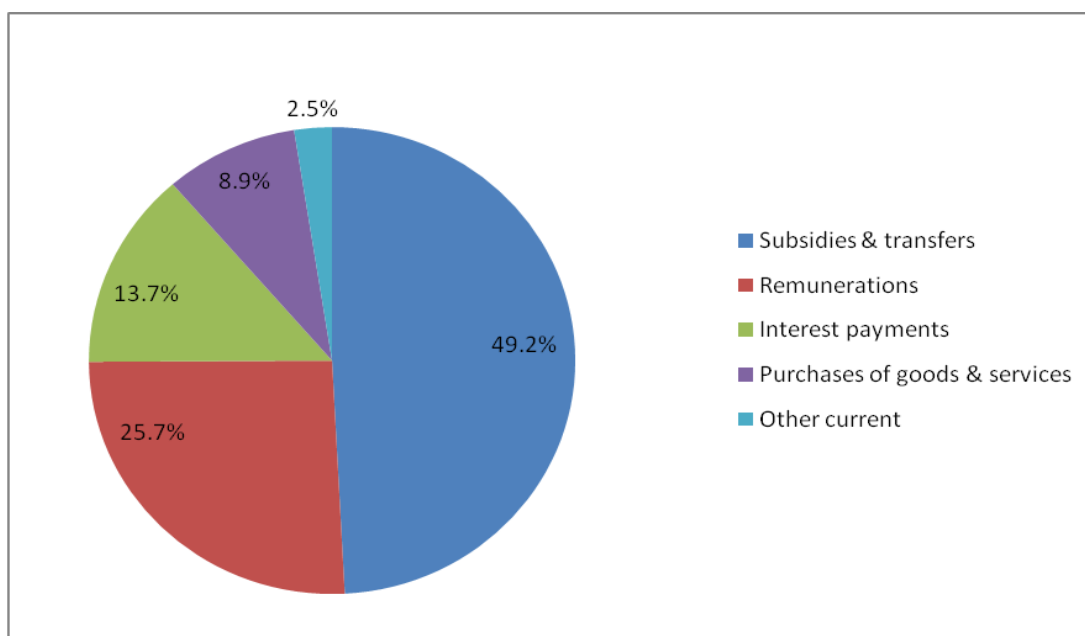


Figure 24: Current expenditure according to economic classification (2009 Budget, MOF - *Data excluding allocation for military)

In many developing countries, personnel costs, or remunerations, make up a very large part of the current budget. Indeed, in some countries, this may exceed 50% of all current spending. A quick glance at the overall distributions of the allocations of the current budget in Jordan does not show such lopsidedness. Perhaps the most striking allocation that can be pointed out here is that 34% of the 2009 of current expenditure budget is allocated to the military. Excluding the military allocation, the total current budget for 2009 was JD 3.2 billion; 49% is spent on subsidies and transfers, 25.7% on remunerations, 13.7% on interest payments, and a small 8.9% on purchases of goods and services. Is the budget allocated efficiently? Where do we need to spend more?

Personnel costs

These expenditures are paid to government employees. They are remuneration and related charges for the payment of employees services rendered to government during the year. This is often the largest or second largest budget category for government budgets around the world.

Personnel costs refer to the total remuneration, in cash or in kind, payable to a government employee in return for work done during the accounting period. It includes both *wages and salaries* and *benefits* and salary related *allowances* as well as social contributions and payroll taxes **made** on behalf of employees to social insurance schemes. Excluded are amounts payable to contractors, self-employed outworkers, and other workers who are not employees of general government units. Any such amounts are recorded under *goods and non-personal services*

Wages and salaries consist of all compensation of government employees except for *social contributions* by employers. It includes pay in cash or in kind.

Wages and salaries consist of payments in cash to employees in return for services rendered, before deduction of withholding taxes and employees' contributions to social insurance schemes. Included are basic wages and salaries; extra pay for overtime, night work, and weekend work; cost of living allowances, local allowances, and expatriation allowances; bonuses; annual supplementary pay, such as "13th month" or vacation pay.

Wages and salaries exclude the reimbursement of expenditures made by employees in order to enable them to take up their jobs or to carry out their work. For example, the reimbursement of travel, removal, or related expenses incurred by employees when they take up new jobs or are required by their employers to move their homes are classified as *goods and services* (22) rather than wages and salaries.

Benefits and allowances include payments made to employees, i.e., those who are paid wages and salaries, either in-kind or in cash. These may include housing subsidy, meal subsidy, transport subsidy, contributions to pension and disability funds, health care funds, etc.

Questions

- **If the government hired a worker on contract basis, how should this be classified?**
- **If the government hired a company to provide experts and other services to implement some program, how would this be classified?**
- **If the government contracted a company to haul trash, how would this be classified?**
- **If the government hired a contractor to build a bridge, how would this be classified?**
- **If the central government directs 10% of its current expenditure budget to the poorest municipalities, how would this be classified by the central government, how by the municipalities, and how would this affect the overall measurement of the size of general government spending?**

Current expenditures on goods and non-personal services

Includes purchases of materials, supplies, and other expendable materials. Does not include the purchase of equipment, machinery, buildings and such, since these will be under capital expenditures. Can include contract hire for maintenance, cleaning, and other such services where government employees are not paid for carrying out the service. Service usually provided by private vendors.

Goods and non-personal services

The “Goods and non-personal services” category refers to those items and services that government purchases for immediate use. These can include purchases of office supplies, supplies for road maintenance purposes, such as cement, or public services, such as telephone, electricity, or water. It can also include contracts with firms to provide services, such as to conduct surveys, put on conferences or provide training to staff, or provide maintenance of government offices and equipment, such as photocopiers or bulldozers.

Maintenance of structures contracts

This category includes expenditures made to contractors for the maintenance of office buildings, bridges, roads, highways, ports, airports, and other such purposes.

It does not include payments made to staff for the performance of maintenance, nor for the use of materials or goods and services purchased directly by the government for maintenance purposes.

Maintenance of equipment contracts

This category includes expenditures made to contractors who provide maintenance services for government owned or funded equipment. Such contracts might be with an information technology firm responsible for the maintenance of a Ministry's computer equipment. Other such contracts might be for the maintenance of photocopies, laboratory equipment, street lighting, or vehicles and heavy machinery.

As with the above sub-category, this category does not include the costs associated with maintenance provided by government employees.

Maintenance of vehicles contracts

This category includes expenditure for contractors to provide maintenance services for all forms of vehicles owned or operated by the government or government agencies. It includes contract costs for the maintenance of automobiles, buses, sea motor vehicles or boats and ships, aircraft, and any other means for the conveyance of persons or heavy loads.

It does not include payments made to staff for the performance of maintenance, nor for the use of materials or goods and services purchased directly by the government for maintenance purposes.

Other goods and non-personal services

The purchase or hiring of all goods and non-personal services not included elsewhere should be included in this category. Some examples would be contractor services for conducting studies, surveys, trainings, or the like. It also includes contracts to provide information technology technical services, installation of such equipments, removal of equipment, as well as legal fees, subscriptions for magazines, newspapers, and data services. Other items to be included in this category include purchases of fuel, payment for air or rail or other travel tickets, payments for utilities, such as telephone, water, and electricity.

Any purchases or use of goods and non-personal services should be included in this category.

Functional spending categories

The real purpose of government spending is not to pay salaries, transfers, or make interest payments, rather it is to provide services to the public. These economic expenditures are made for functional purposes.

The functional categories of government spending are:

Classification of Expense by Function of Government

7 Total outlays

701 General public services

7011 Executive and legislative organs, financial and fiscal affairs, external affairs

7012 Foreign economic aid

7013 General services

7014 Basic research

7015 R&D1 General public services

7016 General public services n.e.c.2

7017 Public debt transactions

7018 Transfers of a general character between different levels of government

702 Defense

7021 Military defense

7022 Civil defense

7023 Foreign military aid

7024 R&D Defense

7025 Defense n.e.c.

703 Public order and safety

7031 Police services

7032 Fire protection services

7033 Law courts

7034 Prisons

7035 R&D Public order and safety

7036 Public order and safety n.e.c.

704 Economic affairs

7041 General economic, commercial, and labor affairs

7042 Agriculture, forestry, fishing, and hunting

7043 Fuel and energy

7044 Mining, manufacturing, and construction

7045 Transport

7046 Communication

7047 Other industries

7048 R&D Economic affairs

7049 Economic affairs n.e.c.

705 Environmental protection

- 7051 Waste management
- 7052 Waste water management
- 7053 Pollution abatement
- 7054 Protection of biodiversity and landscape
- 7055 R&D Environmental protection
- 7056 Environmental protection n.e.c.

706 Housing and community amenities

- 7061 Housing development
- 7062 Community development
- 7063 Water supply
- 7064 Street lighting
- 7065 R&D Housing and community amenities
- 7066 Housing and community amenities n.e.c.

707 Health

- 7071 Medical products, appliances, and equipment
- 7072 Outpatient services
- 7073 Hospital services
- 7074 Public health services
- 7075 R&D Health
- 7076 Health n.e.c.

708 Recreation, culture, and religion

- 7081 Recreational and sporting services
- 7082 Cultural services
- 7083 Broadcasting and publishing services
- 7084 Religious and other community services
- 7085 R&D Recreation, culture, and religion
- 7086 Recreation, culture, and religion n.e.c.

709 Education

- 7091 Pre-primary and primary education
- 7092 Secondary education
- 7093 Postsecondary nontertiary education
- 7094 Tertiary education

7095 Education not definable by level

7096 Subsidiary services to education

7097 R&D Education

7098 Education n.e.c.

710 Social protection

7101 Sickness and disability

7102 Old age

7103 Survivors

7104 Family and children

7105 Unemployment

7106 Housing

7107 Social exclusion n.e.c.

7108 R&D Social protection

7109 Social protection n.e.c.

Capital expenditures

Usually made for the purchase or payment for capital items or investment. These expenditures are not for services that will have an immediate return to the government or the people, but rather pay for investments that will have a return over a period exceeding a year.

Examples: Roads, train tracks, school buildings.

Questions

- **Why is expenditure on our children's education considered a current expenditure, even if it we often talk about investing in education?**
- **Can you make the same argument about health spending?**
- **Is current expenditure more or less productive than capital expenditure?**
- **From an economic classification perspective, which is the most important category of current expenditure in the Jordanian Governments budget?**

Government finance balances

This chart should be helpful in understanding the various terms used to describe the government balances in its financial reporting.

Structure

I. Revenues

A Current

Taxes

Non taxes

Grants (sometimes treated “below the line”)

B Capital

Sales of assets

Grants (sometimes treated “below the line”)

II. Expenditures

. A. Recurrent (Current)

Wages/salaries and benefits

Purchases of goods and non-personnel services

Transfers and subventions

Interest payments

. B Capital

III. Government Borrowing Requirement = II-I = overall deficit

IV. Net financing = III = A-B-C

A. New disbursements

B. Amortizations

C. Change in reserves

Note: III = IV, that is to say, the Government Borrowing Requirement is completely financed.

V. Current account balance = I.A – II.A

VI. Prime deficit = I.A – II.A + II.A.iv

VII. Own deficit = III – I.A.iii

VIII. Own prime deficit = VI – I.A.iii

The term “*own deficit*” means that we exclude the receipt of grants from the government finances.

Government borrowing requirement

This is usually referred to as *overall balance* of the government sector. If the overall balance of the sector is positive, there is no need to borrow. Indeed, a prudent government may use this balance to pay down its outstanding debt. The overall balance represents the difference between what the public sector removes from the economy, in real terms, versus, what it provides, in real terms.

The overall balance and the government borrowing requirement are the same.

The government borrowing requirement is funded with net financing (i.e., gross new borrowings less amortization) or drawing down the government’s reserves. This net financing can be domestic or foreign in source. It can come from the issuance of bonds that are sold to banks or the central bank or to others.

The government can spend money that it may have sitting around in bank accounts generated from surpluses from prior years. These idle bank accounts are considered “reserves.”

Questions

- **What impact does government borrowing have on the economy?**
- **How is government borrowing financed in Jordan, and in other countries?**

Current account balance

The current account balance is the net saving of the government sector. The current account balance, if positive, helps to finance public sector investment or can just fund overall savings of the economy, available also for private sector investment or for lending abroad. If negative, it represents a *dissaving* of the public sector.

Questions

- **How is the current account similar to your own savings accounts?**
- **How is the government current account similar to operating surplus of a firm?**
- **As budget experts, why would we be concerned about the current account?**
- **In what ways can the positive balances of a current account surplus be used?**
- **What is the meaning of a current account deficit and what is its impact on the economy?**

- **How can a current account deficit be financed?**

Fitting the government into the economy

Remember that GDP comprises three aspects:

- Uses or demand = $C + I + X - M = \text{GDP}$
- Sectoral output by Value Added = agriculture + manufacturing + ...
- Incomes = wages + corporate earnings etc.

For today, we will focus on 1 and 2.

Also remember that consumption comprises private and public consumption. For most purposes, we would just talk about private and government consumption, as if everything outside of the General Government were private sector. This is expressed by the following equations:

- $C = C_p + C_g$
- $C_g = \text{Wages and benefits} + \text{Purchases of Goods and Non-Personal Services}$

Parallel with Consumption, Investment includes private and government investment.

- $I = I_p + I_g$

I_g is all capital spending by government

All economies need savings, since this is how investment is financed. However, an economy has savings from both its domestic savers, as well as from abroad. This is to say, total funds available for investment are the difference between total savings in an economy and the trade balance. The greater the trade DEFICIT, the more investment can exceed domestic saving.

The savings relationships can be expressed as follows:

- $S = \text{GDP} - C$
- $S = C + I + X - M - C$
- $S = I + X - M$, therefore $I = S - (X - M)$

The government current account can be an important source of saving for the economy. It can fund the government's capital spending or it can even be made available as a source of financing for private sector accounting.

These relationships can be expressed.

- $S = S_p + S_g$
- Let T = all current revenue of Government
- $S_g = T - CX_g$ (current expenditure)
- $CX_g = \text{wages} + G\&S + \text{interest} + \text{transfers} + NL$
- Or
- $CX_g = C_g + \text{interest} + \text{transfers} + NL$

Remember, S_g is the difference between current revenues and current spending. This is the current account balance and was discussed before.

Clearly, government accounts are an important aspect of the economic accounts. Government can fund important public investment project, generate saving for the private sector to utilize for investment and job creation. Also, government draws upon the economy to provide funding for important public consumption, such as schooling, national defence, and public health care.

An international perspective

- How is Jordan doing compared to Egypt and the MENA region?
- How does the allocation of current expenditure in Jordan compare to that of our peers?

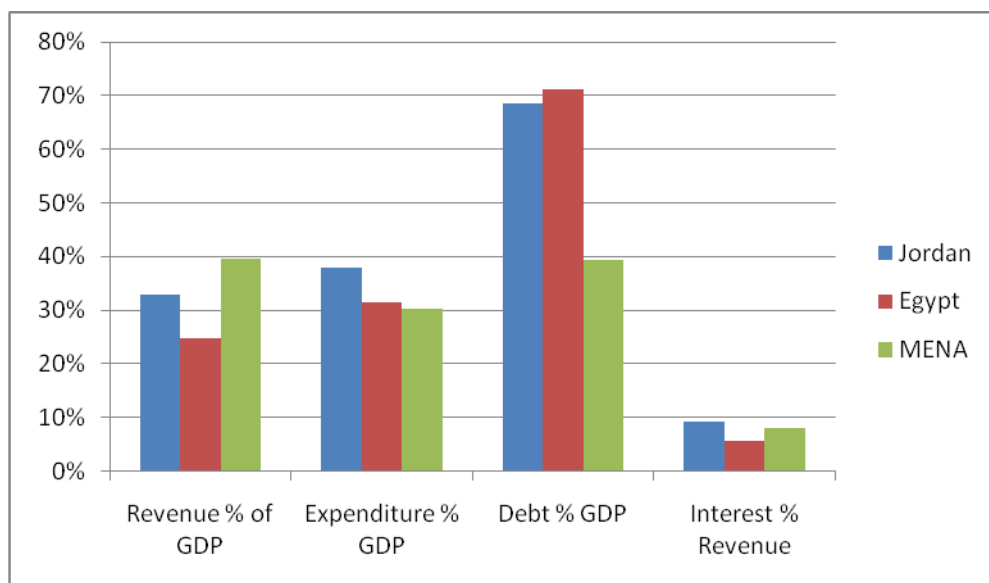


Figure 25: Comparative government finances (2007)

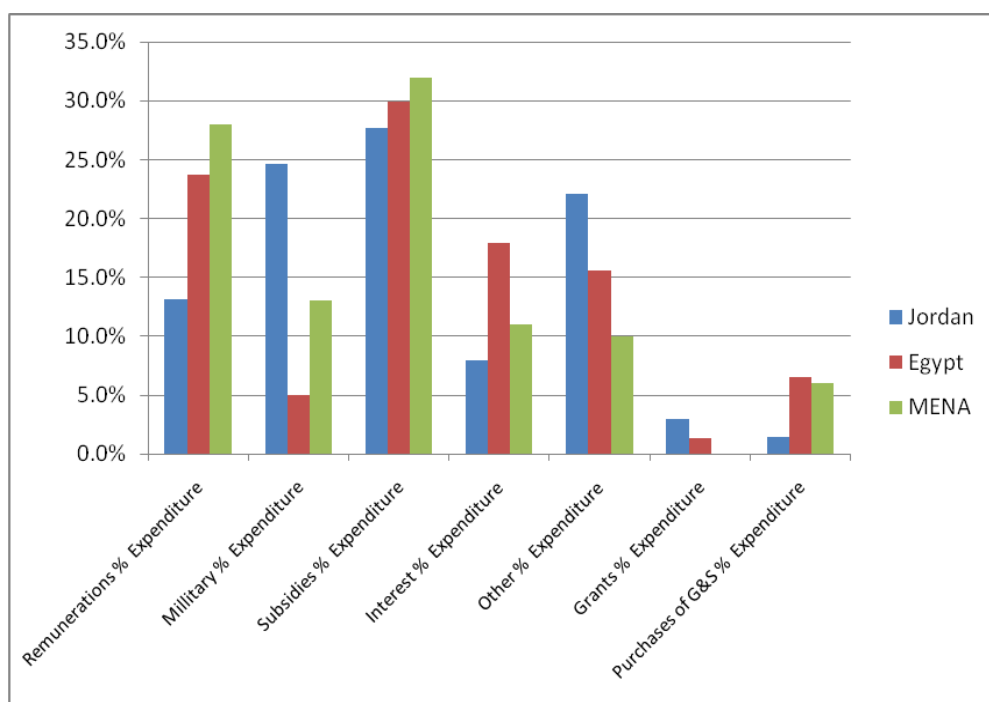


Figure 26: Comparative government spending (2007)

Source: MOF, World Bank and the Economist Intelligence Unit

VII. MACROECONOMIC STABILIZATION

Goals and objectives

Understand the major aspects of monetary and fiscal policy and interactions with the international balance of payments, as these effect macroeconomic stabilization.

Participants will be able to apply the concepts of earlier chapters to their understanding of the various measures that government and the central bank can take to address short-run macroeconomic instability. Participants will understand concepts such as expansionary, contractionary and countercyclical fiscal and monetary policy implementation, as well as specific concepts such as fiscal and monetary space. These ideas will be part of the discussion of the global financial crisis and how it may affect Jordan.

*Fiscal policy*⁸

This section discusses the use of fiscal policy as a means for helping to stabilize the macroeconomic situation in a country. The major tools of fiscal policy are overall government spending, overall government taxation, capital and current spending, and net financing.

Fiscal policy is the use of government spending and taxation to influence the economy. When the government decides on the goods and services it purchases, the transfer payments it distributes, or the taxes it collects, it is engaging in fiscal policy. The primary economic impact of any change in the government budget is felt by particular groups—a tax cut for families with children, for example, raises their disposable income. Discussions of fiscal policy, however, generally focus on the effect of changes in the government budget on the overall economy. Although changes in taxes or spending that are “revenue neutral” may be construed as fiscal policy—and may affect the aggregate level of output by changing the incentives that firms or individuals face—the term “fiscal policy” is usually used to describe the effect on the aggregate economy of the overall levels of spending and taxation, and more particularly, the gap between them.

Expansionary fiscal policy

Fiscal policy that specifically seeks to expand the level of aggregate demand in an economy is considered to be expansionary, i.e., it seeks to expand the economy. Expansionary fiscal policy can be implemented by directly increasing the demand for goods and services in the economy by expanding government spending.

Government spending by hiring new government employees to offer more or better public goods and services to the general economy directly stimulates demand.

⁸ Draws from <http://www.econlib.org/library/Enc/FiscalPolicy.html>.

Decreasing taxation without changing government spending also is a stimulus to demand, but not as direct. Instead, decreased spending raises disposable income in the land, which means that consumers now have greater purchasing power and can now go to the market to buy more goods and services.

Expansionary fiscal policy often results in either increasing the fiscal deficit, or reducing the fiscal surplus, or creating a deficit where before there was a balanced budget.

Expansionary fiscal policy results in a shift in the IS curve to the right.

Contractionary fiscal policy

When government seeks to put the brakes on the economy that seems to be expanding too rapidly by using fiscal policy to cut back on aggregate demand, we refer to this as contractionary fiscal policy.

Cutting back on government spending directly reduces aggregate demand in the economy. The government may reduce infrastructure maintenance or new investment, or it may cut spending on education, health or the military. These cuts in spending results in lower government investment or lower public consumption.

Government can implement contractionary fiscal policy by keeping the level of government spending constant, but increasing taxation. Increasing taxation reduces personal disposable income and thereby reduces the ability of people to spend on consumption of goods and services.

Contractionary fiscal policy usually entails a reduction in the fiscal deficit, or an increase in the surplus, or the movement from a balanced budget to a surplus budget.

Contractionary fiscal policy shifts the IS curve to the left.

Monetary policy

See the following statements from the United States Federal Reserve Bank – this is the Central Bank of the United States, similar to the Central Bank of Jordan.

>>What are the goals of U.S. monetary policy? ⁹

Monetary policy has two basic goals: to promote "maximum" sustainable output and employment and to promote "stable" prices. These goals are prescribed in a 1977 amendment to the Federal Reserve Act.

What do maximum sustainable output and employment mean?

In the long run, the amount of goods and services the economy produces (output) and the number of jobs it generates (employment) both depend on factors other than monetary policy. These factors include technology and people's preferences for saving, risk, and work

⁹ From US Federal Reserve website.

effort. So, maximum sustainable output and employment mean the levels consistent with these factors in the long run.

But the economy goes through business cycles in which output and employment are above or below their long-run levels. Even though monetary policy can't affect either output or employment in the long run, it can affect them in the short run. For example, when demand weakens and there's a recession, the Fed can stimulate the economy—temporarily—and help push it back toward its long-run level of output by lowering interest rates. That's why stabilizing the economy—that is, smoothing out the peaks and valleys in output and employment around their long-run growth paths—is a key short-run objective for the Fed and many other central banks.

If the Fed can stimulate the economy out of a recession, why doesn't it stimulate the economy all the time?

Persistent attempts to expand the economy beyond its long-run growth path will press capacity constraints and lead to higher and higher inflation, without producing lower unemployment or higher output in the long run. In other words, not only are there no long-term gains from persistently pursuing expansionary policies, but there's also a price—higher inflation. <<

Monetary policy is one of the tools that a national Government uses to influence its economy. Using its monetary authority to control the supply and availability of money, a government attempts to influence the overall level of economic activity in line with its political objectives. Usually this goal is "macroeconomic stability" - low unemployment, low inflation, economic growth, and a balance of external payments. Monetary policy is usually administered by a Government appointed "Central Bank", the Bank of Canada and the Federal Reserve Bank in the United States, or the Central Bank of Jordan (CBJ) in Jordan.

Monetary stance of CBJ.

>>The conduct of monetary policy since FY08 faced several challenges caused by the global financial crisis and adverse developments in the domestic economy fueled by natural disasters and steeply rising world food and fuel prices feeding rising inflation and inflation expectations. Considering the developments in the domestic and the international fronts, the monetary policy stance in FY09 aimed at containing inflation within tolerable limit while providing support to the government's growth stimulating and poverty reduction programs. In particular, emphasis was placed on adequate credit flows to productive sectors to ease supply shortages of food and essential products and reduce imports cost of essential goods in order to protect the poor from the adverse consequences of high inflation.<<

How is monetary policy implemented?

In modern economies the central bank attempts to affect the supply of money and thereby the general interest rates in an economy, mainly by withdrawing high powered money from the financial markets, or by injecting greater money or liquidity into financial markets. The most direct, but not the only, way of doing this around the world is for the central bank to buy or sell government bonds. Buying bonds from the public increases the

amount of high powered money in the economy. Conversely, selling government bonds to the public is a withdrawal of high powered money from the economy.

Other means for implementing monetary policy can include changing the reserve requirement, changing the interest rate that the central bank charges commercial banks for lending or reserve purposes.

On a day to day, week to week, or month to month basis, central banks tend to not change reserve requirements too often.

Contractionary monetary policy

When the central bank takes action to indirectly reduce the money supply in the economy, whether by selling bonds or raising the interest rate it charges its borrowing commercial banks, we call this contractionary monetary policy.

Contractionary monetary policy can have a number of effects on an economy. It can reduce overall aggregate demand by making it more expensive for people to borrow money, whether for purchase of goods and services for personal consumption, or for businesses to finance the buildup in their inventories.

Contractionary monetary policy can help reduce inflationary pressures. Indeed, contractionary monetary policy can lead to disinflation, the general lowering of prices in an economy.

Contractionary monetary policy shifts the LM curve to the left.

Expansionary monetary policy

When the central bank takes action to indirectly increase the money supply in the economy, whether by buying bonds or lowering the interest rate it charges its borrowing commercial banks, we call this expansionary monetary policy.

Expansionary monetary policy can encourage people to borrow money so they can spend on purchases of cars, houses, and other big ticket items. Expansionary monetary policy may make people feel they have extra money in their pockets that they can go out and spend. Lower interest rates may encourage business to increase their work building up inventories.

Expansionary monetary policy can increase inflationary pressures.

Expansionary monetary policy shifts the LM curve to the right.

✚ *Aggregate Demand: equilibrium in the market for goods and services and in the supply and demand for money*

Repeat {8} and {13}

$$r = A/B + [1/(i_2 B)]Y \quad \{8\}$$

$$r = \frac{M}{P} \frac{1}{l_1} - \frac{k_1}{l_1} Y - D \quad (13)$$

Substitute {8} into {13}

$$A/B + [1/(i_2 B)]Y = (M/P)/l_1 - (k_1/l_1)Y - D$$

The following figure shows the LM curve and its shift to the right due to an expansion of the money supply brought on by the CBJ's increase in high powered money through the purchase of treasury bills.

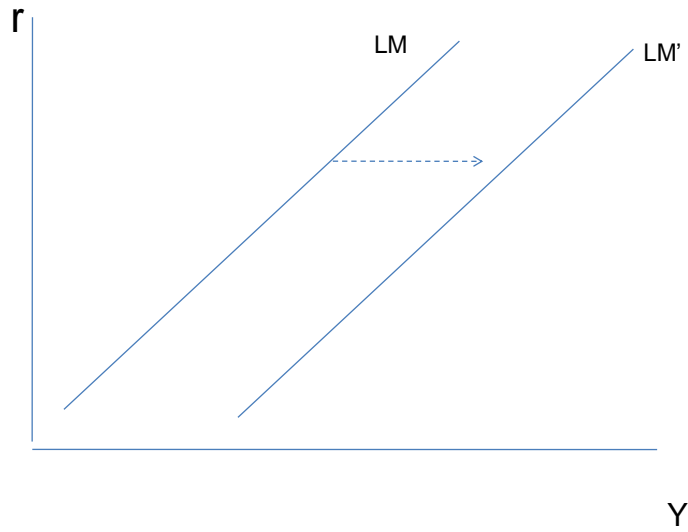


Figure 27: The LM curve and expansionary monetary policy

$$Y \left\{ \left[\frac{1}{i_2 B} \right] + \left(\frac{k_1}{l_1} \right) \right\} = \frac{M}{(Pl_1)} - D$$

\therefore

$$\frac{M}{(Pl_1)} = Y \left\{ \left[\frac{1}{i_2 B} \right] + D \right\}$$

\therefore

$$\frac{1}{Pl_1} = Y \left\{ \left[\frac{1}{i_2 B} \right] \frac{1}{M} + \frac{D}{M} \right\}$$

\therefore

$$P = \frac{\frac{1}{i_2 B} + \frac{k_1}{l_1}}{\frac{1}{i_2 B} + \frac{k_1}{l_1}} \frac{M}{l_1} Y + \frac{M}{D l_1} \quad (14)$$

IS-LM together

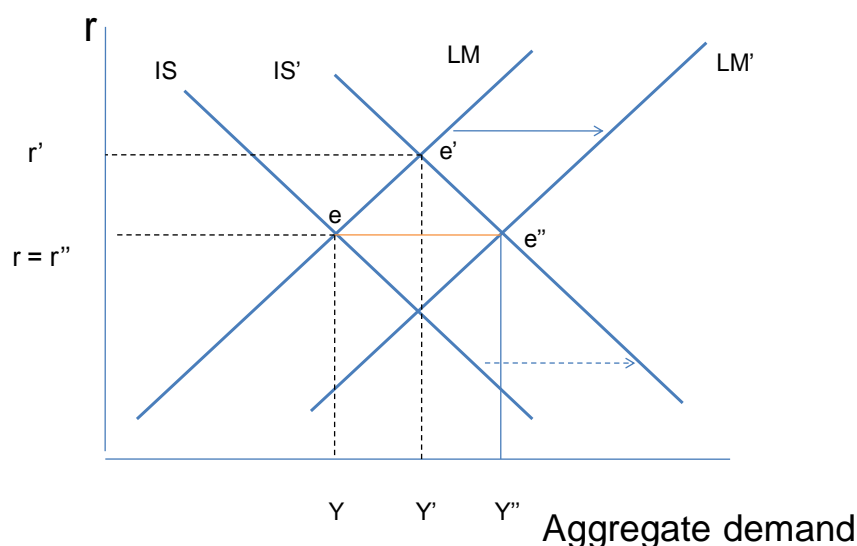


Figure 28: IS-LM together

In this case, we can observe what happens to aggregate demand and nominal interest rates by including the IS and LM curves on the same graph. Here the government decides to expand aggregate demand by increasing its provision of public goods, without increasing tax rates. This “expansionary fiscal policy” is represented by a shift in the IS curve to the right.

This expansionary fiscal policy has the immediate effect of increasing moving from an initial equilibrium position at e , where both the good and services market and the money market are in equilibrium. The increases and aggregate demand from Y to Y' , but it also puts pressure on the lending market, since the government must now issue bonds to fund its increased spending. Hence, now interest rates tend to increase, indeed, interest rates rise from r to r' .

In order to accommodate the expansionary fiscal policy but to keep the lid on interest rates, the CBJ can expand the money supply by purchasing treasury bills from the banks and the public. Expanding money supply in this way, reduces the pressures on the financial system that arose from the government’s entry into the debt market. Hence, interest rates can come down, thereby encouraging more consumption and increasing aggregate demand again. In this example, aggregate demand increases yet again from Y' to Y'' , while interest rates decline to the exact rate as before, i.e., $r = r''$, or interest rates are the same after fiscal expansion and monetary accommodation, as they were before the government expanded aggregate demand in the first place.

There are many things, however, that this does not yet explain. For instance, we do not know if there is enough slack or capacity to expand in the productive sectors to accommodate this increase in aggregate demand. If there is not, then prices will rise and inflation creeps into the economy. We also do not know what will happen to the demand and supply of our exports to the world or our purchases of imports from the world, Accordingly, this model does not yet incorporate the international sector of the economy, namely, what will happen with exchange rates.

Inspecting the slope of { 14 }

$$i_2 < 0, b > 0, k_1 > 0, l_1 < 0$$

∴ The slope is negative in r, Y space.

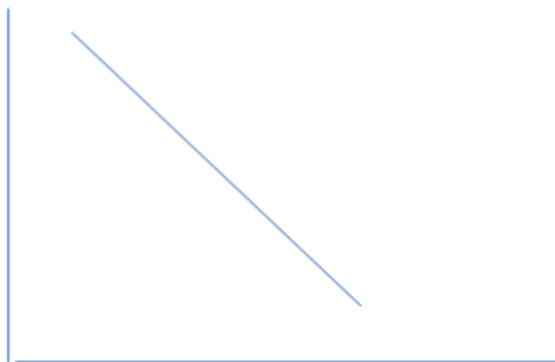
This expression can be simplified:

$$P = \alpha Y + \beta M \quad (15)$$

This represents aggregate demand in a closed economy.

Aggregate demand with equilibrium in goods and financial sectors

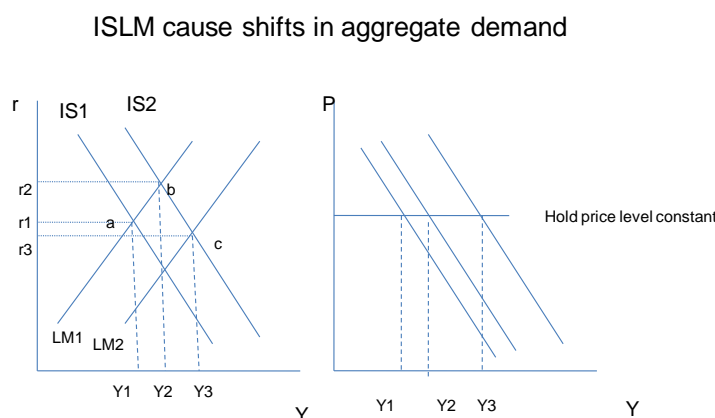
$$P = \alpha Y + \beta M \quad (15)$$



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Figure 29: Aggregate demand curve

Equation 15 and Figure 29 indicate that changes in the price level are associated with changes in the level of aggregate demand. Indeed, the curve shows that the total demand for goods and services in an economy, i.e., aggregate demand, will decline as prices tend to increase. This is reasonable. As prices for goods and services increase people may chose instead to save their money, putting it into bank accounts, or under the bed.



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Figure 30: IS-LM cause shifts in the aggregate demand curve

Figure 30 illustrates an interesting story. Here, we begin in a situation of equilibrium in both the goods and services markets, i.e., along the IS curve, as well as in the financial markets, i.e., we are on the LM curve. The initial position of the economy is to be at equilibrium point “a” with aggregate demand equal to Y_1 .

An autonomous expansion in demand for goods and services is represented as a shift from IS_1 to IS_2 . This autonomous expansion in the demand for goods and services could be caused by a number of factors, include, *inter alia*: large increase in government spending, cut in taxation rates, or a sudden rise in demand for Jordan’s exports of phosphate due to a worldwide phosphate shortage.

The shift in the IS curve is equal to the amount of the autonomous increase times the Keynesian multiplier, B , discussed earlier.

This shift in the IS curve results in an increase in aggregate demand from Y_1 to Y_2 . The increase in aggregate demand from Y_1 to Y_2 is less than the amount of the shift in the IS curve, i.e., AB , since this increased demand has now created an increase in the demand for money. At a higher level of income, people need more money to facilitate the increase in the number of transactions they wish to carry out. This is an increase in the demand for money.

The increase in the demand for money, as we know from our discussions of the financial markets, will result in a rise in interest rates. Now due to the shift in IS, interest rates rise from r_1 to r_2 . This increase in interest rates may tend to dampen aggregate

demand for goods and services some, since now it is more costly to make purchases on credit or more costly to borrow to fund investments in equipment or inventory.

The CBJ may decide that it considers r_2 to be too high an interest rate and can take measures. The most usual measure that CBJ would take would be to enter into financial markets and buy government bonds, either from banks or from other persons or organizations active in Jordan's financial sector. This purchasing of government bonds is essentially an injection of *high powered money* into the financial system, as was discussed earlier. These new funds in the system will be on-lent to businesses and consumers, creating an increase in the overall money supply. To keep the financial sector in balance, an increase in the supply of money brought on this way provides more money for people, for both their transaction needs and their liquidity preference. Since the demand curve for money is negatively (downward) sloped, the effect of the CBJ's money expansion policy is to push interest rates back down somewhat. Indeed, the shift from LM1 to LM2 that represents this monetary expansion policy, results in a lowering from r_2 to r_3 in interest rates.

The reduction in interest rates from r_2 to r_3 , now allows yet more expansion of the demand for goods and services, since now more investment can be made and consumers can purchase more on credit. Now, after the decline in interest rates from r_2 to r_3 , aggregate demand can further expand to Y_3 .

In the final analysis, the combination of an autonomous increase in the demand for goods and services with monetary expansion leads to both an expansion of aggregate demand (Y_1 to Y_3) and lower interest rates ($r_3 < r_1$).

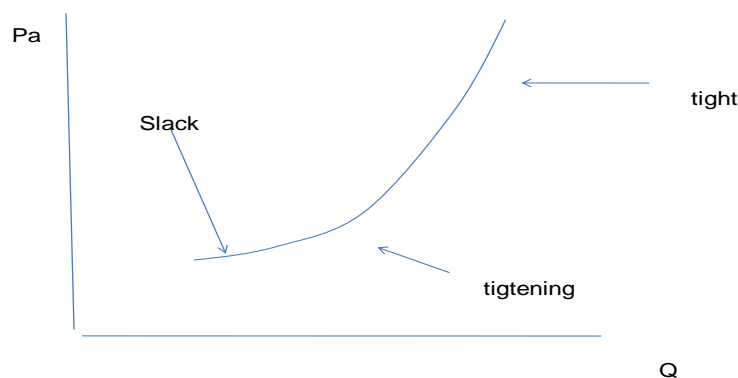
These shifts in the IS and LM curves in combinations result in shifts in the aggregate demand curve. However, the aggregate demand curve is in P, Y space, while the ISLM framework is in r, Y space, and therefore we cannot say what will happen to the price level (or inflation) that would arise from these shifts in IS and LM curves, nor can we categorically say that the shifts in autonomous spending or expansionary or contraction fiscal policy will or will not be inflationary. At the same time, we also cannot yet categorically state what the effects on price levels (or inflation) will be from expansionary or contractionary monetary policies.

To address the issues of price levels and aggregate demand, we need to expand our analysis to include not only the aggregate demand curve or function, but to also incorporate aggregate supply.

Aggregate supply

The ability of an economy to produce goods and services for its people and for export markets is based on the quantity and quality of resources (inputs and factors, including infrastructure) available to it, the demand for these goods and services, and the efficiency that its institutions, such as the public and private sectors, can make of its resources in the production of those goods and services. In a market system, the use of resources for the production of goods and services will usually respond to market signals, i.e., prices.

Supply of agricultural products



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Figure 31: Supply curve of agricultural products

When the market is slack, this means that there is plenty of room to expand the business if only the demand were there. For instance, we could expand business simply by hiring more workers, workers who are widely available and who will not be demanding increases in pay. Perhaps we have people working on our farms or factories already who are not fully utilized

In a *slack* market, output can increase without much increase in the prices.

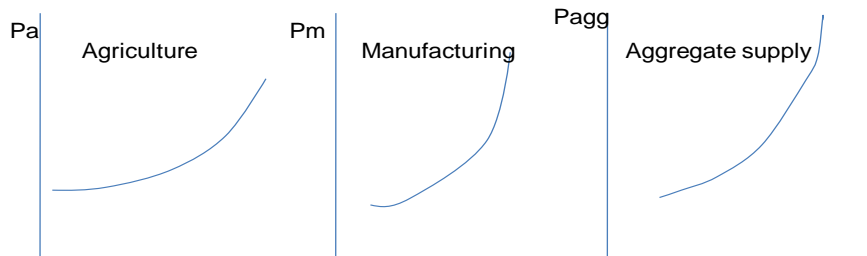
When there has been considerable expansion of demand for our products, we may find that the market has started to *tighten*. People in our factories or on our farms are fully employed. If we want more work we will have to pay them overtime or extra pay. We may need to hire some new employees, people we might have to lure away from other jobs. If we have to lure them from other jobs, we will have to make it financially attractive to them.

When the market is *tight*, everyone in our sector, just about everyone with the appropriate skills, is fully employed. There may even be some “shortages” in terms of purchasing inputs, or there may be delays as orders will have to be placed, since suppliers of these inputs are unable to keep enough in stock.

In a tight market, increases in demand may not result in sufficient increases in production. Consumers are competing with each other to purchase these agricultural products. In a tight market and increase in demand leads to immediate and steep increases in prices.

Figure 32 represents the supply of an economy that has only two sectors: agriculture and manufacturing. Clearly this is an oversimplification, but it is an easy and useful way for looking at the idea of aggregating supply in the economy. We can simply add the supply of goods and services in the economy according to their individual market supply curves.

Aggregating supply



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Figure 32: Aggregate supply curve

Since the aggregate supply and the aggregate demand curves or functions are both expressed in P, Y space, we can easily combine these two into a single, easy to understand framework. This is demonstrated in Figure 33.

In Figure 33, an expansionary fiscal policy can have an important impact on the economy in terms of actually expanding output while keeping the lid on price increases. For instance, if we say that in response to an ailing economy, such as that in the US today, where many jobs have been lost, orders are down, factories are idle, and incomes have declined, a large fiscal stimulus could possibly help move the economy from $Y1$ level of output with just a small increase in the general price level, from $P1$ to $P1$.

Once we are able to move from $Y1$ to $Y2$, we may find that now the economy is in “full employment” which is to say that almost all capable, skilled and willing workers, have jobs, factories are operating near capacity, order books are filling up, and people are earning good salaries and companies are making profits.

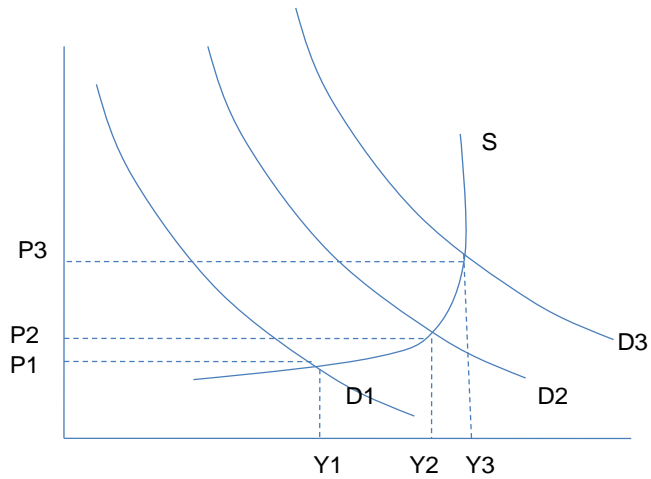
Moving the economy beyond full employment, that is, beyond $Y2$ to say $Y3$, will be problematic. This will require a similarly large expansion of fiscal policy, which may create a large debt that will burden us and our heirs. This large expansion of fiscal policy may move aggregate supply and demand to $Y3$, but this comes at a great cost, a large increase in the general price level. Indeed, the rate of increase in prices may outpace the rate of increase in output and many people are likely to feel worse off.

It is often said that inflation is the cruelest tax. Much empirical work has shown that inflation hurts the poor more than the rich, since the rich have many ways of protecting their wealth that are just not available to the poor.

Any further efforts to spur the economy beyond the $Y2$ level will clearly be futile. All the productive resources in the economy available at this point in time are simply too

busy, too exhausted to actually produce more goods and services. Instead, if the government carries out fiscal or monetary policy intended to raise incomes of the people, it will find that we are all worse off, with prices rising rapidly, and output stagnant, i.e., not rising.

Aggregate supply and demand



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Figure 33: Integrating aggregate supply and demand

VIII. CONSISTENCY AND GROWTH

Goals and objectives

Participants will understand the linkage between macroeconomic policies and objectives and implications for macroeconomic programming, especially fiscal policy. This will include the rudiments of economic growth.

Planning targets and Multi-Annual Fiscal Tools

When undertaking fiscal policy analysis and planning, especially in a medium-term fiscal framework, governments set specific targets for the fiscal sector, aside from social, economic, and infrastructure goals and objectives. These fiscal planning targets include:

- Balances
- Overall balance or Gross Public Sector Borrowing Requirement
- Crowding out the private sector
- Current Account Balance
- Consistency with Net Credit Targets
- Spending
- Consistency with Value Added of Sector
- Consistency with Public Consumption

These planning targets are captured in the Medium Term Fiscal and Budget Frameworks, which are the subject of this chapter.

Integrating Money and the Real Sectors

Investment and Savings and Real Markets

Money Markets

Balance of Payments

The following chart indicates how the national accounts, balance of payments, government financial accounts, and the monetary sector all relate to each other in accounting and real terms.

X is exports, and

M is imports.

$$S \equiv Q - C$$

That is, savings is defined by the difference between total output and consumption.

Therefore

$$S = C + I + X - M - C$$

Or

$$S = I + X - M$$

Then if

$$S - I = X - M$$

And if Investment is greater than saving, i.e.,

if

$$S - I < 0, \text{ then } X - M < 0$$

In plain English, if investment is greater than savings, then imports will be greater than exports. This means, we can in part fund our domestic investment program by running a trade deficit.

*The IS Curve*¹⁰

In the simple income-expenditure model there was no explanation for what determined investment--it was simply assumed fixed. However, investment decisions are not arbitrary, but are determined by businessmen calculating the costs and benefits of additions to their capital stock and inventories, and by consumers calculating the costs and benefits of purchasing houses. Thus the model will be a better model if it can incorporate reasons for investment rather than leaving it outside the model.

Though the calculations determining the amounts of various categories of investment are each a bit different, all involve the interest rate. We will consider only the sort of calculation behind the decision to purchase new machinery, and will leave the decisions about inventory and housing to more advanced courses.

When a business decides whether or not to invest in new equipment, it estimates as best it can the future returns that will flow from the new equipment. Then it must compare these benefits to the costs of the investment. Suppose, for example, that a business can buy a new machine that it believes will add output worth \$20,000 each year for five years. One might assume that the firm would decide to buy the machine if it costs less than \$100,000. For example, if the machine costs \$95,000, the firm could make a profit of \$5000. However, this conclusion is wrong because it ignores the interest rate and the concept of present value.

¹⁰ See for instance: <http://ingrimayne.com/econ/optional/ISLM/IS.html>

If the firm must borrow the \$95,000 in the above example and the interest rate is 10%, the machine would never earn enough to pay both the original cost and the interest on that cost. One could use the first year's returns of \$20,000 to pay off part of the debt, but in the first year the amount owed would have grown by 10% or \$9500. Thus after one year the business would owe $\$95,000 - \$20,000 + 9500 = \$84,500$. Continuing with future years, one sees that the business will lose money by purchasing the machine.

One might at this point argue that the conclusion would be different if the firm financed the machine from retained earnings. The argument is wrong. The firm has a choice of investing its \$95,000 either in the machine or in a financial asset that will earn interest. Unless the firm is run by fools (in which case its future is not bright), it will use its funds where returns are highest.

In determining how much to invest, the firm must consider both the cost of the machinery and the cost of financing the investment. This latter cost depends on the interest rate. It also considers the potential returns on the investment, which depends on expected future spending in the economy. Thus in 1933, when there was massive unemployment of men and machines, there were few investment purchases which could have offered much of a return in future years. Even if the cost of financing new investment had been close to zero (it was not for most businesses, though it was for the government--interest rates that a borrower faces depend on how risky he seems to the lender), it would have made no sense for most businesses to add equipment. They already had plenty idle, and it served no purpose to build more to sit idle.

One could also argue that interest rates should affect consumption. Changes in interest rates affect the benefits from saving and the cost of borrowing. They also affect the value of financial wealth, and wealth should affect consumption. A rise in the interest rate causes the value of existing bonds to fall and a fall in the interest rate causes the value of existing bonds to rise. However, to keep the discussion simple, we will continue assuming that consumption is unaffected by changes in interest rates.

The modification that the above discussion makes to the simple income-expenditure model is illustrated below. In this table there are two columns that show investment. One column shows what investment will be at each level of income if the interest rate is 5%, while the other shows what investment will be if the interest rate is 4%. If the interest rate is 5%, equilibrium income is 600. If the interest rate drops to 4%, equilibrium income will rise to 700. Similarly, different levels of investment would exist for all other levels of interest rates, and for each interest rate, there would be an equilibrium level of income. We expect that lower interest rates would spur investment, and thus be associated with higher levels of equilibrium income.

Table 8: Income-expenditure model when investment depends on the interest rate

If Expected Income Is:	People will Pay Taxes	People will Spend	People Will Save	Government Spends	Investment @ 5% rate of interest	Investment @ 4% rate of interest
500	20	450	30	20	45	60
600	20	530	50	20	50	65
700	20	610	70	20	55	70
800	20	690	90	20	60	75

When we construct a graph showing equilibrium income is for each level of interest rate, we get a curve similar to that graphed below. It is called the **IS curve**, and its name comes from the condition for equilibrium when there is no government in the model: investment (I) must equal savings (S).

Figure 35 is the IS curve that derives from the relationships between income, saving, spending, and interest rates, shown in

Table 8, above.

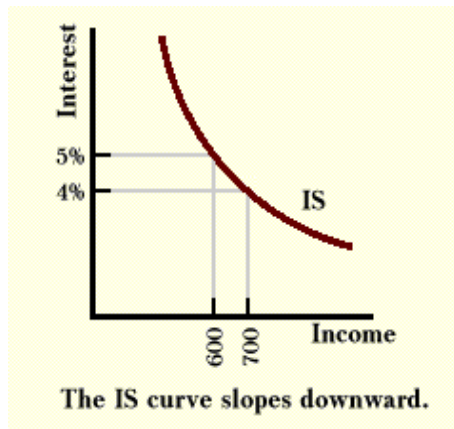


Figure 35: The IS curve

The real stories about private consumption

The simple version of private consumption used in the ISLM model looks so elegant and provides us with a simply, useful tool for modeling an economy. However, real life is not really like this. Other, more realistic theories abound. The two most important are 1) the life cycle hypothesis and 2) the permanent income hypotheses. These two are complementary not contradictory.

Life cycle hypothesis

The life cycle hypothesis of private (or personal) consumption maintains that our consumption patterns vary over our lifetimes. (Perhaps much of this is based on wealthier nations' experiences.)

For instance, when we are young adults, we may need to spend everything we have just to pay the rent and put food on the table. This housing expense is in fact a form of investment in real estate and represents a saving. We may also borrow money to buy a house, a car, or other such items. In middle age (40s and 50s), we tend to earn more, but may not have as many pressing needs for borrowing, indeed, we may start to save. Now we are investing in our home, either paying off a housing loan, adding rooms, or putting on a new and better roof. We start to save money for our children, so we can leave something to them, or help them as they marry to build their own homes.

Come old age, we are unable to work or unwilling to work. Yet, we eat, drink, and live somewhere. We still consume. But we no longer save. Indeed, we consume out of our accumulated savings, our retirement funds, etc.

This pattern of income, consumption and saving and dissaving is presented in the following chart.

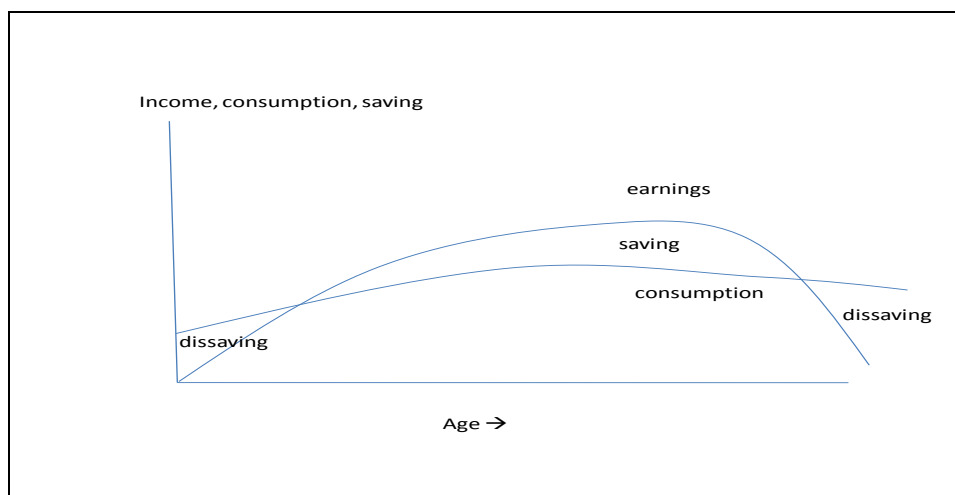


Figure 36: The life-cycle theory of personal consumption

The permanent-income hypothesis of personal consumption

The permanent-income hypothesis of personal consumption has no dispute with the life-cycle hypothesis, but is of more usefulness in short- and medium-term economic planning and analysis.

The theory is that people consume not based just on what they earn today, or this year, but rather, on their perception of how they will be earning over their entire life times. For instance, if I am a professional with a high paying job, I know that I will need to plot my spending out over my life time, like above, but that small fluctuations in my earnings should not have significant impacts on how I decide to consume, invest and save.

My willingness to consume comes from the amount of borrowing I think I can sustain at one point, and/or the amount of savings or assets I hold. If I hold considerable assets, I will feel richer and will both spend more from my current income, as well as spend taking from my assets. I can perhaps borrow money using my assets as collateral.

Under the permanent income hypothesis, if my boss recognizes my good work and raises my income, I will consider this an increase in my permanent income. If the increase is enough, I may decide to buy a new car, improve my home, or start wearing better clothing.

On the other hand, if I win the lottery, say \$10,000 or the Jordanian equivalent, this is a good amount of money. I must think what I would do with this. If I owe a lot of money to some people, perhaps I will pay them back. Maybe I owe money to a credit card company, and they charge me high interest, I might decide to pay the credit card company.

Alternatively, perhaps I do not owe anyone any money, but I have been saving hard so that someday I will be able to buy a little CNG vehicle to rent out as a taxi cab. Perhaps I will simply take the \$10,000 and put it into my bank account so that the day I can buy the vehicle will come even sooner.

So what does this mean for the economy?

Before, we expressed in the Keynesian model of the economy that personal consumption is merely a function of disposable income, and that the marginal propensity to consume is merely a parameter that relates increases in consumption with increases in disposable income.

The permanent-income hypothesis makes us reconsider. If the increase in income, or in disposable income, is considered to be permanent in nature, then perhaps the Keynesian model will work as shown, and an increase in disposable income will have the multiplier effect that we discussed.

However, if the increase in disposable income is seen as transitory, it is quite likely that it will have a much smaller, if any, multiplier effect. We might have a very expansionary fiscal policy that other than increasing the role of the state in the economy, does very little to raise the rest of the economy.

Money demand, supply and the LM curve¹¹

The LM curve, named because it shows positions at which the demand for money (L for liquidity preference) equals money supply (M), completes the model. In the quantity theory of money we have already met a model of the market for money balances. The quantity theory asserted that velocity was constant, or

$$(1) MV = Y$$

which can be rewritten as:

$$(2) M = (1/V)Y = kY.$$

The second equation says that the amount of money that people hold is a fraction of income. This equation is always true; k will take whatever value needed to make it true. In England in the early 19th century, this equation was altered and made into a demand-for-money equation. The average amount of money people want to hold depends on the amount of spending they expect to do. Thus people who expect to spend a great deal will, on the average, want to hold larger cash balances than those who expect to spend only a little. The "on the average" in the last sentence is important. If a person holds \$1400 on Monday and nothing the rest of the week, he has an average weekly holding of \$200.

Making these alterations in equation 2 gives:

$$(3) \text{ Money demand} = k(\text{expected income})$$

The k in this equation should not move much or else the equation does not tell us much about how people act. This equation is unlike equation 2 because it makes a statement about how people want to act, while equation 2 tells us how they do act.

The writings of John Maynard Keynes made economists reconsider the traditional demand-for-money function. Keynes argued that there were three reasons why people hold money. They hold cash for transactions purposes, which is what the quantity theory had always said. They also hold money for precautionary reasons, so that in an emergency they would have a ready source of funds. Finally, they hold money for speculative purposes. The speculative motive arose from the effects of interest rates on the price of bonds. When interest rates rise, the price of bonds falls. Thus when people think interest rates are unusually low, they would prefer to hold their assets in the form of money. If they invested in bonds and the interest rate rose, they would suffer a loss. Hence the amount of money people would want to hold should be inversely related to the rate of interest. People will want to hold more money (liquidity) when interest rates are low than when they are higher.

Keynes' introduction of the interest rate into the demand for money has survived, but not for the reasons he gave. Keynes was thinking in terms of a two-asset world: money, which earned no interest but which was liquid and had no danger of a capital loss, and bonds, which earned interest but which were not as liquid and which could yield a capital loss. If one thinks not in terms of a two-asset world, but in terms of the range of assets that actually exist in the world, there is no reason to hold cash balances for either precautionary or speculative purposes. There are assets that are both very liquid and that earn interest,

¹¹ See for instance: <http://ingrimayne.com/econ/optional/ISLM/LM.html>.

such as savings accounts and Treasury bills, and these are a better form in which to hold assets for these purposes.

Though Keynes' explanation of why interest rates influence the demand for money is flawed, other explanations are sound. Money held for transactions purposes is much like inventory that businesses hold. Holding inventories either ties up funds on which a business could earn interest, or uses borrowed funds on which it must pay interest. Thus if a firm can sell \$100,000 of its inventory, it has \$100,000 in cash that it can either invest to earn interest or pay off debt on which it must pay interest. The cost of inventories increases as interest rates rise or as the size of inventories increases.

However, there are also costs to holding inventories that are too low. If inventories are too small, a business may run out of items and lose sales. Further, if inventories are held at low levels, the business will need to reorder often, and there are usually costs to reordering. Thus the business must balance these costs that rise as inventories increase with the other costs that fall as inventories increase. The problem can be solved elegantly using calculus, but you should be able to see intuitively that a rise in interest rates will decrease the optimal size of inventories, and a rise in the cost of reordering will increase the optimal size.

When people hold cash balances, they hold their assets in a form that earns either no interest (coin and currency and some deposits on which checks can be written) or less interest than is possible in accounts on which no checks can be written.¹ If interest rates rise on non-money assets relative to money, the cost of holding money in terms of interest foregone rises, and one would expect people to try to economize on cash. A business, for example, could shift money from checking accounts into t-bills. It would be worthwhile to make more transactions into and out of interest-bearing assets to take advantage of the higher interest rates. When interest rates are very low, these transactions may not be worthwhile, and the business may be willing to let money lie idle for short periods in checking accounts.

In a nutshell, the argument boils down to the store-of-value function of money. Money becomes a less desirable way to hold wealth when interest rates on other assets rise, and as a result people will hold smaller cash balances. These considerations lead us to a revised demand for money function. Instead of equation 3, the demand for money should be:

$$(4) M^d = kYe + wi.$$

The demand for money, or the average amount of money people want to hold, depends positively on expected transactions and negatively on the interest rate. The coefficient w should be a negative number because with higher interest rates people should want to hold smaller cash balances.

To complete this part of the model, we need a money-supply equation and an equilibrium condition. A simple money-supply equation is that money stock is determined outside the system by policy. The logical equilibrium condition is that the market for money balances is in equilibrium when money supply equals money demand.

To see how this part of the model functions, imagine that interest rates are very low. When interest rates are very low, people have no special reason to avoid holding idle cash,

and will hold considerable amounts. If they hold lots of cash idle, the fixed amount of money cannot support very much spending. Lots of idle cash means that the representative dollar is not being spent very frequently.

On the other hand, if interest rates are very high, holding idle cash is costly, and people will try to keep their holdings low. This means that they will spend money rapidly, or that the velocity of money will be high. With higher interest rates the same fixed quantity of money will support more spending than it did when interest rates were low and people were holding idle cash balances.

The LM curve illustrated below shows the relationship discussed in the last two paragraphs. The curve tells how much spending some fixed amount of money will support. When interest rates are high, as at i^* , money is spent rapidly and supports a lot of spending, y^* . When interest rates are low, at $i^\#$, the money stock supports less spending or $y^\#$. Connecting these two points to represent what happens at other interest rates generates the LM curve.

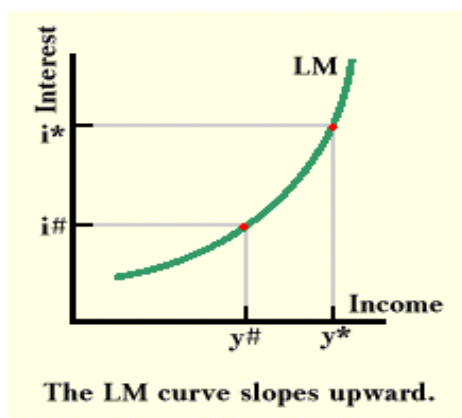


Figure 37: The LM curve

The addition of interest rates to the quantity theory allows fiscal policy to have effects within the logic of the quantity theory. If, for example, the government reduces taxes, thereby raising its deficit, it must borrow more. This added borrowing increases the demand for loanable funds and the price of these funds, which is the interest rate, should rise. The higher interest rate makes holding idle funds more expensive, and should result in an increased velocity of money.

The liquidity trap

From Wikipedia >>A **liquidity trap** is a situation in [monetary economics](#) in which a country's [nominal interest rate](#) has been lowered nearly or equal to zero to avoid a [recession](#), but the liquidity in the market created by these low interest rates does not stimulate the economy. In these situations, borrowers prefer to keep assets in short-term cash bank accounts rather than making long-term investments. This makes a [recession](#) even more severe, and can contribute to [deflation](#).<<

Financial actors fear the possibility of suffering [capital losses](#) on non-money assets and thus hold [money \(liquid assets\)](#) instead. For example, the fear of [default](#) on loans can inhibit lenders from lending except to extremely credit-worthy customers. These fears are most likely after a [financial crisis](#) such as that associated with the [Stock Market Crash of 1929](#). Further, if nominal interest rates are extremely low, there is no place for them to go but up. That implies that [bond](#) prices will likely fall in the near future, causing capital losses

The following Figure illustrates using the IS-LM framework to show that monetary policy becomes essentially powerless in our attempts to spur economic activity. Interest rates have fallen so low there is no lower for them to go. Also, despite the amount of liquidity that the central bank may inject into the financial system, financial institutions may just be so fearful about risk, or worse, about uncertainty, that they refuse to on lend this new liquidity; loans are not made, excess reserves increase, and money supply does not actually grow, and there is no economic stimulus.

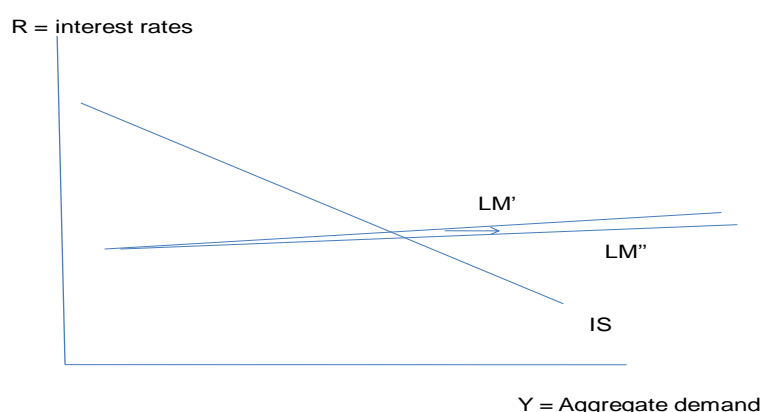


Figure 38: Liquidity trap and the flat LM curve

✚ *Aggregate demand model*

This section of the training kit develops the IS-LM model for the closed economy. Then the matter of international balances is introduced for the full development of the IS-LM-FE model.

The Model:

Aggregate demand: Goods market

$$D_a = C + I + G + X - M, \text{ in equilibrium } \equiv Y, \quad \{1\}$$

where

D = aggregate demand

C private consumption*

I investment*

G public consumption
 X exports
 M imports*
 Y Gross Domestic Product

Variables with stars (*) are endogenous, while the rest are all exogenous.

$$C = c_0 + c_1 Y(1-t), c_1 > 0 \quad \{2\}$$

c_0 = autonomous consumption
 c_1 marginal propensity to consume
 $Y(1-t)$ disposable personal income
 t average tax rate, which is exogenous

$$I = i_0 + i_1 Y + i_2 r, i_1 > 0 > i_2 \quad \{3\}$$

i_0 autonomous investment
 r interest rate*

$$M = m_0 + m_1 Y, m_1 > 0 \quad \{4\}$$

m_0 = autonomous imports
 m_1 marginal propensity to import

Generating the Keynesian multiplier

Substitute the expressions for the exogenous variables into the equation for aggregate demand in equilibrium:

$$Y = c_0 + c_1 Y(1-t) + i_0 + i_1 Y + i_2 r - (m_0 + m_1 Y) + G + X \quad \{5\}$$

which we can simplify:

Steps:

$$\text{let } c_0 + i_0 - m_0 + G + X = A \quad \{6\}$$

where

A is Autonomous spending and is independent of the economic relations but is determined in aggregate by economic policy and other forces

∴

$$Y = A + c_1 Y(1-t) + i_1 Y + i_2 r - m_1 Y$$

simplifying

$$Y - c_1 Y(1-t) - i_1 Y + m_1 Y = A + i_2 r$$

$$Y(1 - c_1 - c_1 t - i_1 + m_1) = A + i_2 r$$

$$Y = \frac{(A + i_2 r)}{(1 - c_1 - c_1 t - i_1 + m_1)} \quad (7)$$

and

$$B = \frac{1}{(1 - c_1 - c_1 t - i_1 + m_1)}$$

$$\text{Which means, } B = \frac{1}{(1 - \text{marginal propensity to consume} + \text{marginal propensity to import})}$$

Which is the famous multiplier "B"

We can derive the IS curve by manipulating equations {6} and {7} to put them into r, Y space

$$r = \frac{A}{B} + \frac{1}{i_2 B} \text{ the slope is negative} \quad (8)$$

The following figure presents the downward sloping (per equation 8) IS curve. An increase in autonomous spending, say for instance a stimulus spending bill by Parliament, will shift the IS curve to the right. It will shift by the amount of the increase in autonomous spending multiplied by the multiplier B.

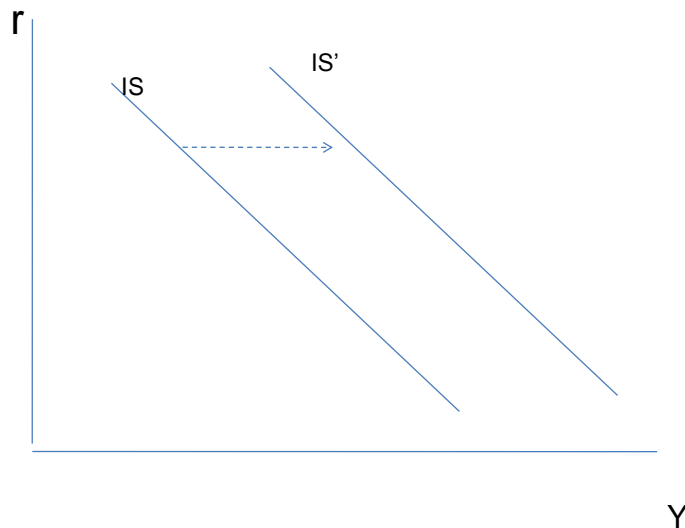


Figure 39: Shifting the IS curve with a fiscal expansion

Aggregate demand: Market for assets and money

The demand for real balances

$$M/P = L + K \quad \{9\}$$

where

M/P = supply and demand for real money (real balances) in equilibrium

L = speculative demand

K = transactions demand

P = price level index (deflator)

and

$$L = l_0 + l_1 r, \quad l_1 < 0 \quad \{10\}$$

$$K = k_0 + k_1 Y, \quad k_1 > 0 \quad \{11\}$$

Substitute equation {10} and {11} into {9}

$$M/P = l_0 + l_1 r + k_0 + k_1 Y \quad \{12\}$$

let

$$l_0 + k_0 = D$$

∴

$$M/P = D + l_1 r + k_1 Y$$

∴

$$l_1 r = M/P - k_1 Y - D$$

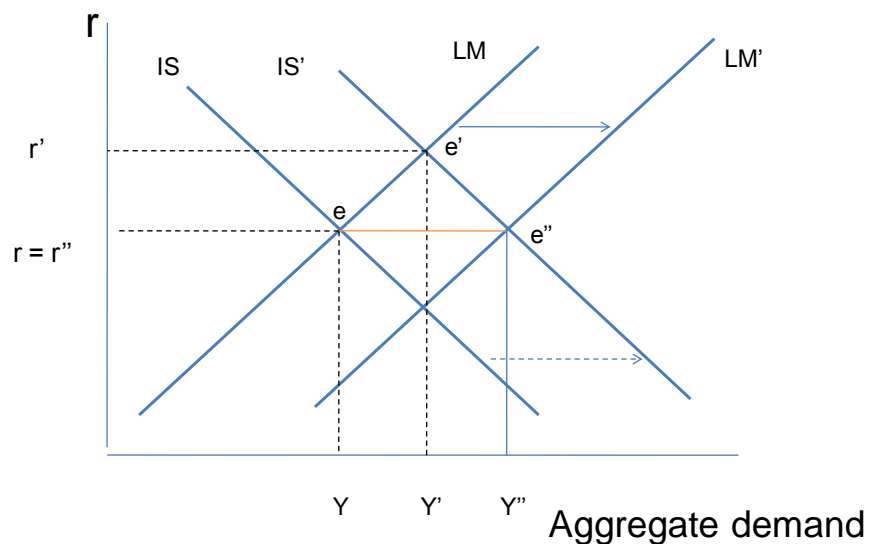
∴

$$r = \frac{M}{P} \frac{1}{l_1} - \frac{k_1}{l_1} Y - \frac{D}{l_1} \quad (13)$$

In r, Y space, equation {13} has a positive slope.

✚ Integrating IS and LM

Figure 40 demonstrates the interactions of the good and services (real) markets with the money market to more clearly fully define aggregate demand.



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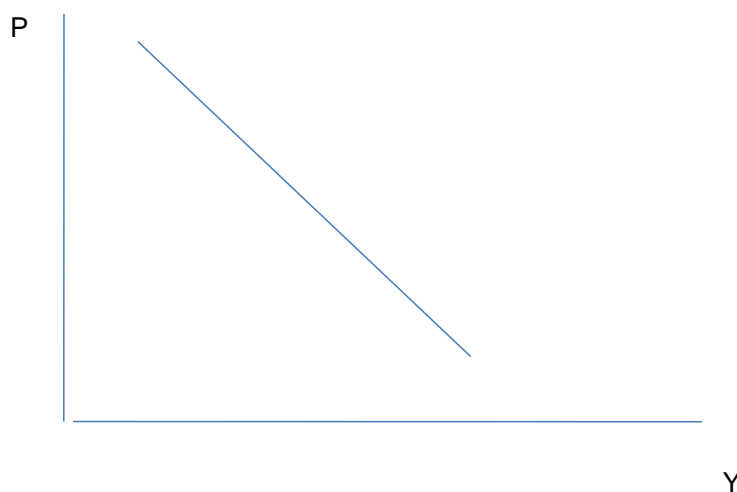
Figure 40: IS LM work together to define aggregate demand

In Figure 40 aggregate demand is at the equilibrium level of Y , where IS and LM curves intersect at point e. In this case, the equilibrium interest rate is r . An expansion in aggregate demand, spurred by expansionary fiscal policy, results in a shift from IS to IS'. This expansion of aggregate demand, however, tends to push interest rates up in the money market, since at this higher levels of aggregate demand, people wish to hold higher money balances since they now need more money to pay for their increased transactions. Given that the money supply has not changed, this increase in money demand must result in higher interest rates.

In turn, the rise in interest rates, discourages economic expansion and especially investment. Hence, aggregate demand can only rise to Y' rather than Y'' .

Aggregate demand with equilibrium in goods and financial sectors

$$P = \alpha Y + \beta M \quad (15)$$



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Figure 41: Aggregate demand curve

Integrating and consistency

All projections must meet “reasonable” test.

- Economic Growth as an Exogenous Variable
- Export growth exogenously generated
- Policy variables:
 - Public investment
 - Public consumption
- Endogenous variables:
 - Import elasticity must be consistent with macro program

- Private investment must be consistent with macro program
- Personal consumption must be reasonable

Sectoral Projections

Planning for value added in government

Projecting for value added in major sectors

- Agriculture
- Mining
- Industry
- Construction
- Transportation
- Non-Government Services
- The residual sector

Aggregate Demand

$$Q^d = C_p + C_g + I_p + I_g + X - M \quad (1.1)$$

Trade Balance

$$B = X - M \quad (1.2)$$

Savings

$$S = Q - C_p - C_g = S_g + S_p \quad (1.3)$$

$$S_g = T - C_g \quad (1.5)$$

** In this simple model there are no transfers and no interest payment.

$$S_p = Q - T - C_p \quad (1.4)$$

∴

$$S = Q - T - C_p + T - C_g = Q - C_p - C_g \quad (1.5)$$

Investment

$$I = I_p + I_g \quad (1.6)$$

$$I_p = I_{p_n} + I_{p_e} \quad (1.7)$$

$$I = A - (X - M) \quad (1.8)$$

$$\text{Remember } B = X - M \quad (1.2)$$

$$I = A_g + A_p - B \quad (1.9)$$

$$-B = I_e + F \quad (1.10)$$

$$-B = CK + \text{Transfers} \quad (1.11)$$

where:

Q^d = Aggregate Demand

C = Consumption

C_g = Public Consumption

C_p = Private Consumption

R_p = Government wage bill

G_p = Current purchases of goods and services by government

S = Domestic savings

S_g = Public savings

S_p = Private savings

T = Taxes

I = Investment

I_g = Public Investment

I_p = Private Investment

X = Exports of non-factor goods and services

M = Imports of non-factor goods and services

B = Balance of Trade

CK = Capital Account

Aggregate Supply

$$Q^0 = \sum VA_i \quad (3.1)$$

$$Q^0 = \sum VA_n + \sum VA_r \quad (3.2)$$

where

Σ = summation operator

VA_i = Value Added in the sectors of the economy (agric, industrial, services, etc.)

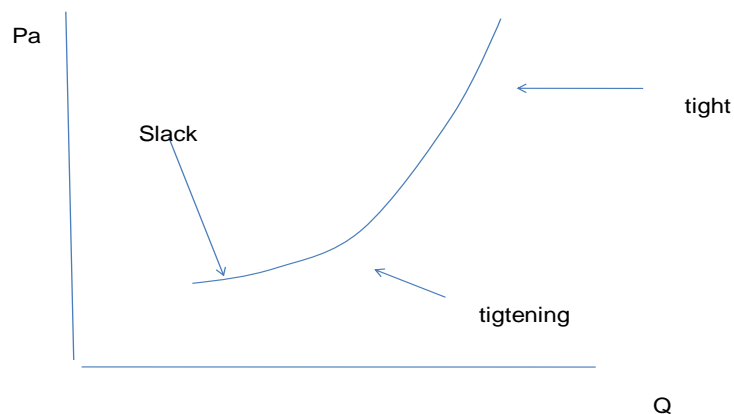
VA_n = Value Added in the sectors of the economy that interest us.

VA_r = Value Added in the sectors of the economy that do NOT interest us.

Sectoral supply curves

- Supply curves are based on the marginal costs of producers.
- For a sector, such as agriculture, the Sector Supply curve is an aggregation or a summing up of firms' individual supply curves.
- Supply curves are positively or upwardly sloped, reflecting the scarcity of resources

Supply of agricultural products

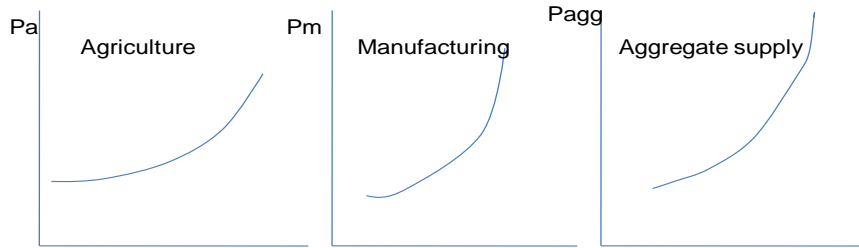


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Figure 42: Supply curve for the agricultural sector

Figure 42 is the supply curve for agricultural products. At low levels of production, resources, such as land, labor and inputs, such as water and fertilizers, may be not fully employed. At this low level, too, equipment use, such as tractors, tillers, and pumps may be sitting unused. An expansion of demand for these products then could possibly be met by drawing upon these underused resources to produce more output, without cause much increase in prices. Of course, agricultural production must take place over growing seasons and some products, such as tree crops, may take years before they can come into production. Hence, this supply curve must represent an agricultural product that can expand rapidly, such as bananas, tea, or coffee, where trees may be sitting producing but not being picked.

Aggregating supply



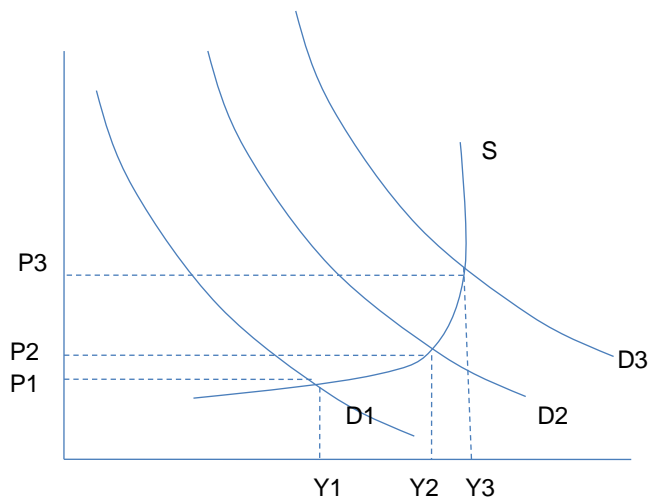
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Figure 43: Aggregating supply for the entire economy

Conceptually, we can aggregate supply curves for all the economy's sectors. Figure 43 demonstrates how these various sector supply curves can be aggregated up to produce the overall aggregate supply curve for the economy.

Integrating aggregate supply and aggregate demand

Aggregate supply and demand



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Figure 44: Integrating aggregate supply and demand

In Figure 44 expansions of aggregate demand are checked by the ability of the supply side of the economy to respond.

If output in the economy is considerably below the level that would be possible if all or most of available resources were put to productive use, then it might not be that difficult to spur aggregate demand without provoking much of a price or inflationary response.

For instance, if the economy is operating at Y1 level of income and output, whereas the Y2 level of income and output is considered to be essentially the “full-employment” level of income, then spurring demand by using expansionary fiscal and/or monetary policies could shift the demand curve from D1 to D2 and output would rise from the low level of Y1 to the full-employment level of Y2. Note, however, this expansion of income and output through demand management policies does not come at no cost, since it does result in a general price increase, from P1 to P2. However, this price increase seems quite small and would probably be preferable to the low-level income and considerable underutilization of the country’s productive resources.

It should be kept clear that Y2, the full-employment level of income and output does not necessarily mean that everyone has a job. Indeed, there could be considerable structural problems that leave many people unemployed while other productive factors, such as capital equipment, arable land, energy, etc. may be fully employed. The availability of additional brute labor would probably not easily lead to increased production.

If we assume that policy makers still decide to spur the economy on, to raise incomes further still and to generate more jobs, they may find this very difficult to do. Expansionary monetary and fiscal policies again can shift the aggregate demand curve, from D2 to D3, but now because of a variety of shortages in inputs, full utilization of machinery, and perhaps all quality labor, such as professionals, managers, and engineers, are all employed, income (in nominal terms, mind you) could rise slightly from Y2 to Y3, but this would result in such inflation (jump in the general price level, from P2 to P3) that this would not be considered good policy. At the same time, it should be kept in mind that running up government debt has its own costs, such as future claims to the budget, that this policy should be considered a failure.

Long-run economic growth

Long-run economic growth, represented either by rapid growth in GDP, or, better still, growth in per capita GDP, to be sustainable must entail a constant and sustainable shifting ever right-ward of the Aggregate Supply curve. The management of aggregate demand, to move towards full-employment without incurring costly inflation and instability, is not the same as managing long-run economic growth.

There are a wide variety of factors that can help spur sustainable growth scenarios, and these have been applied in different ways in different countries and regions. A short list of some factors of sustainable economic growth factors includes:

- Economic stability
- Productivity and investment
- Human capital investment

- Private investment
- Public investment in infrastructure
- Real Cost Reduction – Harberger
- Business Enabling Environment
- Peace and stability

Two Gap Model and long-run growth

Investment = Savings

Savings = Balance of Payments

Harrod-Domar

Capital Output Ratio

Incremental Capital Output Ratio

Factors that affect productivity

Long-run growth comes from investment and increase in productivity.

$$Q^d = Q^o = Q \quad (2.1)$$

$$Q = vK \quad (2.2)$$

$$\therefore \Delta Q = v\Delta K \quad (2.3)$$

$$\Delta K = I \quad (2.4)$$

$$\therefore \Delta Q = vI \quad (2.5)$$

$$\Delta Q/Q = vI/Q \quad (2.6)$$

where:

Q^d = Aggregate demand

Q^o = Aggregate supply

Q = GDP

Δ = operator of discrete change

v = incremental capital-output ratio (ICOR)

K = stock of capital in the economy

$\Delta Q/Q$ = rate of economic growth

The two gaps then are: 1) saving-investment, and 2) trade and foreign exchange.

Stimulate growth via investment and productivity.

In order to get the economy to grow there must be savings or foreign investment or foreign borrowing, grants or remittances. This could imply:

- Raise public savings: lower public current spending and/or raise taxation
- Suppress private consumption and/or stimulate private savings
- Raise the trade deficit or reduce the surplus: could come from borrowing, grants, remittances or running down international reserves

The Incremental capital output-ratio (ICOR)

As shown in the equation above, the ICOR is the gross capital formation as % of GDP (also known as the investment ratio), divided by the annual growth in GDP. A lower ICOR indicates that a country is more efficient, since the less capital or investment needed to fuel growth, the more productive a country is.

As you can see in the figure below, Jordan's ICOR has fluctuated significantly since 1977. However, since 1997, the ICOR has been steadily declining and reached 3.99 in 2006. This means that in the last couple of years, Jordan is becoming increasingly efficient and is using its investments more productively to grow. Has the ICOR continued to decline since 2006? What is the ICOR for 2009? What does this mean?

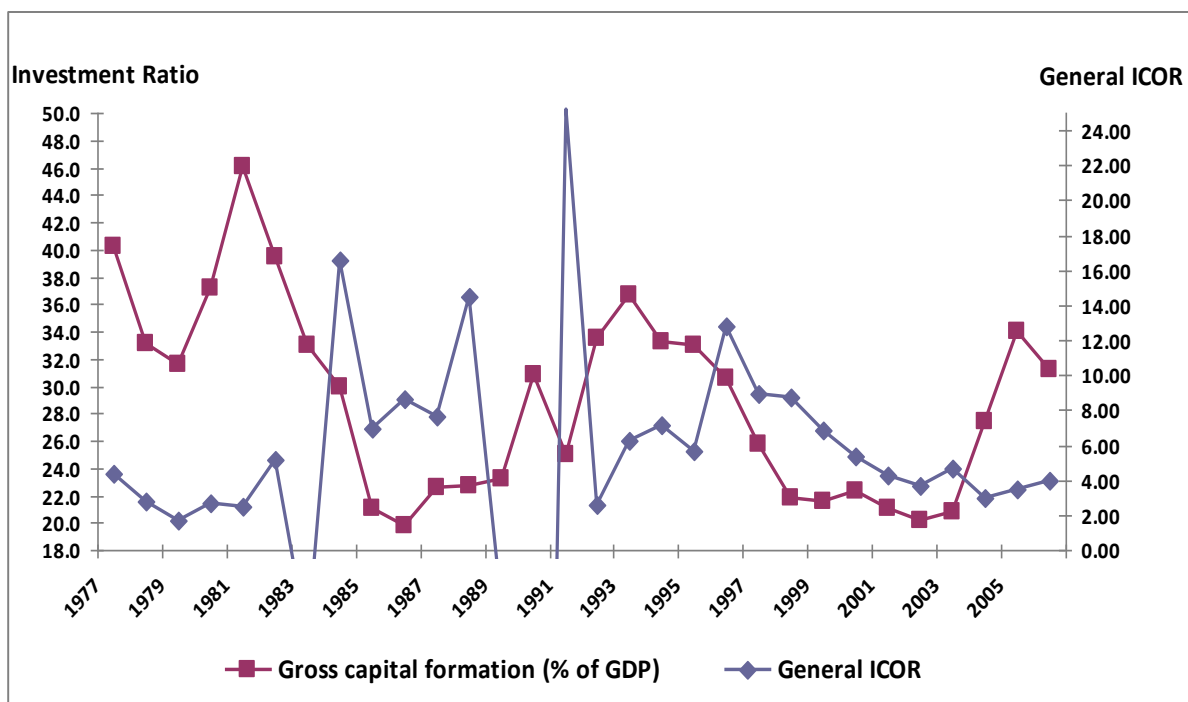


Figure 45: Relationship between the Investment Ratio and ICOR in Jordan

Source: Department of Statistics, Jordan (1977-2006)

Now let's take Vietnam as another example. If you look at the figure below, you can see that Vietnam's ICOR and investment rate have been on an upward trend since 1988. This means that although it has been receiving increasing amounts of investment every year, the country's productivity is constantly decreasing. The trend below simply shows that Vietnam needs more capital every year in order to continue growing.

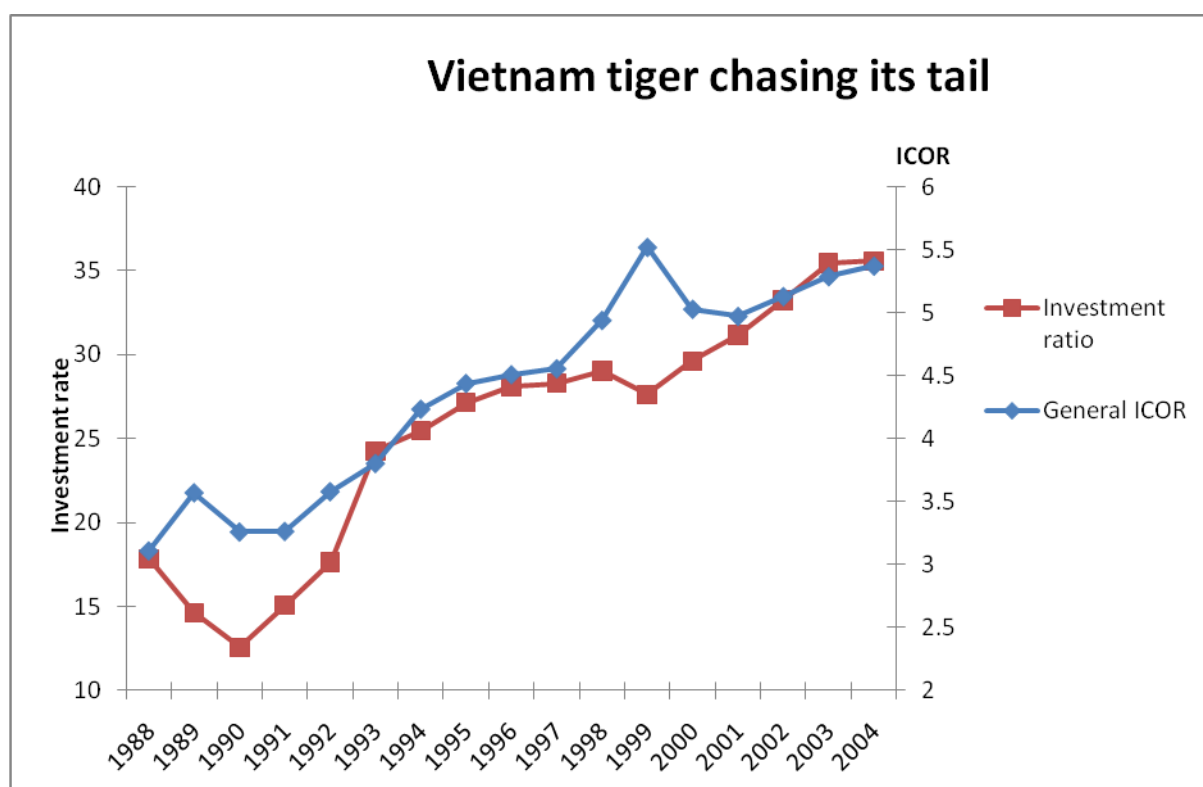


Figure 46: Relationship between the Investment Ratio and ICOR in Jordan

Other sources of medium- and long-run growth

Growth cannot come from short term efforts exercised over many years that are designed to constantly expand the economy through expansionary monetary and fiscal policies. Instead, growth, medium and long term growth, growth that is sustainable, must come from the expansion of the supply curve. This expansion of the supply curve comes about either by adding more resources from new and continuing investments, or by constantly improving productivity of resource use, by getting smarter, innovating, and having the right price signals.

Other important sources of growth come directly through actions that may help raise productivity through:

- Real cost reduction
- Privatization
- Tax policy
- Trade policy
- Lower inflation and its volatility
- Improve information flows
- Investments in human capital
- Public investment in infrastructure, education, or health
- Better or smart regulation of economic activities and improving the business enabling environment.

IX. MACRO-FISCAL TOOLS

Goals and objectives

This chapter discusses the purpose, content, and components of multi-year budgeting frameworks.

Jordan manages its fiscal system using a Medium Term Fiscal Framework (MTFF). Variations of the MTFF are in implementation around the world. Although there are some differences in concept, these are often just differences in the stages of development. The other concepts or terms that are commonly used in other countries are the Medium Term Fiscal Framework (MTFF) and the Medium Term Expenditure Framework (MTEF).

Some countries go beyond the MTFF and the MTEF to get a more top to bottom and bottom to top approach in what is called the Medium Term Budget Framework. Jordan has the start of an MTEF but not the MTBF.

What is the MTBF and components?

An MTBF is an analytic and planning tool that for linking policy, planning, and budgeting in a single framework based on solid economic forecasting and analysis.

It consists of a “top-down” approach for defining the “resource envelope” and a bottom up approach for costing out policy decisions with regard to public resource allocations.

The MTBF and related processes operate within a timeframe of three years, generally. MTBFs in most emerging market countries use a three year time horizon.¹²

Revenues and financing availabilities, including foreign assistance, are identified or planned for. Combined these create the resource envelope, i.e., the total amount of financial resources that will be available for each of the years in the MTBF period.

Likewise, government spending requirements at high levels are forecast based on program costs, spending demand, and policy choices. At the Medium Term Fiscal Framework (MTFF) level spending allocations will likely only be made based on economic classifications (current, capital, etc), whereas by the time the full MTBF is developed, spending priorities within the available resource envelope and targeted fiscal balances (current account, overall balance, etc) can be both allocated by functions (health, education, defense, etc.) and by institution (Ministry of Health, Ministry of Education, Ministry of Finance, etc)

In most countries, the MTFF is required before an MTBF can be done, however, in countries that have several years of experience in this type of fiscal planning, these may be undertaken almost simultaneously.

The MTBF is a multi-year planning exercise that must be carried out every year. It is not like to old Soviet Five Year Plans, where the plan is defined and the nation must live

¹² Budget planning is for ten years in the US.

by it, for better or worse, for the next five year period. Instead, it is an exercise that is constantly being developed and strengthened and informed with new and better information.

Obviously, the government does not operate based on the MTBF. Instead, the government must operate based on the annual budget. The annual budget, supposedly, flows down from the MTBF. The annual budget uses the forecasts and multi-year planning and analysis of the MTBF to set the budget year appropriations.

By having a multi-annual perspective, the MTBF can provide government ministries and agencies with a clear idea of their likely future resource availabilities. These budgetary entities then can begin to plan their own work based on goals and objectives that will take more than one year to complete. Their planning can more strategic, not simply responsive to current issues and demands.

At the highest level, we can diagram the overall relationships that must be forecast and developed in order to produce the overall fiscal resource envelope. **Error! Reference source not found.** presents a schematic of how the macroeconomic forecast cum projections is wed to macro-fiscal targets, such as financing for government, planned for size of government value added and public consumption, and exogenous factors such as interest obligations on current debt. Two basic requirements for getting to this level include a macroeconomic forecasting and projection model, and a revenues projection model. These form the bases for the “macro ceilings” for an MTBF.

Prior to even initiating the first MTFF, a government needs to have a macroeconomic framework. This is discussed here and then followed by more in-depth discussions of the medium term fiscal tools.

Macroeconomic framework

The macroeconomic framework projects, plans, or forecasts the macroeconomic assumptions underpinning the budget. It is prepared in the strategic planning phase and provides a forecast of the overall resource envelope for the upcoming budget. A medium-term macroeconomic framework typically includes projections of the balance of payments, the real sector (or production sector), the fiscal accounts and the monetary sector. It is a tool to check the consistency of assumptions or projections concerning economic growth, the fiscal surplus or deficit, the balance of payments, the exchange rate, inflation, credit growth and its share between the private sector and the public sector, policies on external borrowing, etc.

Medium Term Fiscal Framework (MTFF)

Figure 47 provides an overall schematic of the components, inputs and outputs of the Medium Term Fiscal Framework (MTFF). The MTFF is the highest level tool of macro-fiscal planning and analysis. It comprises:

1. a macroeconomic model or medium term macroeconomic framework, which may be operated in a different institution such as the BB,
2. a revenue projections model, which uses the outputs of the macroeconomic model for forecasting and simulating government revenues,
3. exogenous data, such as debt servicing obligations, forecasted or expected capital revenues, planned and identified financing, and

4. a model or methodology for integrating the outputs and targets into the framework of a macro-fiscal budget.

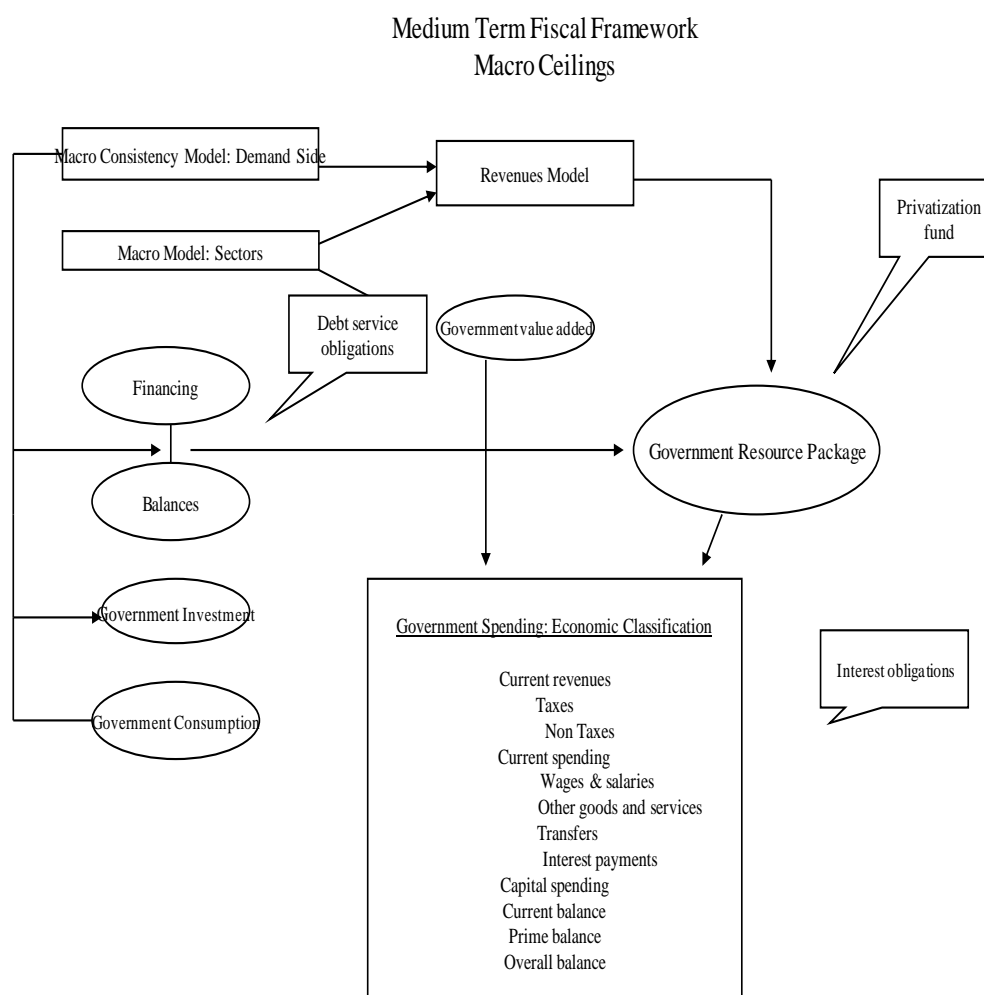


Figure 47: MTEF setting the macro ceilings

Medium Term Budget Framework (MTBF)¹³

A Medium Term Budget Framework (MTBF) can be seen as the next level of analysis after the MTFF. The MTBF structure is presented in Figure 48. Here, the overall fiscal package developed as part of the MTFF process is further defined. This is taken to a few more steps. The spending framework of the MTBF, which includes government spending targets according to economic classification, refers to other planning documents. These other planning documents or tools include the Poverty Reduction Strategy Paper (PRSP), National Development Plans, specific sector plans, as well as ongoing legislation that might affect how spending must be executed. Important such legislation might include required spending on certain entitlements or subsidies that restrict the government as to how it might spend the public treasury.

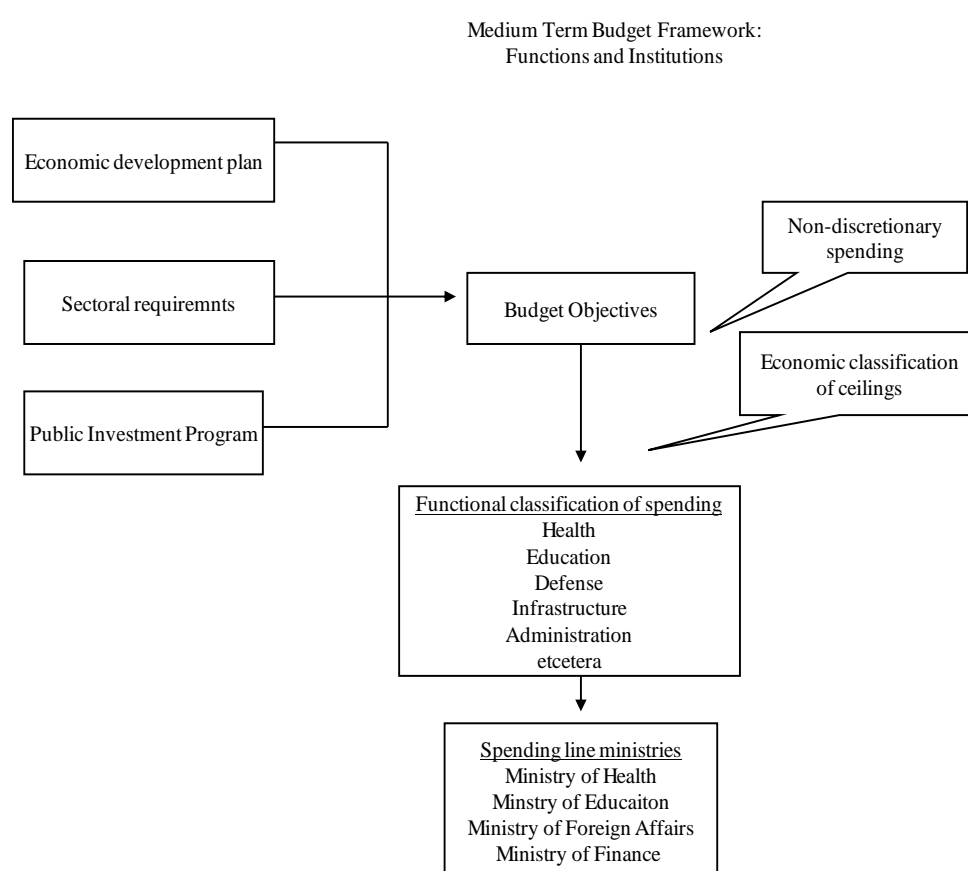


Figure 48: Medium Term Budget Framework and spending

An MTBF builds on the MTFF by developing medium term budget estimates for individual spending agencies. The objective of an MTBF is to allocate resources to the

¹³ The taxonomy of Medium Term Macroeconomic Frameworks, MTFFs, MTBFs, and MTEFs, is not clear cut. We offer here the major components of the macro-fiscal tools, but these may be applied more at one level than another depending on the country practice.

nation’s strategic priorities and ensure that these allocations are consistent with overall fiscal objectives. This gives some degree of budget predictability to spending agencies, while ensuring overall fiscal discipline. In fact, a MTBF is the most basic type of MTEF.

Medium-term Expenditure Framework (MTEF)

An MTEF develops the approach further by adding elements of activity and output based budgeting to the MTBF. These methods seek to improve the value for money of public spending, in addition to reinforcing fiscal discipline and strategic prioritization. A MTEF can also be defined as a whole-of-government strategic policy and expenditure framework within which ministers and line ministries are provided with greater responsibility for resource allocation decisions and resource use. The key to a successful MTEF is that institutional mechanisms assist and require relevant decision-makers to balance what is affordable in aggregate against the policy priorities of the country. The MTEF consists of a top-down resource envelope, a bottom-up estimation of the current and medium term costs of existing policy and, ultimately, the matching of these costs with available resources. Perhaps part of the bottom half of the activity in Figure 48 could more rightly be seen as part of the MTBF process, but this does not seem really all that important in the development of solid multi-annual budget plans.

The following table attempts to lay out in a clear manner the various overlay fiscal tools that are needed for solid budgeting, within a framework of fiscal discipline and cohesion.

Level	Outputs	Top-Down	Tools
1. Macroeconomic framework	<ul style="list-style-type: none"> - GDP growth rates - Exports, imports, balance of trade - National and domestic savings - Public and private investment - Sectoral value added by major industry - Aggregate expenditures 		Financial programming. RMSM-X model of World Bank
2. Macro-fiscal level	<ul style="list-style-type: none"> - Revenue projections - Identification of financing and needs - Resource envelope - Government balances (current and overall) 		Revenue projection model. Debt management model Public finance integration model.
3. Expenditure package by economic classification	<ul style="list-style-type: none"> - Current and capital spending targets - Wage envelope - Interest obligations - Purchases of goods and services - Transfers 		Public finance integration model.
4. Expenditure package by sector and function	<ul style="list-style-type: none"> - Non-discretionary spending requirements - Discretionary functional spending 		Sectoral development strategies. Program budgeting, performance based budgeting
5. Expenditure package by budgetary unit	- Program and project funding requests		
		Bottom-up	

Figure 49: Top down and bottom up multi-year fiscal planning

X. GLOBAL FINANCIAL CRISIS AND JORDAN

✚ *Root of the global financial crisis*

Crisis begins in the US housing market

For a number of bad reasons, oversight of the financial system in the U.S, was inadequate for the past decade. Banks, which under earlier legislative frameworks could not both be commercial bankers, taking deposits and lending money, as well as investment bankers, investing in stock markets and other financial securities. With this deregulation, commercial banking operations continued to receive oversight by regulatory agencies, but their investment operations were not considered in need of such close oversight.

In the meantime, oversight of mortgage lending also declined. Traditionally, to borrow to purchase a home in the US, borrowers had to pay something in terms of a down payment. Down payments were either 20% of the value of the house, or they could be somewhat less, but had then the borrower also had to pay a special “mortgage insurance”. This mortgage insurance was only required if the borrower did not have the full 20% down payment.

Fannie Mae (and Freddie Mac) regulators and market makers¹⁴

Fannie Mae was established in 1938 ^[7] as a mechanism to make mortgages more available to low-income families. It was added to the Federal Home Mortgage association, a government agency in the wake of the Great Depression in 1938, as part of [Franklin Delano Roosevelt's New Deal](#) in order to facilitate [liquidity](#) within the mortgage market. In 1968, the government converted Fannie Mae into a private shareholder-owned corporation in order to remove its activity from the annual balance sheet of the [federal budget](#).^[8] Consequently, Fannie Mae ceased to be the guarantor of government-issued mortgages, and that responsibility was transferred to the new [Government National Mortgage Association](#) (Ginnie Mae). In 1970, the government created the [Federal Home Loan Mortgage Corporation](#) (FHLMC), commonly known as Freddie Mac, to compete with Fannie Mae and, thus, facilitate a more robust and efficient [secondary mortgage market](#). Since the creation of the GSEs, there has been debate surrounding their role in the mortgage market, their relationship with the government, and whether or not they are indeed necessary. This debate gained relevance due to the collapse of the U.S. housing market and [subprime](#) mortgage crisis that began in 2007. Despite this debate, Fannie Mae, as well as Ginnie Mae and later Freddie Mac, has played an integral part in the development of what was the most successful mortgage market in the world which has allowed U.S. citizens to benefit from one of the highest home ownership percentages in the world.

¹⁴ Much of this section from Wikipedia.

Contributing Factors and Early Warnings

In 1999, Fannie Mae came under pressure from the [Clinton administration](#) to expand mortgage loans to low and moderate income borrowers. At the same time, institutions in the primary mortgage market pressed Fannie Mae to ease credit requirements on the mortgages it was willing to purchase, enabling them to make loans to subprime borrowers at interest rates higher than conventional loans. Shareholders also pressured Fannie Mae to maintain its record profits.^[1]

In 2000, due to a re-assessment of the housing market by [HUD](#), anti-predatory lending rules were put into place that disallowed risky, high-cost loans from being credited toward affordable housing goals. In 2004, these rules were dropped and high-risk loans were again counted toward affordable housing goals.

The intent was that Fannie Mae's enforcement of the underwriting standards they maintained for standard conforming mortgages would also provide safe and stable means of lending to buyers who did not have prime credit. As [Daniel Mudd](#), then President and CEO of Fannie Mae, testified in 2007, instead the agency's responsible underwriting requirements drove business into the arms of the private mortgage industry who marketed aggressive products without regard to future consequences: "We also set conservative underwriting standards for loans we finance to ensure the homebuyers can afford their loans over the long term. We sought to bring the standards we apply to the prime space to the subprime market with our industry partners primarily to expand our services to underserved families.

"Unfortunately, Fannie Mae-quality, safe loans in the subprime market did not become the standard, and the lending market moved away from us. Borrowers were offered a range of loans that layered teaser rates, interest-only, negative amortization and payment options and low-documentation requirements on top of floating-rate loans. In early 2005 we began sounding our concerns about this "layered-risk" lending. For example, Tom Lund, the head of our single-family mortgage business, publicly stated, "One of the things we don't feel good about right now as we look into this marketplace is more homebuyers being put into programs that have more risk. Those products are for more sophisticated buyers. Does it make sense for borrowers to take on risk they may not be aware of? Are we setting them up for failure? As a result, we gave up significant market share to our competitors." ^[12]

In 1999, *The New York Times* reported that with the corporation's move towards the subprime market "Fannie Mae is taking on significantly more risk, which may not pose any difficulties during flush economic times. But the government-subsidized corporation may run into trouble in an economic downturn, prompting a government rescue similar to that of the savings and loan industry in the 1980s." ^[13] Alex Berenson of *The New York Times* reported in 2003 that Fannie Mae's risk is much larger than is commonly held. ^[14] [Nassim Taleb](#) wrote in *The Black Swan*: "The government-sponsored institution Fannie Mae, when I look at its risks, seems to be sitting on a barrel of dynamite, vulnerable to the slightest hiccup. But not to worry: their large staff of scientists deem these events 'unlikely'". ^[15]

In 2002, President George W. Bush signed the Single-Family Affordable Housing Tax Credit Act. Dubbed "Renewing the Dream," the program would give nearly \$2.4 billion in tax credits over the next five years to investors and builders who develop affordable single-family housing in distressed areas.

On September 11, 2003, the Bush Administration recommended the most significant regulatory overhaul in the housing finance industry since the savings and loan crisis. Under

the plan, a new agency would be created within the Treasury Department to assume supervision of Fannie Mae. The new agency would have the authority, which now rests with Congress, to set capital-reserve requirements for the company and to determine whether the company is adequately managing the risks of its ballooning portfolios. *The New York Times* reported that the plan is an acknowledgment by the administration that oversight of Fannie Mae and Freddie Mac is broken.

On December 16, 2003, President George W. Bush signed the American Dream Downpayment Act, a new program that provided grants to help home buyers with downpayment and closing costs. The act authorized \$200 million dollars per year for the program for fiscal years 2004-2007.

President Bush also tripled the funding for organizations like Habitat for Humanity that help families help themselves become homeowners through 'sweat equity' and volunteerism in their communities. Substantially increasing, by at least \$440 billion, the financial commitment made by the government-sponsored enterprises involved in the secondary mortgage market specifically targeted toward the minority market.

In 2006, the [Federal Housing Enterprise Regulatory Reform Act of 2005](#) (first put forward by Sen. [Chuck Hagel](#))^[17] where he pointed out that Fannie Mae's regulator reported that profits were "illusions deliberately and systematically created by the company's senior management".^[18] However, this legislation too met with opposition from both Democrats and Republicans. This bill was passed by the House, but was never presented to the Senate for a vote.^[19]

Bad loans and big problems

This figure demonstrates both the awful state of mortgage making in the United States from 2004 and onward. Not only was mortgage making awful, it got steadily worse over the period.

Upside-down loan.. A loan is said to be upside down, or a borrower is said to be "under water" when the value of the home that secures the mortgage loan is less than the amount outstanding (capital value) of the loan itself.

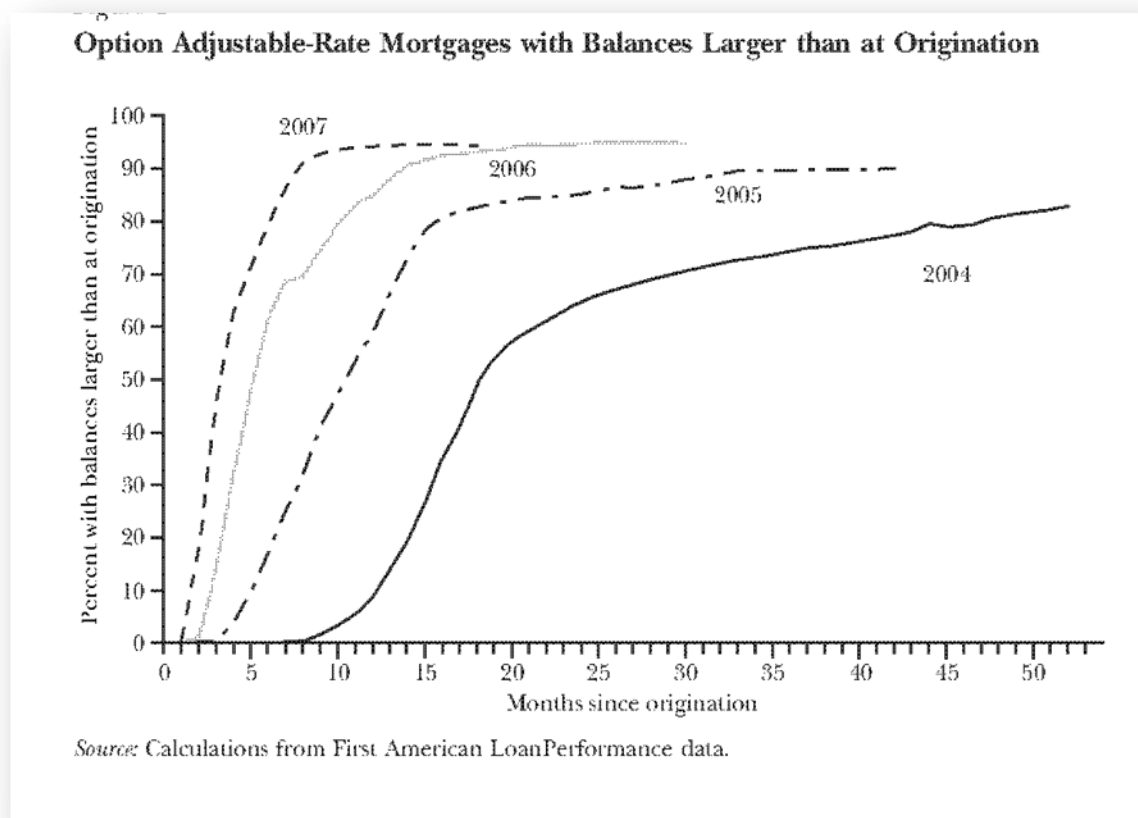


Figure 50: Negative amortization - loan balances surpass original loan amount¹⁵

Figure 50 demonstrates the deteriorating quality of the mortgage loan making industry in the US from 2004 to 2007. It shows that within 20 months of having made the mortgage loan (starting in 2004) already 60% of these loans had total outstanding balances *exceeding* the value of the original loan. For loans originating in 2005, it took only ten months for 60% of the loans to be in this condition. Then for loans originating in 2006, it only took about five months for 60% of loans balances to exceed the original loan amount. Finally, for loans originating in 2007, 60% of them had balances exceeding the original amount of money borrowed within three months from origination. And, within eight months of origination, already loans made in 2007, about 90% were upside down.

How many of these loans were “upside down”?

The next figure demonstrates the high default rates and the increasing default rates on new, adjustable rate mortgages in the US over the past three years. Considering how badly these loans were made, how little down payment was required, and how quickly they became upside down, it is surprising that more loans had not gone into default during this period. Still, through 2008 and up to today, defaults and foreclosures continue to be on the rise.

¹⁵ From Mayer, C, K. Pence, and S.M. Sherlund (2009) “The rise in mortgage defaults,” *Journal of Economic Perspectives*, Winter.

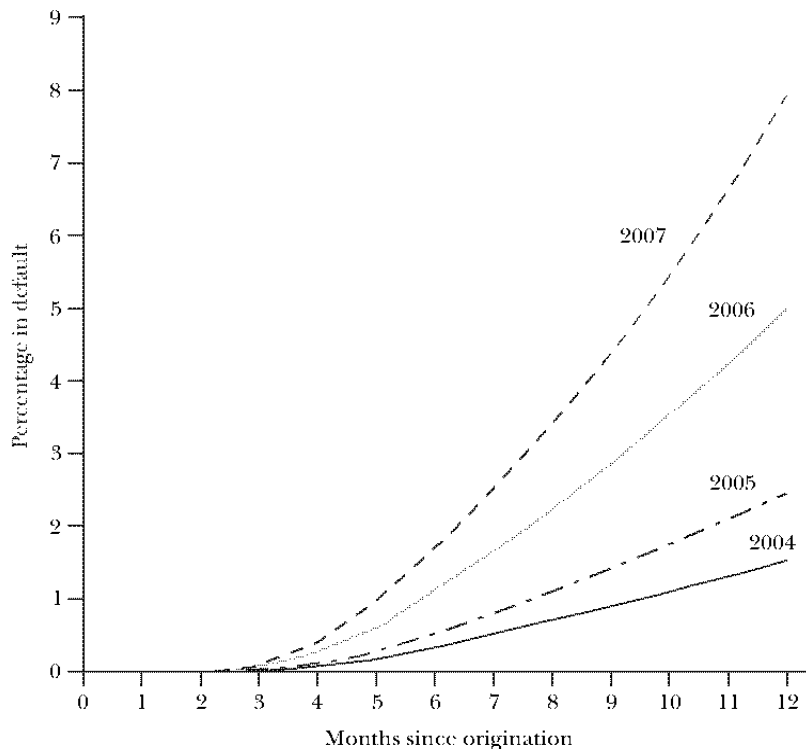


Figure 51: Default rates on newly originated adjustable rate mortgages¹⁶

This figure shows that of adjustable rate mortgages originated in 2004, two percent of them were in default within one year. For loans originated in 2005, two and a half percent were in default. For loans originated in 2006, five percent were in default within a year, and by 2007, loan default rates had reach to fully eight percent within a year of origination.

These defaults were brought on by rising interest rates for the adjustable rate mortgages and declining home values and loan terms that resulted in upside down mortgages. The rising default rates resulted in houses being “dumped” on the market, with resulting drops in home values in general. Considering that about 70% of Americans own the homes they live in and that their homes represent the major stock of personal wealth, this resulted in a great blow to consumer confidences, in general. Also, the large increase in the number of foreclosed homes on the housing market, also resulted in a screeching halt in new construction. Over the past years, construction, particularly single-family home construction, has been one of the most dynamic sectors of the American economy.

Declining home prices lead to defaults, and defaults spur home price decline

Bad loans on bad terms contributed to the rise in defaults, but so too did declining home prices. As prices decline, homeowners who had either put very little money down or who experienced negative amortization, as shown above, found themselves “under water” or “upside down” in their houses. This means, the amount of money one owes on one’s house is greater than the value of that house. Given rising balances against these loans, and

¹⁶ Ibid.

in many cases, rising monthly mortgage payments required as part of the adjustable rate deal, homeowners either found themselves simply unable to pay their monthly mortgages, or found it simply was not worth the costs.

In addition, for homeowners who would have liked to refinance their homes, in order to reduce the monthly rates, either by getting lower interest rates or extending the payment period of their loans, they now faced two obstacles. The first being that many of the adjustable rate mortgages impose high fines for early payoffs, and so made refinancing untenable. The second was that as house values declined, lenders would not lend to borrowers for refinancing if they were upside down, i.e., had no or negative net worth in the house, which was now quite common.

The following figure shows the trends in housing price changes over the past several years, with a very fast turn down in 2006 – 2008.

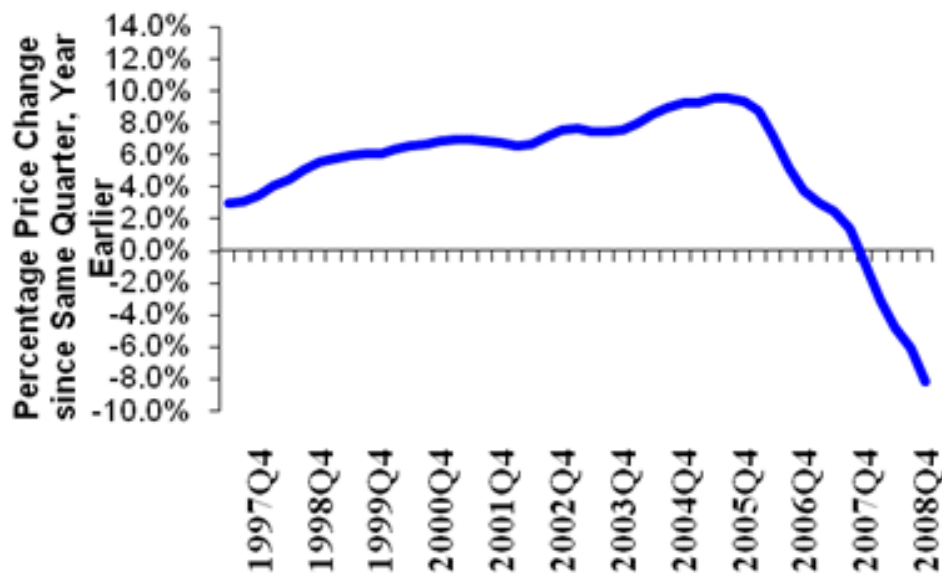


Figure 52: Housing price trends in the US

The go-go years of 1997 to 2005, where not only prices went up each year, but, in fact accelerated, was fueled by low capital costs from both Federal Reserve monetary policy and from large balances of trading partners, such as China, that held large amounts of US dollars and needed to invest these.

These accelerating home prices were enough for lenders to lend without really checking the capacity of borrowers to repay, since if the borrower defaulted, the lender could always and even happily foreclose and make a profit on the house.

Crisis moves to the financial markets¹⁷

>>The financial market turmoil in 2007 and 2008 has led to the most severe financial crisis since the Great Depression and threatens to have large repercussions on the real economy. The bursting of the housing bubble forced banks to write down several hundred billion dollars in bad loans caused by mortgage delinquencies. At the same time, the stock market capitalization of the major banks declined by more than twice as much. While the overall mortgage losses are large on an absolute scale, they are still relatively modest compared to the \$8 trillion of U.S. stock market wealth lost between October 2007, when the stock market reached an all-time high, and October 2008.<< Since October 2008 the stock market has continued its precipitous decline.

Two trends in the banking industry contributed significantly to the lending boom and housing frenzy that laid the foundations for the crisis. First, instead of holding loans on banks' balance sheets, banks moved to an "originate and distribute" model. Banks repackaged loans and passed them on to various other financial investors, thereby off-loading risk, which we can refer to as "securitization." Second, banks increasingly financed their asset holdings with shorter maturity instruments. This change left banks particularly exposed to a dry-up in funding liquidity.

A large fraction of these securitizations or collateralized debt obligations issued over the course of the last decade had subprime residential mortgage-backed securities as their underlying assets. Importantly, many of these residential mortgage-backed securities are themselves tranches from an original securitization of a large pool of mortgages, such that collateralized debt obligations of mortgage-backed securities are effectively CDO²s. Moreover, since substantial lending to subprime borrowers is a recent phenomenon, historical data on defaults and delinquencies of this sector of the mortgage market is scarce. The possibility for errors in the assessment of the default correlations, the default probabilities, and the ensuing recovery rates for these securities was significant. Such errors, when magnified by the process of re securitization, help explain the devastating losses some of these securities have experienced recently.

How does the crisis affect the developing countries?

There are essentially three channels through which the global financial crisis is expected to have its main impact on the economies of the developing world. These are 1) through the interlinkages within financial markets, 2) reduced demand for exports from the developing to the highly affected, industrialized world, and 3) through reduced remittances of countries where their people are working in the highly effected industrialized countries, or where they are working in developing, but highly affected countries.

The following chart shows the precipitous decline in oil prices over the recent past. This decline has mainly occurred due to severe restrictions in demand from highly affected, industrialized countries such as US, Western Europe, and Japan, as well as much lower

¹⁷ Much of this section is from M.K. Brunnermeier (2009) "Deciphering the liquidity and credit crunch 2007-2008" *Journal of Economic Perspectives*, Winter.

demand from China, which is highly affected by the crisis because of its dependence on exports to the highly affected, industrialized countries.

Volatility

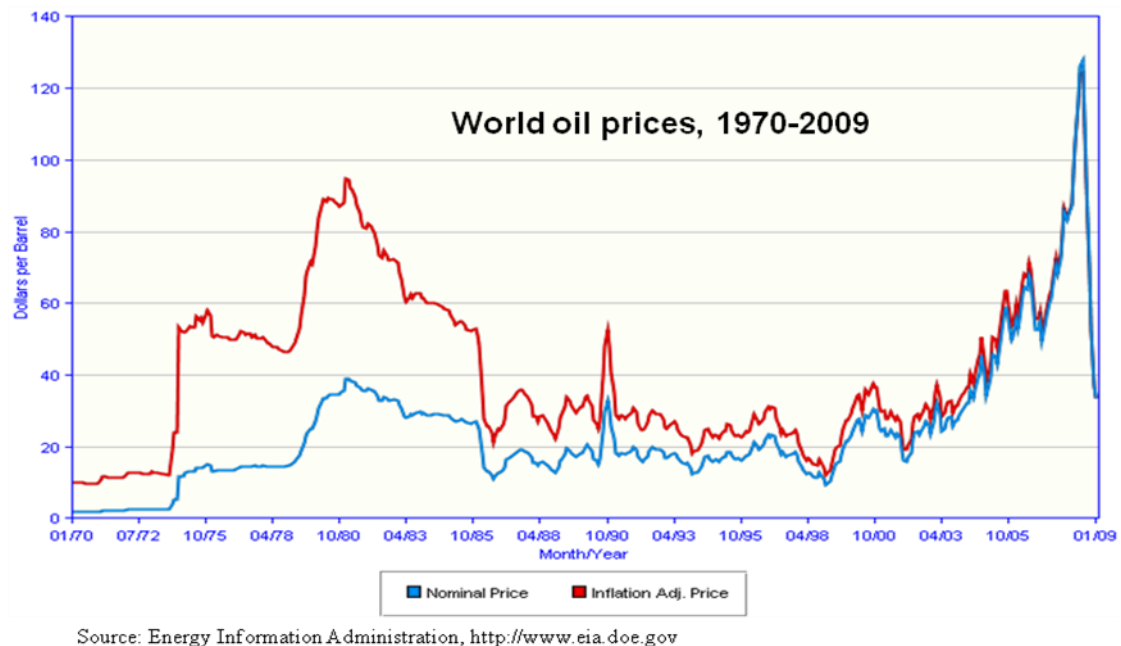


Figure 53: World oil prices

Fiscal and monetary space

Defining monetary space

This is a very new concept and has not had a clear definition. The term has been used in discussions of the Global Financial Crisis and the ability of countries to adjust or take actions to ameliorate the impacts on their economies. In general, it relates to the feasibility of implementing *monetary easing* – expansionary monetary policy – in an attempt to provide a stimulus to the economy.

In short, *monetary space* refers to the possibilities for implementing expansionary monetary policy with little danger of sparking inflation or large exchange rate changes.

Some of the indicators that we have been looking at in Washington with respect to assessing countries' monetary space include:

- Recent inflation rate
- Trend in inflation rate
- Recent trends in M2 growth rates
- Money velocity and the rate of change in the money velocity
- Type of exchange rate system (independent or not)
- Net international reserves as a ratio to imports (number of months of imports that could be purchased using only the current NIR to pay).

Table 9 summarizes the indicators of monetary space for a number of countries that are expected to experience considerable impact from the global financial crisis.

Table 9: Indicators of monetary space

	Inflation	M2 Growth Rate	M2 Velocity (V) (2007 data)	V (Rate of change: 2003-7)	V (Avg. change, 2003-7)	REER (2007 data)	Currency Independence	Net Intl Reserves	GDP Growth
Liberia	14.0%	43.1%	4.3	-9.7%	-0.15	-4.0%	0	0.7	8.6
Mozambique	13.2%	22.1%	3.4	-8.0%	-0.02	6.5%	0	4.6	6.5
Senegal	6.1%	6.3%	2.9	-1.5%	-0.05	4.6%	1	3.2	4.3
Tanzania	8.3%	18.2%	3.8	-8.1%	-0.06	3.6%	0	3.8	7.5
Zambia	11.8%	20.9%	4.9	-12.2%	-0.02	-14.8%	0	3.2	5.8
Guatemala	10.6%	-0.8%	2.3	-2.1%	-0.05	0.1%	0	3.7	4.5
Honduras	11.2%	5.5%	2.0	-5.2%	-0.04	2.3%	0	3.9	4.2
Cambodia	20.0%	-0.7%	3.8	-23.9%	-0.10	-3.3%	0	3.5	7.0
Indonesia	9.8%	13.0%	2.6	0.5%	0.04	-4.4%	0	5.1	3.5
Mongolia	26.0%	-3.4%	2.3	-17.0%	-0.04	6.4%	0	4.0	9.0
Tajikistan	21.7%	33.0%	n/a	-11.0%	-0.02	-8.4%	0	0.8	6.0
Ukraine	25.6%	37.2%	2.2	-8.5%	-0.11	1.3%	0	5.1	6.4
Albania	3.6%	6.3%	1.3	-10.0%	-0.05	1.2%	0	4.3	6.1
Bangladesh	10.1%	15.2%	1.8	-2.4%	-0.04	-1.1%	0	2.7	7.0
Jordan	10.8%	14.5%	0.8	5.6%	-0.03	-4.1%	0	5.5	5.5
Pakistan	23.0%	10.8%	2.2	-1.0%	-0.02	-0.8%	0	2.1	5.8

Defining fiscal space¹⁸

What is fiscal space? It can be defined as room in a government's budget that allows it to provide resources for a desired purpose without jeopardizing the sustainability of its financial position or the stability of the economy. The idea is that fiscal space must exist or be created if extra resources are to be made available for worthwhile government spending. A government can create fiscal space by raising taxes, securing outside grants, cutting lower priority expenditure, borrowing resources (from citizens or foreign lenders), or borrowing from the banking system (and thereby expanding the money supply). But it must do this without compromising macroeconomic stability and fiscal sustainability—making sure that it has the capacity in the short term and the longer term to finance its desired expenditure programs as well as to service its debt.

How can this be done? The government must ensure that the higher expenditure in the short term, and any associated future expenditure—including any recurrent spending on operations and maintenance required by an infrastructure investment, or by the establishment of a school or hospital—can be financed from current and future revenues. If

¹⁸ See IMF: <http://www.imf.org/external/pubs/ft/fandd/2005/06/basics.htm>.

debt-financed, the expenditure should be assessed by reference to its effects on the underlying growth rate and the country's revenue-generating capacity. The government needs to be sure, in particular, that increased outlays in one worthwhile area—health, for example—will not ultimately crowd out productive spending elsewhere.

For developing and emerging market countries, fiscal space may seem a more immediate issue than in advanced economies because there are more pressing needs for expenditure today. But longer-term issues are also involved, even for lower-income countries, because of the need to ensure that there will be room to respond to unanticipated fiscal challenges. For example:

Countries that receive significant flows of foreign resources for a specific sector (such as health care) may, as a result of the associated expansion of the sector, face additional future spending needs that may essentially preempt a share of the growth of future domestic budgetary resources.

Foreign resource inflows, such as aid, may hurt a country's macroeconomic situation (for example, by raising its real exchange rate and thus reducing its international competitiveness) or cause excessive aid dependency, so that such inflows may need to be limited. A foreign-financed expansion of a specific sector (for example, education) may then imply limits on the magnitude of foreign resources available to other sectors.

Resource inflows may finance a government activity, such as pension reform, that creates a liability in the form of future payouts that are highly uncertain in magnitude and timing.

Table 10 presents the indicators of fiscal space.

Table 10: Indicators of fiscal space

	Debt (% of GDP)	Debt Service (% of exports)	Budget Balance (% of GDP)	Grants (as % of GDP)	Tax Revenue (as % of GDP)	Domestic Saving Rate	National Saving Rate
Liberia	463%	0.35%	1.2%	2.00%	19.70%		
Mozambique	21.4%	20.9%	-4.5%	12.0%	13.9%	0.7%	
Senegal	16.4%	2.9%	-5.5%	2.2%	19.4%	9.4%	18.2%
Tanzania	24.0%	2.2%	-2.2%	5.5%	17.1%	19.8%	
Zambia	28.0%		-2.1%	5.3%	19.8%		20.6%
Guatemala	23.8%		-1.5%		12.1%		14.5%
Honduras	22.0%	1.6%	-3.9%	1.7%	16.4%		23.2%
Cambodia	26.8%	0.8%	-2.0%	2.4%	10.1%		9.1%
Indonesia	29.5%		-1.2%	0.0%	11.9%		25.6%
Mongolia	34.1%	3.3%	1.5%	0.3%	33.2%		
Tajikistan	31.0%	27.7%	1.9%	1.0%	18.7%		11.3%
Ukraine	10.0%	2.8%	-1.5%		20.1%		20.9%
Albania	52.6%	4.2%	-5.4%	0.3%	25.0%		21.2%
Bangladesh	35.1%	5.1%	-4.8%	0.8%	9.1%		29.2%
Jordan	62.4%	8.4%	-9.3%	3.4%	22.1%		15.7%
Pakistan	49.9%	16.9%	-6.8%	0.20%	11.00%		13.5%

So how shall we assess these countries in terms of “space”?

Table 11 presents color coding for each of the included countries for each summary observation in the two tables above on monetary and fiscal space.

With regard to particular indicator,

Red indicates that the country is not in a favorable position

Yellow indicates that the country is neither favorable nor unfavorable

Green indicates that the country is in a favorable position

Table 11: Summary of fiscal and monetary space

Country	Fiscal Space						Monetary Indicators						
	Debt (% of GDP)	Debt Service (% of exports)	Budget Balance (% of GDP)	Grants (as % of GDP)	Tax Revenue (as % of GDP)	Saving Rate (Dom/Natl)	Inflation	M2 Growth Rate	M2 Velocity (V)	REER	Currency Indepen- dence	Intl Reserves	GDP Growth
Liberia													
Mozambique													
Senegal													
Tanzania													
Zambia													
Guatemala													
Honduras													
Cambodia													
Indonesia													
Mongolia													
Tajikistan													
Ukraine													
Albania													
Bangladesh													
Jordan													
Pakistan													

Jordan is in a dominantly favorable position in terms of monetary space and seem to have significant leeway for weathering the global financial crisis. However, in terms of fiscal space, Jordan is in a mixed position with regards to the different indicators, and has specifically unfavorable positions in both the budget balance (as % of GDP) and the tax revenue (as % of GDP).

Let's compare two big, emerging market economies: India and China.

India does not seem that exposed to the ravages of the global financial crisis. It's financial system is not tied in to the international system of global finance. All but one of the country's commercial banks are in the hands of the public sector, and apparently they have not be involved in investing in these mortgage securitized derivatives nor have they been directly involved with other aspects of the international financial markets. At the same time, while the Indian economy has been growing as has its exports to the rest of the world, exports still only amount to 21% of its GDP. Slowdowns in the demand for India's exports have already been hit, but even a strong loss of export sales will compare only little to the demand from its domestic market.

It is a good thing, too, that India's exposure is so limited. It has essentially no fiscal space to move around. For years, the government has been running deficits of around 10% of GDP, accumulating more and more public debt, mainly held by the domestic financial industry. Expansionary fiscal policy would not likely help the overall balances in the economy, and might be quite counterproductive.

China, on the other hand, is quite vulnerable to global financial crisis impacts. The most important channel for China would be the downturn in its export markets. Indeed, China is already experiencing such downturn.

China, however, has considerable fiscal and monetary space. The country has been running dual government finance and international trade surpluses. It can afford to run large fiscal deficits at little financial cost, since it in fact is holding treasury reserves built up over the past several years. Also, China's trade surplus and large foreign reserves would allow a monetary expansion to encourage increased aggregate demand, without much threat of inciting inflation.

XI. CASE STUDY: THE LULANDA STABILIZATION AND POVERTY

REDUCTION PROGRAM

The Setting: Lulanda

Dr. Gorda Albondiga, the recently elected president of Lulanda, is the first women president and has a highly populist reform agenda, with a specific interest in eliminating special privileges, getting social services out to all of the poor, creating jobs and eliminating poverty. Dr. Albondiga has had wide political support, even from the business elite, mainly because the past thirty years of mercantilist, inept governments have led Lulanda to the economic brink.

Despite Dr. Albondiga's populist rhetoric, she has reached out to the international community. In meetings with the IMF, World Bank, Regional Development Bank¹⁹ and bilateral donors, Dr. Albondiga has expressed her desire to make Lulanda a country of economic freedom, while particularly liberating the poorest among her people from abject poverty and hopelessness. Dr. Albondiga requested her economic team, in coordination with the International Financial Institutions (IFI), to develop a comprehensive program that would restart growth, get Lulanda ready for HIPC (Highly Indebted Poor Country) debt relief, and would ensure that real progress can be made in terms of increasing social services, especially education and health, for the neediest Lulandans, and creating new jobs.

GDP has been stagnant essentially since independence, and per capita incomes are about 20% below their level in 1962. Although schooling and health services had been expanding for the first two decades since independence, they have both been on a decline for the past two decades. First, quality of basic services declined and now, absolute coverage has also been reduced. All this despite rising public sector employment and a government sector that each year represents a larger and larger share of GDP.

During 2004-2007 inflation was running at an average annual rate of about 20%, which combined with a fixed exchange rate has led to an appreciation in the real effective exchange rate of about 50% over the same period. The banking sector is dominated by Provincial Banks (government owned) and two privately owned commercial banks that cater to the enclave mining enterprise, facilitate transactions and letters of credit, but do no lending for business investment. The fiscal system is nearly out of control. Central government revenues have dropped from 15% to only 8% of GDP in the past three years, while recurrent spending has stayed at about 12% of GDP. Capital spending has essentially halted. Provincial governments have continuing deficits that come to about 3% of GDP, financed by Provincial banks. General government deficits have hovered around 5% of GDP and this is entirely financed by inflationary, monetary emission. The Central Government has suspended most international debt service, except that to the IFIs. Total domestic and foreign debt comes to about 130% of GDP, and debt-service is scheduled at about 60% of exports.

¹⁹ This case refers to Region or Regional instead of placing Lulanda in any particular region or continent.

Mercantilist policies have continued to benefit those businesses that have been in operation since Lulanda's independence 40 years ago. High tariff and non-tariff barriers to international trade have protected inefficient industry, yielding high economic rents for its owners and unionized workers, but resulting in little investment and innovation. Exports have declined from 24% of GDP at independence to only 11% today. Imports, in the meantime, have declined only a bit more slowly and are now at about 13% of GDP, in part funded by remittances of Lulandans working overseas.

Other supporting information

The exchange rate

There is a sense among several people in the Central Bank and in the provincial and private banks that Lulanda needs to abandon its currency and to replace it with the US dollar, replacing gotchas with dollars at the current exchange rate. This may not be feasible given a number of factors: a) the gotcha is artificially overvalued, b) there are not enough US dollar reserves available to Lulanda to make the conversion, c) the precariousness of the balance sheets of the banks (many borrow in dollars and lend in gotchas) was such, that an abrupt change in the rules of the game might cause immediate collapse, and d) Lulanda is a rather large country and such a dollarization would have unpredictable impact on the world market for dollars. From discussions with colleagues in the NY Federal Reserve Bank's Emerging Markets Division, we were able to ascertain that leading US policy makers would not welcome Lulandan dollarization.

Banking sector

Banking in Lulanda is rather unsophisticated. The Central Bank has been the financier of central government borrowing requirements, while the Provincial banks have funded the requirements of the Provincial governments. Provincial banks are also authorized to lend to the private sector and parastatal enterprises for specific investment projects. In practice, such lending has been rather limited. Small private banks exist, mainly for the purpose of handling transactions and for financing imports. The banking system does not have operating facilities for export financing nor for private business lending nor for mortgages or consumer purchases. Two private banks manage transactions, mainly for the two mining concerns and issue letters of credit for importation. Legislation does not allow foreign banks to set up offices in Lulanda.

Most countries of the world have experienced banking crises at one time or another since the 1970s. Lulanda, like other very unsophisticated economies (Papua New Guinea, Suriname, Guyana, and Yemen), has been insulated from such banking system crises, mainly because its banking system is artisanal. This is an advantage and a drawback.

The revenue system

Taxation is marred by many, many exemptions, weak tax administration and low compliance. The import tariff schedule has a very wide range of rates, ranging from zero for some inputs to production, to very high, up to 300%, on many final goods. For most of

the goods with the 300% rate, there is no domestic production, for instance, automobiles are not produced in Lulanda.

The budget process and expenditure management

The central government's budgetary system is in complete disarray. The budget document passed by the parliament includes details about spending for some budgetary units, but this is usually partial and non-comprehensible. For other budgetary entities, spending may be classified only as remunerations and overhead. There are no program budgets, capital spending is not based on solid economic reasoning nor are recurrent costs concerns built into project formulation and evaluation. New capital projects are started up while other projects are left half-completed.

A recent employee census found that about one-third of the teachers included on the payroll were actually no-shows. For health, no-shows came to about one-fifth, and for public works, also one-fifth. While spending in each of these areas is rather low compared to other countries, a large share was obviously directed to fraudulent purposes and is available for reprogramming.

Labor market

Lulanda has one of the most rigid labor markets in the world. For two decades, labor market institutions provided for absolute job security (making dismissal extremely difficult and costly), job security and generous social welfare guarantees such as social security, minimum wage protections, bonuses, annual raises, and consumer subsidies.²⁰ The labor regime provides workers a number of other protections, such as requiring high indemnities for lost jobs, and limiting the use of short-term contracts. The combination of the rigidity and complexity of the current labor code and the system that it spawned are blamed for warding off potential international investors

This legal framework is a strong disincentive to hire and train employees, hinders the efficient allocation of labor and other resources, ultimately acts as a deterrent to foreign direct investment and weakens Lulanda's competitiveness in global markets. A complaint voiced by the business community is that the limited ability of firms to impose sanctions on labor for nonperformance results in low labor productivity. Moreover, businesses maintain that these regulations are an obstacle to relieving the unemployment problem because they give investors incentives to obtain labor-saving machinery. Indeed, Lulanda is a labor-surplus country, yet the capital-labor ratio is extremely high in the formal economic sector. However, the government, which has historically relied on labor as a critical base of support, has been reluctant to move forward on reforms because they see that labor market reforms may be perceived as threatening labor's traditional protections.

²⁰ Dismissal is possible only if the employer can prove in a court of law the existence of a "just cause". The definition of "just cause" is narrow and generally limited to grave errors related to the conduct of the worker. The process renders dismissals extremely costly and lengthy affairs, because court cases can drag on for years. In effect, these provisions provide labor with de facto lifetime job security.

Economic Reform and Planning Commission (ERPC)

Analysts in the Central Bank and the Ministry of Finance were not quite technically up to the job, but are enthusiastic and willing to learn. At the same time, Mr. M. Sanara, the Minister of Finance, who trained in anthropology, had an open mind, but not much relevant training. The Minister depends to a great extent on the advice from his Budget Director, Mr. Sanji Ochipurev, an MA-level economist, who trained in the US. The Central Bank president holds a Doctorate from the University of Moscow. He understands that the good old days of state-centered development planning are over, but he is yet to be fully convinced of the efficacy of “neo-liberalism.”

The Government’s economic team has formed *The Economic Reform and Planning Commission (ERPC)*, comprising analysts from the Central Bank, Budget Department in the MOF, and others from the Ministries of Agriculture, Industry and International Trade, Health, and Education. This ERPC developed a macroeconomic consistency model that is useful for tracing the effects of various policies, such as fiscal reform, monetary policy, and others. The model was used to develop the 2003-2008 reform program, which is included in Attachment. The ERPC even used the model as a basis for the GOL’s negotiations with the IMF for a Standby Agreement.

The ERPC has held many workshops and conferences with counterparts in the rest of government, private enterprise, organized labor, NGOs, the international community, and think tank analysts. These consultations won considerable support, although not unconditional, for the ERPC and its reform program. Participants were pleased to have a chance to make their views known, learn of the ERPC’s analyses, and they particularly appreciated the ERPC’s attempts to provide empirical support for its proposed reforms and to show the costs and benefits of reforms.

Your assignment

You and your teammates comprise the ERPC. You are to develop a program of sequenced policy and institutional reforms that will address the President’s and the country’s most urgent economic needs, as well as set the stage for longer term economic development and poverty reduction. Specific concerns you should address include:

- Reducing the budget deficit
- Reducing inflation
- HIPC qualification
- Increase public and private investment
- Bring about economic growth
- Ensure that the economy creates new jobs
- Reduce poverty
- Set specific targets.