

GENDER AND ECONOMIC POLICY MANAGEMENT INITIATIVE Asia and the Pacific



7

GENDER AND MACROECONOMICS

**GENDER AND ECONOMIC POLICY MANAGEMENT INITIATIVE – ASIA AND THE PACIFIC:
GENDER AND MACROECONOMICS**

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Front cover: Young women working at a petrol station in Beijing, China. (Crozet M. /International Labour Organization)

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INTRODUCTION

This module enables participants to establish a foundation in gender-responsive macroeconomics. Macroeconomics is typically seen to be gender and ecosystem blind: It examines the economic environment in general, but it is rarely, if ever, gender neutral. A gender analysis of macroeconomics underscores both how gender relations permeate macroeconomic concepts and how macroeconomic indicators only measure a portion of total economic activity, with important consequences for unpaid work, ecosystems and the environment, household well-being, and the accurate evaluation of macroeconomic policies. A gendered consideration of macro-economics is also an ecological consideration. In Asia and the Pacific, the relationship between women and the environment in which they live is fundamental to community well-being.

To help participants undertake a gender-responsive investigation of macroeconomics, the module introduces and elaborates on some key aspects of macroeconomics, including social accounting frameworks, the circular flow of income and product, domestic absorption, the multiplier, the accelerator and two-gap analysis. At the end of the module, participants should be able to evaluate a series of macroeconomic concepts by their gender content.

LEARNING OBJECTIVES

At the conclusion of this module participants will:

1. Have gained an understanding of elementary contemporary neoclassical macroeconomics.
2. Be able to voice a gendered critique of contemporary neoclassical macroeconomics.
3. Have the capacity to explain the key concepts and implications of gender-responsive macroeconomics.

OUTLINE

- I. Basic macroeconomics.
 - A. Social accounting frameworks and the circular flow model.
 - B. Domestic absorption.
 - C. The multiplier and the accelerator.
 - D. A two-gap model.
- II. Ecological Economics
 - A. Introducing ecological economies.
 - B. An ecological circular flow model.
- III. Gender-responsive macroeconomics.
 - A. The role of unpaid care work in macroeconomic flows.
 - B. The role of gender in macroeconomic variables.
 - C. A gender-responsive circular flow.
 - D. A gender-responsive ecological circular flow.
 - E. Gender-responsive macro-dynamics: thinking about policy.

DURATION

One day.

I. BASIC MACROECONOMICS

Objective: to enable participants to gain an understanding of elementary contemporary neoclassical macroeconomics.

Neoclassical macroeconomics claims it is the study of the economy as a whole, focusing on the combined activities of all households, all firms and the government, the cumulative individual decisions of which determine the whole economy's total spending, income, and production of goods and services. It thus 'adds up' microeconomic processes. Macroeconomic theory and analysis divides the economy into two spheres: the productive (real) economy and the financial (money) economy. Macroeconomic policies influence how these two spheres interact, with the objective of maintaining stability between the variables that make up the macroeconomy while at the same time fostering economic growth, which is witnessed in an expansion of some or all of the variables that make up the macroeconomy. By facilitating growth, macroeconomic policies create the preconditions of improvements in individual well-being.

The productive economy combines labour, capital, other productive factors (land, energy, natural resources) and technology to produce the economic output for exchange that comprises gross domestic product (GDP). The productive economy is also called real because the factors of production as well as the output produced in this economy are physical. The public sector operates as part of the real economy and is financed by fiscal policy – government policy regarding government spending and taxation.

The financial economy consists of the economic activities that involve the issue and exchange of financial assets, such as stocks and bonds. Government affects the financial economy through monetary policy – policy regarding the supply of money and the interest rate, which affect the demand for money and other financial assets as well as the performance of the financial economy overall.

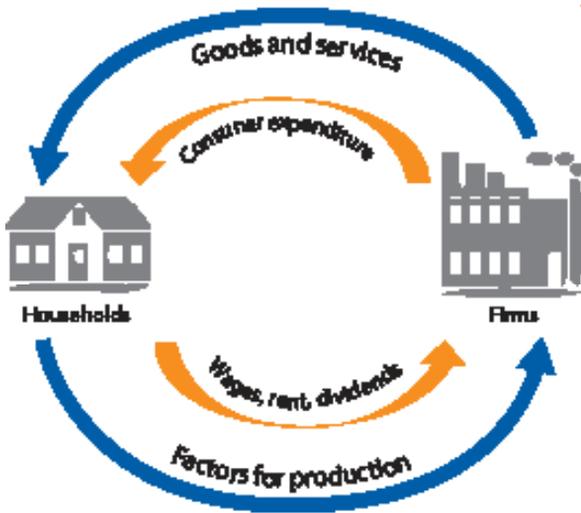
The relation between the real economy and the financial economy, as well as the role of government in affecting that relation, is a matter of some debate in macroeconomic theory, but linkages do exist: for example, the setting of interest rates within monetary policy has implications for the production of output and employment in the real economy.

A. SOCIAL ACCOUNTING FRAMEWORKS AND THE CIRCULAR FLOW MODEL

SOCIAL ACCOUNTING FRAMEWORKS

Adding up all the transactions of all households and firms as well as the government would be difficult, so it is necessary to sort activities into analytically useful categories and record the pattern of activities done by the various economic units – households, firms and government. This is what social accounting frameworks do, and in so doing, they detail the flows of goods and services between economic units, often called agents or actors, engaged in the buying and selling of products, including the inputs necessary for firms wanting to transform resources into marketable goods and services that can be bought and sold. Social accounting frameworks can assist in understanding the key relations, if any, among the many transactions taking place between economic units in the economy as a whole.

The Circular Flow Model



Begin by initially ignoring government. Households provide factor inputs – primarily labour – to firms for wages. Firms use those labour services to produce goods and services, which can be sold to households for cash. Households thus get money from the sale of labour to pay for goods and services that firms produce. There are therefore two sets of flows:

1. The flow of income (Y) – payments for labour are turned into payments for goods.
2. The flow of production (C) – the flow of labour resources from households is turned into goods and services that households consume.

Ignoring savings for the moment, the theory is that the money value of the incomes of households should equal the money value of all the output of firms, and the money value of household spending provides the basis for the national income accounting discussed in Module 1 on Gender and Economics as the system of national accounts (SNA).

1 http://en.wikipedia.org/wiki/File:Circular_flow_of_goods_income.png

Some primary categories that are included in the SNA accounts are:

- A. The private production of goods and services measured at market prices.
- B. The public sector, often valued in terms of labour costs and not the value of services produced.
- C. The private production of goods in the household, which a third party could provide. These goods need not be exchanged. As already discussed in Module 3 on Unpaid Work, challenges exist in measuring this accurately, and production is often valued using market prices of similar goods.
- D. Informal and subsistence activities, where again the challenge is accurate measurement.
- E. Imputed values of certain private services (e.g., home ownership – which is treated as a rental property, and farm household consumption of farm produce).

However, in this theoretical model, households do not spend all their money. Some money is saved (S) by households in the financial economy, to provide consumption in the future and to allow households to spend more than they earn. Bringing in government, some money is taxed (T) by the government from the household for its activities. So some of the flow of income leaks out:

- Savings (S) flow into financial markets.
- Taxes (T), also called forced savings by economists, flow to the government.

Government uses taxes to buy goods and services from firms and makes transfer payments – such as pensions – to households (G). Firms get investment (I) funds from the savings deposited in financial markets to buy plant and equipment to increase their capacity to produce goods and services in the future. Thus, there are injections into the flow of income as well:

- Investment by firms (I) financed from financial markets.
- Government spending (G) financed from tax receipts.

Firms also pay taxes, included in (T). Finally, some of the goods and services purchases by households, firms and government are made abroad, while some of the goods and services produced by firms are sold abroad. So there is a further injection of income, exports (X), and a further leakage, imports (M).

This simplified theoretical account provides two circular flows:

1. The flow of goods and services produced on and for the product market for a given period of time by all the people of the country, or gross domestic product (GDP). Gross domestic product may not capture important aspects of well-being.
2. The flow of income (Y) received for resources sold in the input market for a given period of time by all the people of the country, or gross national income (GNI). Gross national income may not capture important aspects of well-being.

Expressed as variables, GDP and GNI appear as follows:

$$\text{GDP} = C + I + G [+ (X - M)]$$

$$\text{GNI} = Y + S + T$$

Output flows should equal income flows:

$$C + I + G [+ (X - M)] = Y + S + T$$

In other words, total income on the right hand side of the equation should equal all spending on consumption, investment, government spending and net exports on the left hand side of the equation. However, as there is usually a time lag in all this buying and selling, in practice they may not formally add up.

EXERCISE 1

Objective: to critically assess the strengths and weaknesses of national accounting frameworks from a gender perspective.

Participants should divide into groups of four or five. Each group should try to answer the following questions, taking around 30 minutes:

1. Households are found in the circular flow. However, theoretically, only SNA activities in households are captured in national accounts (but many of these are in fact missing because of 'technical and logistical measurement difficulties'). Why is only SNA activity captured in the national accounts?
2. Why are national accounts not constructed to capture unpaid care work? Is the use of the concept of the household in the circular flow useful if unpaid care work is not captured in the circular flow?
3. Do the national accounts capture activities in the informal economy? Is the use of the firm in the circular flow useful if informal economic activities are not captured in the circular flow? All informal activities are supposed to be captured if there is market exchange, usually through measurement of M3, (as mentioned in Module 11 on Gender and Finance), but it depends on the degree of regulation in the economy, and the sophistication of the ability to measure money in circulation.
4. Is voluntary community labour significant in rural Asia and the Pacific? Is it captured in the circular flow? Is the circular flow useful if voluntary community labour is not fully captured in the circular flow?
5. Should national accounting frameworks be rethought and extended to include all unpaid work, informal economic activities, voluntary community work, traditional economic work, and the natural capital of the environment? In this discussion, topics should include usefulness of a procedure that values war, drugs, sexual slavery and environmental clean-ups as productive. It should also touch on the resources that would have to be spent to collect a fraction of this data.

6. Given the answers offered to questions 1 through 5, the groups should consider whether understanding the circular flow enhances our understanding of the weaknesses of macroeconomics.

After the groups have finished their discussions, participants should briefly present and review the results of the group work in plenary.

B. DOMESTIC ABSORPTION

Assume for the moment there are no savings or tax payments. Then

$$\text{GNP} = Y$$

and

$$Y = \text{GNP} = C + I + G + (X - M)$$

Government spending is a form of consumption and investment spending, so for simplicity, collapse government spending into those terms, resulting in:

$$Y = C + I + (X - M)$$

Rearranging,

$$C + I = Y - (X - M)$$

This suggests that goods and services absorbed in an economy can either come from domestic production ($C + I - X$) or from abroad (M). Defining domestic absorption (A) as

$$A = C + I$$

substituting A for $C + I$ so that

$$A = Y - (X - M)$$

and rearranging shows that

$$Y - A = X - M$$

1. If net exports ($X - M$) are negative, then the public and private sectors are consuming and investing (absorbing) more than the country is producing domestically, which raises the question of how this domestic absorption is being financed. If net exports ($X - M$) are positive, then the public and private sectors are consuming and investing (absorbing) less than the country is producing domestically, which means income is flowing into the country from abroad in order to pay for the exports. Clearly, when net exports are negative the rate of domestic absorption – levels of consumption and investment beyond what the country can afford to import – can be an important internal source of macroeconomic instability.
2. If an external shock cuts exports, this must affect domestic absorption because if ($X - M$) drops, A must fall or Y must rise. The economy must adjust by altering the rate of domestic absorption.

Thus, macroeconomic policy choices have clear opportunity costs. A simple rule of thumb is that macroeconomic policy is concerned with maintaining macroeconomic stability by altering the rate of domestic absorption to compensate for internal or external macroeconomic imbalances. This is because macroeconomic stability is strongly correlated with economic growth.

DEMAND-SIDE POLICIES

Demand-side policies alter the pattern of spending within an economy. This can take one of two forms:

- An attempt to increase the rate of domestic absorption by increasing public and/or private spending and thus public and/or private demand. These expenditure-increasing policies therefore raise C , I and/or G , boosting aggregate demand and, as will be seen, economic growth.
- An attempt to reduce the rate of domestic absorption by cutting public and/or private spending and, hence, public and/or private demand. These policies are often called expenditure-reducing policies, because C , I and G are brought down. Cutting consumption and investment cuts aggregate demand, however, and in so doing, affects economic growth.

FISCAL AND MONETARY POLICY

Fiscal policy is government policy toward its taxation and spending plans. Monetary policy is government policy toward the supply of money and hence interest rates, which are the effective price of money. The government can use fiscal and monetary policies to alter the rate of growth in one of two ways:

1. To increase the rate of growth of demand.
 - When government spending increases, there is an increase in government demand for goods and services from the private sector.
 - When government taxes fall, there is an increase in household and firm demand, as they are paying less to the government and thus have higher levels of disposable income to spend.
 - When interest rates fall, the level of investment by firms increases, as it becomes less expensive to borrow from the financial economy and the holding of money by households and firms in the financial economy becomes less attractive.
2. To reduce the rate of growth of demand.
 - When government spending falls, there is a reduction in government demand for goods and services from the private sector.
 - When government taxes rise, there is a reduction in household and firm demand, as they are paying more to the government and thus have lower levels of disposable income to spend.
 - When interest rates rise, the level of investment by firms falls, as it becomes more expensive to borrow from the financial economy and holding of money by households and firms in the financial economy becomes more attractive.

Demand management thus alters the rate of domestic absorption in order to maintain macroeconomic stability. It may increase private or public spending, and hence increase economic growth, to solve the problem of inadequate domestic absorption. Alternatively, it may induce expenditure-reducing cuts in private or public sector spending, and hence reduce economic growth, to solve the problem of excessive domestic absorption.

SUPPLY-SIDE POLICIES

Supply-side policies alter the pattern of production of goods and services within an economy to increase the domestic production of goods and services and reduce the demand for foreign goods and services, thus reconfiguring the composition of domestic absorption away from externally produced goods and services and toward domestically produced goods and services. For this reason, supply-side policies are also called expenditure-switching policies because Y and X are increased and M is decreased.

MARKET DEREGULATION POLICIES

Supply-side policies involve dismantling a range of interventions that affect the operation of markets, to increase either the efficiency of resource utilization within an economy or the productive capacity within an economy, both of which promote an expansion of production and economic growth. Price controls, taxes, subsidies, trade restrictions and the operation of monopolistic state-owned enterprises bypass markets and so reduce the efficiency of markets in allocating resources in the real economy. Supply-side policies remove these distortions and thus deregulate the market to permit market-determined prices to reflect market-determined costs, better allocating the resources of households and firms and enhancing the supply capacities of the economy without cutting consumption.

Market deregulation is not the same as the elimination of all forms of restrictions on the operation of markets. Property rights and anti-trust laws and legislation are required in order to prevent abuses of monopolistic power in markets. Environmental laws and legislation are required in order to prevent households and firms abusing their access to environmental services. Social protection laws and legislation are required in order to prevent firms abusing their access to labour. Financial sector laws and legislation are required in order to prevent financial firms from abusing their access to household savings. There are thus a range of legal institutions that are required in order for markets to operate.

Internationally, and particularly in the 'developed' economies, the years 2008–2012 have seen an economic crisis generated by huge market failures. One reason for market failure is when the legal institutions that are required in order for markets to operate are not adequate. In the case of the economic crisis, inadequate modes of market regulation were a major cause of the crisis. In particular, inadequate regulation of financial markets resulted in excessive risk-taking in the financial economy, which, when it became heavily indebted, stopped providing credit for private firms, creating stresses in the private sector. Governments began providing guarantees to financial-sector firms and private firms before eventually assuming their debts, and a public debt crisis was created. Inadequate modes of market regulation thus created systemic market failure, which in turn required new forms of policy interventions to re-regulate markets.

EXERCISE 2

Objective: to use the macroeconomic concepts developed in the first part of the module to try and understand current macroeconomic policy dilemmas.

Participants should divide into groups of five. Using the concepts of consumption, investment, saving, government spending, government taxes, exports, imports, absorption, production and income, each group should answer the following questions:

1. How is the economic crisis being experienced in Asia and the Pacific?
2. How is the current economic crisis different from the 1997 Asian financial crisis in South Korea, Thailand and Indonesia?

After 30 minutes of discussion, each group should report back in plenary. Facilitators should look for common themes that emerge from each group.

C. THE MULTIPLIER AND THE ACCELERATOR

Ignoring tax payments to the government, households can consume or save their income, which means

$$C + S = Y$$

This means that consumption is a fraction of total income,

$$C = cY$$

where c is called the marginal propensity to consume out of an additional amount of earned income – here, the portion of income that goes to consumption expressed as a fraction. This also means that savings is a fraction of total income,

$$S = sY$$

where s is called the marginal propensity to save out of an additional amount of earned income – here, the portion of income that goes to savings expressed as a fraction. If tax payments are ignored, it follows then that

$$c + s = 1$$

Recalling

$$Y = C + I + G + (X - M)$$

Exports and imports are for consumption, investment or the government, and so can also be collapsed into total consumption, investment and government spending

$$Y = C + I + G$$

But government spending is also on consumption and investment, and so it too can be collapsed into total consumption and investment spending. This simplification results in

$$Y = C + I$$

As

$$C = cY$$

Then cY can be substituted for C , resulting in

$$Y = cY + I$$

Rearranging gives us

$$Y - cY = I$$

$$Y(1 - c) = I$$

$$Y = I / (1 - c)$$

This is the famous multiplier, derived by John Maynard Keynes and Michal Kalecki. Because c is less than 1 and in the denominator, the multiplier demonstrates that in a condition where some resources are not being used – less than full employment, in the terminology – investment will generate an increase in total income that is greater than initial investment. So investment drives economic growth. Moreover, the increase in incomes and output brought about by the initial increase in investment should lead to an acceleration of investment because of growth and further increases in income and output, by a principle known as the accelerator. For Keynes and Kalecki, the existence of multiplier-accelerator interactions was a strong argument in favour of government investment in the economy when the economy was at less than full employment of available resources, because the increase in output and income generated by the investment would be greater than the initial investment and would increase employment.² If the government did not have the money to undertake the investment, Keynes and Kalecki advocated government borrowing, again because of the increase in income brought about by the investment, which could in principle allow the borrowing to be repaid even as employment and output levels increased – the so-called balanced budget multiplier.

² As mentioned in earlier modules, the terms for describing who is and who is not a worker, and who is 'in employment', and who is 'economically active', have changed in 1968 and 1993, since the 1953 SNA, along with changes in the ILO definitions.

D. A TWO-GAP MODEL

As households can consume or save, their savings is equal to income minus consumption:

$$S = Y - C$$

The national accounting equation is

$$Y = C + I + G + (X - M)$$

Collapsing government spending into consumption and investment, the equation can be rearranged so that

$$Y - C = I + (X - M)$$

This means that

$$S = I + (X - M)$$

and finally that

$$I - S = M - X$$

This accounting identity says that a surplus of imports over exports allows a country to invest more than it saves, which through the multiplier-accelerator principle increases output, employment and economic growth in excess of the initial investment. If a country uses imports to invest more than it saves, it can show up in the balance of payments as a trade deficit. This trade deficit will have to be paid for in foreign exchange – that is, by borrowing from other countries. For investment goods to be imported in excess of exports, countries require access to foreign exchange to pay for those goods because the export of goods and services from the country does not provide sufficient resources to pay for the import of sufficient investment goods. Therefore, in a developing country, there exists a minimum foreign exchange requirement that can be financed through foreign borrowing, which can be used as a source of finance for two gaps:

1. The first gap is the gap between investment and savings. Growth can be constrained by insufficient savings to finance the purchase of investment goods. The difference between I and S is termed the investment-savings gap.

2. The second gap is the gap between imports and exports. Growth can be constrained by insufficient foreign exchange to finance the purchase of investment goods from abroad. The difference between M and X is termed the import-export gap, but is more commonly known as the foreign exchange gap.

Two-gap analysis emphasizes the roles of imports and foreign exchange in supplementing domestic savings to finance investment and its associated multiplier-accelerator effects, which spur growth. The analysis determines the size of the gap and hence the amount of foreign borrowing required to fill the gap, as well as the amount an economy would then have to allocate toward repaying the resulting debt to other countries in the future.

To get out of debt, the country must make investments with the foreign borrowing that generate an increase in the rate of savings that can be used to repay the borrowed amount. The increase in the rate of savings will be a function of an increase in the efficiency of production, and hence, an increased rate of growth, as production is increasingly determined in markets. Optimally, the increased efficiency of production should be for export, as an increase in the rate of exports is needed to address the foreign exchange gap. Thus, for developing countries a condition of long-term growth is that the balance of payments deficit does not constrain the economy. A simple rule of thumb to achieve this outcome is that the rate of growth of exports should be greater than the interest rate, which dictates the amount of money that has been directed to paying down debt; when such holds, export receipts will cover interest payments.

EXERCISE 3

Objective: to use a two-gap model to better understand macroeconomic imbalance.

Participants should divide into groups of four or five, with at least two economists per group. Each group should carefully examine Table 1, where domestic absorption is defined as private and public consumption

and investment. Gross fixed capital formation is total private and public investment. Gross domestic savings are defined as GDP less private and public consumption. The external balance is defined as net exports.

Using the data in Table 1, participants should take 30 minutes to think about the size of the investment-savings gap and the foreign exchange gap for Afghanistan, between 2002 and 2008. Participants should consider which constraint is more binding and why.

Table 1. Afghanistan Macroeconomic Balances, 2002–2008				
	Domestic absorption	Gross fixed capital formation	Gross domestic savings	External balance
2002	257.6	22.9	-38.1	-61
2003	347.5	37.9	-76.3	-114.1
2004	401.7	47.5	-81.5	-129
2005	494.5	105.9	-50.1	2. -155.9
2006	575.4	133.8	-56.1	-167.8
2007	704.4	154.6	-64.7	-198.7
2008	734.7	149.7	15	-192.5

Note: All figures are in current prices, in billions, and in the local currency.

Source: World Bank World Development Indicators 2011.

After 30 minutes of discussion, each group should share their answers in plenary. The following key points should be reviewed:

- Domestic absorption equals $C + I$. Therefore, domestic absorption minus gross fixed capital formation, or investment, gives final private and public consumption.
- Gross domestic savings equals GDP minus consumption.
- There are significant gaps between total investment and total savings. The gap can be estimated. It is filled by official development assistance, foreign direct investment, remittances and foreign borrowing.

- External balance equals net exports, which is negative, which says that imports exceed exports by the amount given in the column. The gap must be filled by official development assistance, foreign direct investment, remittances and foreign borrowing.
- In some years the foreign exchange gap is somewhat larger than the investment-savings gap; in other years the investment-savings gap is larger than the foreign exchange gap.
- Generally discuss the relation between external balance and domestic absorption; stress that when the foreign exchange gap is larger than the investment-savings gap the economy is absorbing more than it can afford to in order to invest and, through multiplier-accelerator effects, foster economic growth.
- Ideally, if investment is channelled into export production any foreign borrowing needed to pay for the investment will be repaid from increased export earnings.

Participants should reflect on whether these macroeconomic imbalances suggest that Afghanistan was following a good or a bad macroeconomic strategy.

A plenary discussion should follow about what this type of macroeconomic analysis can miss. It should be stressed that, between 2002 and 2008, Afghanistan was characterized by a vast trade in opium and munitions, a separate economy within the economy in the form of the US military, and a false economy supported by international multilateral organization staff, official development assistance, and the international media. Lack of security means that much of economic data that is available is based on little more than guesses.

Participants should reflect in plenary on the following questions:

1. Where do they think the macroeconomic balance estimates originated?
2. How reliable might they be?
3. What is missing from the estimates of macroeconomic balance?
4. Could the circular flow model accommodate these realities? If so, how?
5. What does the discussion tell us about what is included and what is excluded from the circular flow?

II. ECOLOGICAL ECONOMICS

A. INTRODUCING ECOLOGICAL ECONOMIES

Ecological economics is about the interactions between economic systems, which regulate the production, exchange and distribution of goods and services, and ecological systems, in which the living organisms and the nonliving elements in a certain defined physical area interact in order to sustain life. The focus of ecological economics is on preserving 'natural capital', which is defined as the stock of a complete ecological system that yields a flow of valuable goods or services derived from that ecological system into the future. As the flow of goods and services from ecological systems requires that they function as whole systems, the structure and diversity of the complete system are important components of natural capital. Natural capital is added to the neoclassical analysis of land, labour, physical capital and financial capital as a class of asset.

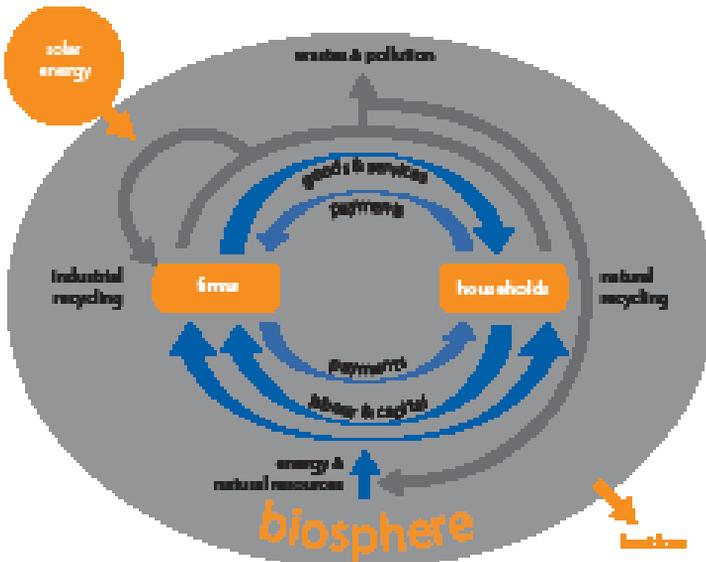
In ecological economics the world's economies are treated as a single sub-system located within the natural environment of the planet, exchanging matter and energy with the planet's environment. So, in making their living humans extract various kinds of matter and energy from the environment and put back various kinds of wastes that arise in the making of their living. For example, humans extract oil from their environment in order to make a living and put back sulphur dioxide and carbon dioxide from the burning of that oil. Thus, in ecological economics the environment and the economy are part of the same system.

Ecological economists argue that it is wrong to assume that economic theory can operate without accounting for the depletion of natural capital in theory and practice. They also argue that humans are only one of the planet's animal species, and along with all other forms of sentient life, are part of the interdependence of the planet.

B. AN ECOLOGICAL CIRCULAR FLOW MODEL

The circular flow can be adapted to reflect the interaction of the economy with the environment. In so doing, the circular flow is made both more complex and more realistic than that used by neoclassical economics. The input of the sun and the energy which sustains natural resources and environmental services, pollination, the natural resources necessary for food and medicine production, the provision of water and the services it performs, as well as natural recycling processes all serve as injections into the ecological circular flow. However, the wastes and pollution that are unable to be recycled, along with the loss that results from an inability to recycle wastes, all serve as leakages from the ecological circular flow.³

The ecological circular flow



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3 <http://coreybradshaw.files.wordpress.com/2011/04/fig2.png>

For more than two centuries humans have been changing the way the environment works, with increased levels of extractions from the environment and increased discharges of waste that are not recycled; as a consequence, carbon emissions have steadily increased, which has in turn resulted in climate change. A key focus of ecological economics is thus intergenerational sustainability and the earth's 'carrying capacity', which is defined as maximum population that the environment can sustain indefinitely given the food, habitat, water and other necessities derived from natural capital that are extracted from the environment. Early writers tended to target biological reproduction, and thus population size, as the major carrying capacity issue. This did not endear them to feminist activists because it placed control of women's reproductive abilities on the front line of ecological responsibility. More recent writers often focus instead on the issue of the extent to which natural capital is extracted from the environment without being replenished as well as the non-recycled waste and pollution that such extractions generate. These writers therefore locate the major carrying capacity issue as that of overconsumption.

The 2003 Integrated Environmental and Economic Accounting framework (SEEA) has been developed as a satellite system to the System of National Accounts to 'measure the contribution of the environment to the economy, and the impact of the economy on the environment'. It provides indicators and descriptive statistics for monitoring purposes as well as a database. The SEEA is an accounting framework with four categories.

- The first set of flow accounts provides industry level information about the generation of pollutants and solid waste in production. The focus is pollution, energy and materials as inputs and externalities arising from the production process.
- The second set of accounts identifies expenditure incurred by industry, government and households to protect the environment or to manage natural resources.
- Natural resource asset accounts record stocks and changes of stocks of natural resources such as land, fish, forest, water and minerals.

- Adjustments within the accounts concern defence expenditures, the calculation of depletion and degradation costs of macroeconomic aggregates, and the advantages and disadvantages of such depletion and degradation.⁴

The end result of the SEEA is to generate ‘environmental accounts’ in which an abstract monetary measure is estimated to represent the ‘value’ of ecological systems alongside a physical measure of natural resources. Thus, the SEEA is similar to attempts that seek to estimate a monetary value for the data gathered in time use surveys. This can be useful to demonstrate comparisons, but many ecological economists criticize the continued use of estimates of market valuation, arguing that such estimates locate the environment within the economy rather than seeing the environment and the economy as two parts of a single system. For these ecological economists biological and physical indicators are the key descriptors of the interaction between the environment and the economy and, like unpaid work, they see little need to estimate monetary values when exercising policy judgements.

Ecological economics has largely left issues of the governance of natural resources alone, but the award of the Nobel Prize in Economics in 2009 to the late Elinor Ostrom has brought the issue of natural resource governance into focus. Ostrom’s work is about cooperation, not competition, and about communities self-organizing to solve common problems, in particular in the governance of natural resource ‘commons’.⁵ In a manner similar to that demonstrated in Module 1, over many years and in many countries, Ostrom demonstrated how cooperation rather than self-interested competition can provide a means for the sustainable management of the resources of the ‘commons’, such as water, forestry, lands, the foreshore and seabed, and fisheries. Work towards the latter part of her life demonstrated that women’s participation in decision making at the user group level and in forest communities enhanced regeneration, reduced illegal harvesting with improved monitoring,

4 <http://unstats.un.org/unsd/envAccounting/seea.asp>

5 Ostrom, E. (2009) “A General Framework for Analyzing Sustainability of Social-Ecological Systems”, *Science* Vol. 325 no. 5939 pp. 419–422.

and increased a group's capacity to manage and resolve conflicts, which then increased compliance and respect for harvesting and use rules.⁶ In other words, the wisdom of local people to resolve their conflicts consistently worked better than the word of the expert from afar.

EXERCISE 5

Objective: to critically evaluate the usefulness of constructing monetary measures of natural capital.

The SEEA 'recognise water is an economic good' and thus try to value water. However, the issue of water valuation has stumped the experts for some time as they struggle to find a universal, catch-all market equivalent for something that falls as a 'free' 'gift' of nature.

Participants should divide into groups of four or five, taking 20 minutes to discuss the advantages and disadvantages of valuing water. In its discussions, each group should be encouraged to use the concepts of efficiency and equity when considering advantages and disadvantages. In plenary, efforts should be made to draw together the common themes that emerge from each group, during a general discussion of the implications of the common themes for the management of global water resources.

EXERCISE 6

Objective: to critically assess the strengths and weaknesses of the ecological circular flow model for policy purposes.

The UN Secretary General's High Level Panel on Global Sustainability, Resilient People Resilient Planet: A Future Worth Choosing, reported

6 Sun Y, Mwangi E, and Meinzen-Dick R (2010) "Gender, institutions and sustainability in the context of forest decentralisation reforms in Latin America and East Africa", CIFOR Info, No 25, August.

in January 2012. Six key elements of its vision are listed below. The Facilitator should place each element on the screen one at a time and then lead a plenary discussion around the set of discussion questions noted below.

Key element 1. The need to integrate the economic, social and environmental dimensions of development so as to achieve sustainability was clearly defined a quarter of a century ago. It is time to make it happen.

Discussion questions:

1. Why has this not happened?
2. Would it have anything to do with the dominance of the neoclassical economic model?
3. What have been the vested interests that have sought to maintain the dominance of this model in Asia and the Pacific?

Key element 2. The current global development model is unsustainable.

Discussion question:

1. What do you understand as the meaning of 'sustainable' in the context of the model of development practised in Asia and the Pacific?

Key element 3. Most economic decision makers still regard sustainable development as extraneous to their core responsibilities for macroeconomic management and other branches of economic policy. Yet integrating environmental and social issues into economic decisions is vital to success.

Discussion questions:

1. How difficult would it be in your country to convince economic decision makers of the need for this change?
2. What strategies might be adopted in the national planning machineries to move towards such a change?
3. What capacity challenges would moves towards such a change present?



Keyelement4.Theinternationalcommunityneedswhatsomehavecalled“anew political economy” for sustainable development.

Discussion question:

1. What do you think the key features of ‘a new political economy’ might be?

Keyelement5.Anapproachshouldbeagreedtoquantifytheeconomiccostof sustained social exclusion.

Discussion questions:

1. Is this necessary?
2. Is this a good idea?

Keyelement6.Weneedtoexpandhowwemeasureprogressinsustainable development by creating a sustainable development index or set of indicators.

Discussion question:

1. Earlier modules have highlighted the problems of a ‘one size fits all’ approach. Can you see any problems with the establishment of an index or set of indicators that are supposed to be common to all nation states, including the issue of who will be in charge of determining what is and what is not in this index?

At the conclusion of the discussion, the Facilitator should summarize the general themes that have emerged from the discussion.

III. GENDER-RESPONSIVE MACROECONOMICS

Objective: to enable participants to explain the key concepts of gender-responsive macroeconomics.

A. THE ROLE OF UNPAID CARE WORK IN MACROECONOMIC FLOWS

- A. As demonstrated in modules 1 and 3, households are where unpaid care work and other unpaid labour takes place – productive activities that are excluded from the macroeconomic models discussed above.
- B. Households do not just spend their income on what is produced. Without unpaid care work, many consumption goods (e.g., food) could not be consumed and the production and sale of goods and services by firms could not take place because such production relies upon households using unpaid care work to produce labour capable of working.
- C. Macroeconomic analysis therefore needs to include labour as a produced factor of production, taking place in households and requiring unpaid care work and the allocation of real resources for investment in the capabilities of labour, otherwise known as human capital.
- D. Unpaid care work also takes place outside the household in the form of unpaid voluntary, traditional or community work, which contributes to the maintenance of the rules, norms, and values of civic responsibility and social community.

B. THE ROLE OF GENDER IN MACROECONOMIC VARIABLES

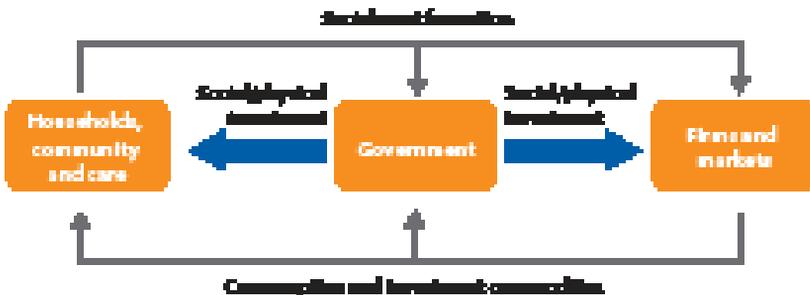
1. Households are assumed to act in a unified way in macroeconomics, but as demonstrated in Modules 1 and 3, this assumption cannot be sustained.
2. The intra-household division of labour between women and men determines the division of labour between the productive and financial economy and household activities. Gender relations thus segment labour markets; as demonstrated in Module 5 on Employment and Labour Markets, unpaid care work affects and is affected by segmented labour markets, and households are crucial to mediating the relation between the two forms of labour. This affects production, productivity and incomes (Y), which in turn affects consumption (C), investment (I), savings (S) and the distribution of output.
3. So aggregate macroeconomic variables – consumption, investment and savings – may be systemically gender differentiated. There is ample evidence to support this proposition.

C. A GENDER-RESPONSIVE CIRCULAR FLOW

1. Gender-responsive macroeconomics reconceptualises the economic production of national output by adding a sector – the household and community care sector – to the traditional conception of the economy as the interaction of the private (i.e., small and large business) sector and public (i.e., government) sector. Each of these sectors can be considered as economies in their own right.
2. The informal sector remains undercounted, and the subsistence sector is not counted, regardless of the SNA rules on the boundary of production. This has gender implications that must be explored
3. The private sector supplies consumption (C) and investment (I) goods and services to the public and household and community care sectors. The private sector is regulated by markets.

4. The public sector provides social and physical infrastructural investment (G) used for consumption and investment in both the private and household and community care sectors. The public sector affects the flow of income and products. It is market-regulated, but less so than the private sector. The employment pattern in the public sector may have gender implications that must be explored.
5. The household and community care sector produces goods and services for use by individuals, households and communities. It supports the private sector and the public sector by supplying potentially productive human capital as well as social capital. Women work unpaid in the household and community care sector. The sector is regulated not by markets, but by social norms and conventions that reflect the unequal power relations that exist between women, third gender persons and men. The employment pattern is affected by gender, and must be explored.

A gender-responsive circular flow

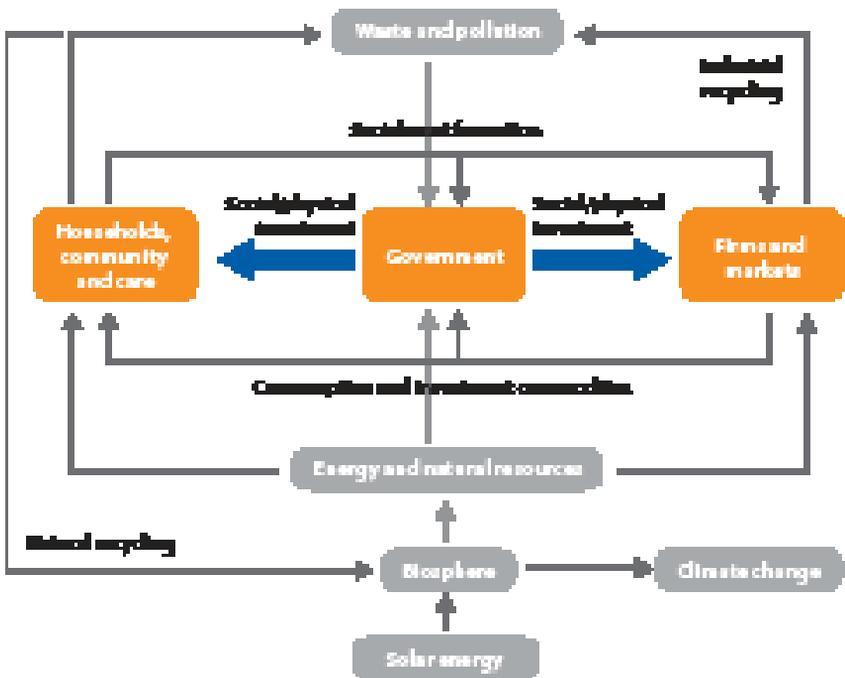


D. A GENDER-RESPONSIVE ECOLOGICAL CIRCULAR FLOW

The ecological and gender-responsive circular flows can be integrated into a single circular flow diagram that accommodates both natural capital and unpaid work. The gender-responsive

ecological circular flow embeds the relationships between the household and community care sector, the government, and firms and markets within the injections and leakages that affect and are affected by the stock of natural capital. The Participants are encouraged to review and redraw the gender-responsive circular flow described in Section III.C and then add to it the ecological circular flow described in Section II.

A GENDER-RESPONSIVE ECOLOGICAL CIRCULAR FLOW



Participants are encouraged to discuss in plenary the gender-responsive ecological circular flow in sufficient detail to ensure that all participants are clear about the relationships that it captures.

E. GENDER-RESPONSIVE MACRODYNAMICS: THINKING ABOUT POLICY

1. The gender-responsive ecological circular flow is a comparatively recent development in economics and there is no consensus about how to formalize the relations among the private, public, and the household and community care sectors and their relationship with the ecosystem. The integration of gender-responsive macroeconomic analysis into an understanding of the financial economy is also contentious.
2. It is clear that the unpaid economy affects the performance of the private sector, in both its real and financial-sector activities, as well as the performance of the public sector. Simply put, if unpaid work ceased, the private commodity economy and the public service economy could not work.
3. It is also clear that changes in the real and the financial economies affect the household and community care economies. In the recent global economic crisis, increased unpaid care work in households has acted as an invisible social safety net for those rendered unemployed as market failures in the private sector were compounded by cuts to government services, necessitating increases in unpaid work.
4. As there is no consensus, a starting point by which to consider macroeconomic dynamics from a gender perspective is to review the key insights elaborated earlier in this module.
 - Domestic absorption ($C + I$) requires the provision of unpaid care work. This suggests that in the short run, the inability to supply an adequate amount of unpaid care work may be a source of macroeconomic imbalance. It also suggests that in the long run, a reduction in the amount of unpaid care work will require a corresponding increase in paid care work if macroeconomic imbalances are to be avoided.
 - Demand- and supply-side policies designed to reconfigure the rate of domestic absorption should be considered from the perspective of their effect on the household and community care economy.

- Demand-side policies that seek to reduce spending may be predicated upon an unacknowledged increase in unpaid care work, with implications for gender equality. Demand-side policies that seek to increase spending can do so in ways that redistribute and ultimately reduce unpaid care work, with implications for gender equality.
- Supply-side policies that seek to increase productive efficiency as well as multiplier-accelerator interactions are affected by gender relations. The capacity of such policies and investment to bring forth proportionately greater increases in output and income are predicated upon an expansion of paid employment that may require an intensification of unpaid care work – or may not be forthcoming because of insufficiently qualified labour force due to the exclusion of women, or underinvestment in women’s education and skills training. Alternatively, supply-side policies may be predicated upon investments in infrastructure that reduces unpaid care work and in so doing facilitates an expansion of paid employment, increasing production.
- The same logic is true of policy approaches to the foreign-exchange gap: it should be evaluated from the perspective of the impact that it has on unpaid care work, because unaddressed gender inequalities may prevent this gap from closing, with harmful effects on the national debt.
- Given the importance of investment to economic growth, it is also necessary to reconsider the meaning of investment. In macroeconomics, investment is expenditure in the present that defers current consumption to increase consumption in the future. Spending on education and health are therefore not considered investment because the expenditure in the present increases the consumption of education and health care in the present. Yet it is well-established that spending on social investments in health and education generates a stream of benefits in the future; as human capital is built and productivity enhanced, consumption in the future is increased. There is ample evidence to support this proposition. The multiplier-accelerator interactions emerging out of investment

in human capital formation can generate a strong case for social investment directed at women to reduce unpaid care work, with implications for gender equality.

- The two-gap accounting identity ($I - S = M - X$) needs to be considered from a gender perspective. Inadequate savings to finance the investment savings gap may emerge from gender-differentiated savings patterns, as evidence demonstrates that, in the aggregate, women save more than men do. It is also necessary to reconsider the character of investment: Investment in female human capital formation has implications for gender equality and long-run productivity.
- It is important to embed these gender dynamics within the fact that when making their living humans extract various kinds of matter and energy from the environment and put back various kinds of wastes that arise in the making of their living. Currently, leakages exceed injections, in that the amount of waste and pollution that is generated exceeds the capacity of the ecological system to recycle it, with the result that climate change is taking place. Macroeconomic policy needs to evaluate ways to re-establish balance between ecological injections and ecological leakages at lower aggregate levels of consumption of natural capital.

Notwithstanding this last point, when considering the operation of the macro economy, it is necessary to consider whether there is a care gap that policy can – or must – address.

An important conclusion is to reinforce that a starting point for a gender-responsive macroeconomics is to commence analysis from the perspective that gender relations permeate the major macroeconomic variables. Production (X), incomes (Y), consumption (C), investment (I), savings (S) and the distribution of output must be considered as an outcome of a prevailing structure of gender relations – possibly conceptualized as a third sector in the economy – that reflects and is reflected in the distribution of unpaid care work. As noted in Module 3, then, the capacity of an economy to supply adequate amounts of care is an important constraint on economic activity in the real economy, and the supply of care may be predicated upon gender inequality.

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