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Demand-side policies for employment promotion in low- and middle-income countries

Adam Aboobaker and Jo Michell



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► Foreword

Building on more than 20 years of experience, the ILO has strengthened its advocacy for demand-side policies to support the goal of full and productive employment, in line with the ILO Employment Policy Convention, 1964 (No. 122). As captured by the new generation of national employment policies, ILO constituents have called for a coherent set of macroeconomic, sectoral and labour market measures, which support the creation of decent jobs.

Since March 2020, the COVID-19 crisis has deeply impacted labour markets around the world, particularly in developing countries and among certain sectors and groups, such as women, youth and those in the informal economy. The labour market recovery was strong at the end of 2021 in high-income countries, while deficits persist in low- and middle-income economies. However, the shocks emanating from the Ukraine conflict has created a new global crisis that stems from inflation, especially in essentials, such as food and fuel, supply chain disruptions and debt sustainability challenges. This situation makes the imperative of creating decent and productive jobs more important than ever, especially as a key pillar of employment recovery strategies.

To support ILO constituents in this endeavour, it is critical that there is greater clarity on key concepts linked to demand-side policies and how they can support job creation in a developing-country context. In this regard, the design of such policies requires careful consideration of the specific constraints faced by low- and middle-income countries. This policy design should take into account not only the labour market, sectoral and financial structures and the external position of the economy, but also the long run development goals of the country.

This paper prepared by Prof. Jo Michell and Dr. Adam Aboobaker of the University of West of England Bristol makes an important contribution to developing these issues further through a literature review and an exposition of key concepts and definitions. The framework proposed will support the analysis of job creation measures within a broader employment policy context and further thinking on this critical area of policymaking in low- and middle-income countries.

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► 1. Introduction

High rates of unemployment and underemployment are widespread in many low- and middle-income countries (LMCs). Progress has been disappointing during a period in which the historical policy focus on capital accumulation and structural transformation was superseded by microeconomic policy interventions aimed at education and skills development, and reforms to promote efficient institutional structures and financial systems. Poverty reduction policy driven by microeconomic data and randomised controlled trials has largely replaced attempts to influence macroeconomic variables and the structure of production (Thorbecke 2019). The specific challenges of macroeconomic management for structural transformation do not receive substantial discussion in the contemporary development literature.

Since the 2008 crisis, however, the wider consensus has shifted, both in policy-making and in the academic literature. The emphasis on skills promotion has lessened, and increasing focus is placed on the demand side. It is widely accepted that rich countries have suffered from *secular stagnation* – persistent deficiency of aggregate demand alongside weak growth in capital investment and productivity – and from *hysteresis* – persistent negative labour market responses to weak demand (Summers 2015). Both the academic literature and policy organisations increasingly conclude that monetary policy acting alone is insufficient to counter stagnationary tendencies, fiscal policy has an important role, and weak demand can have permanent negative effects on growth and productivity and thus the creation of good jobs (Blanchard and Summers 2017; Auerbach and Gorodnichenko 2017; Caballero, Farhi, and Gourinchas 2017). In response to problems such as climate change, stagnating productivity growth and rising geographical inequality, there is increasing acceptance of state involvement in investment; industrial policy is back on the agenda (D. Rodrik 2008; Cherif and Hasanov 2019).

The implications for traditional conclusions about growth and development are significant. It is usually assumed that long-run growth in output and employment is determined by supply side factors, independently of “cyclical” variations in demand. This looks increasingly implausible in light of empirical and theoretical work identifying links between shortfalls in demand, weakness in capital investment, and persistent shortages of good quality jobs (Ball 2014; Benigno and Fornaro 2015). Weak demand may not only cause unemployment in the short run but, if persistent, may negatively affect capital accumulation and structural transformation in the longer run. Alongside industrial policy targeting investment and technological advancement in high productivity sectors, active fiscal and monetary policy may be required to prevent demand weakness.

The shift in policy has arguably run ahead of theory. Rich countries implemented large fiscal and monetary responses to the COVID-19 pandemic. LMCs have seen novel, if smaller, policy responses, reflecting structural and external constraints to the use of macro policy tools. The shifting consensus on macroeconomic management, alongside increasing acceptance of industrial policy, provides an opportunity for reconsideration of demand-side job promotion policies in LMCs.

Design of such policy requires consideration of the specific constraints faced by LMCs: policy design should consider labour market structure, sectoral structure, financial structure, the external position, and the long run development aims of the country.²

In this paper we provide a structured review of the relevant literature, and an exposition of key concepts for the analysis and design of demand-side policy for sustainable employment promotion. We hope this will be useful to those involved in policy design who are not familiar with all of the literature and debates on these issues. We proceed as follows. Section 2 provides definitions of important concepts and variables. Section 3 reviews the relevant literature and provides an overview of the key issues. Section 4 develops a framework for the analysis of demand-side job promotion policy (the technical analysis in this section is extended in the Annex). Section 6 provides a discussion of key issues to consider when designing employment promotion policies in LMCs.

² The ongoing effects of the Covid-19 crisis, and the impact of the war in Ukraine cast doubt on the chances of successful re-orientation of macro policy in LMCs. Supply bottlenecks and price increases have prompted policy tightening in rich countries, reducing policy space in LMCs. There is a risk that, alongside unequal access to vaccines, constraints on LMC policy due to higher rates of interest, elevated debt stocks and the risk of capital outflows may lead to divergence in economic outcomes between rich countries and LMCs (UNCTAD 2022)

► 2. Definitions of key concepts

2.1. Employment and unemployment

An important feature of LMCs is the presence of substantial numbers of people who are willing and able to enter formal employment at the current given wage. We will focus on the problem of generalised unemployment, or *excess supply* of labour, rather than issues such as skills shortages leading to *excess demand* for skilled workers, or issues resulting from labour market frictions and matching problems.³

The conventional approach to employment status classification is to assign individuals to one of three groups: the *employed*; the *unemployed*, who wish to work and are therefore active in the labour market; and the *inactive*, who are of working age but are not currently in work or seeking work. Reasons for inactivity vary substantially and include ill health, participation in education or not requiring an income from work.⁴

In LMCs the unemployment problem is often more severe and the boundaries between employment, unemployment and inactivity less well defined than in high income countries. By some estimates, over half of persons classified as employed in low-income and low-middle-income countries are *self-employed* (ILO 2019). In many cases, self-employment is not an active choice but reflects the lack of available formal employment. Earnings are generally lower and legal protections weaker for self-employed workers (Fields 2019). LMCs are characterised by extensive informal activity (such as street selling) and disguised unemployment (such as families sharing available income on a farm). The “discouraged worker” – those switching to inactivity in reaction to lack of decent jobs – is a useful concept which has received considerable attention in economies with high rates of open unemployment.

We will focus on the question of how demand-side policies can be used to raise both the quantity and quality of employment in a situation of substantial worklessness and underemployment.

2.2. Total expenditure

The term *aggregate demand* suffers from lack of precision: the textbook definition refers to a *relationship* between total expenditure and variables such as the rate of interest or the price level (the aggregate demand curve), but the term can also refer more simply to a magnitude of expenditure or production (such as gross domestic product).⁵ We use the more precisely defined term *total expenditure* in place of *aggregate demand* where possible.

In the national accounts, total expenditure by agents in the domestic economic area, E_D , is defined as the sum of three categories of expenditure: capital formation (or investment), I , private sector consumption, C , and government consumption, G . These are all *flow variables* meaning that they are defined over a given time period (usually years or quarters in national accounts reporting) within a specific legal or geographical area, expressed in units of the relevant currency:

$$E_D = C + I + G$$

These expenditures are simultaneously *incomes* for producers: cash spending on grain for consumption is cash income for producers and distributors of grain, and likewise for other goods and services.

³ These issues are important, but they are already widely discussed, in contrast with issues of general shortfalls of demand. Further, it is possible for there to be excess demand for *particular types of labour* – workers with particular skills, for example – alongside generalised excess supply.

⁴ This three-way classification means that *unemployment* data need to be treated with caution. The *unemployment rate* is defined as the ratio of persons unemployed to *active* persons (the sum of the *employed* and the *unemployed*). Since the *inactive* are excluded from the denominator, the number of people unemployed and the unemployment rate can fall *without* an increase in employment if people switch from unemployment to inactivity.

⁵ The original definition provided by Keynes in the *General Theory*, a functional relationship between entrepreneurial income and employment, differs from both currently used meanings of the term.

The definition above tells us the sum of expenditures by agents located within a given geographic area but does not tell us total *income* in that geographic area.⁶ This is because some portion of domestic expenditure, E_D , will be spent on imported goods and services and thus is received as income by overseas recipients rather than domestic agents. Similarly, domestic income is augmented by expenditures by foreign agents in the form of export receipts.

Since we are interested in *employment*, and employment occurs in *production*, a more useful definition for domestic policy makers is *total expenditure on domestically produced goods and services*. We obtain this by subtracting expenditure on imports, M and adding income from exports, X . We thus augment the definition above with a term for *net trade income from abroad*, $(X - M)$, to provide the following definition:

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

This has the further advantage that E , defined this way, is equal to gross domestic product, Y , (the money value of total domestic production) which is equal to total domestic income (the sum of wages, profits, rents and so on).

Total expenditure, E , therefore refers to the sum of all expenditure on goods produced within the macroeconomic unit of interest. Where we use the term *aggregate demand*, it should be understood as equivalent to *total expenditure* as defined here.

2.3. Capacity and the capital stock

When considering the causes of unemployment, it is necessary to distinguish *weak total expenditure* from *insufficient productive capacity*. This requires some definitions regarding the supply side. Production for the market takes place when labour works with means of production, or *capital*.⁷ To simplify the analysis, we assume that a *fixed proportions technology* is employed: each unit of capital must be worked by a fixed quantity of labour. This means that a given stock of capital imposes a maximum level of employment. We use this assumption to simplify the analysis, and because we consider this more plausible than the regularly adopted assumption of substitutability between labour and capital.⁸

The fixed proportions assumption implies a straightforward definition for the *capacity* constraint of an economy: any given stock of capital imposes an upper limit to production and employment. We can define the rate of *capacity utilisation* as the ratio of current production, Y , to the maximum possible production with a given capital stock, Y^* .⁹

2.4. Labour demand

As with *aggregate demand*, *labour demand* is a potentially ambiguous term. We define labour demand as a *quantity of employment available*: the hours of work that can be performed at the current wage.¹⁰ In simple competitive labour market models, the wage adjusts to ensure that supply is equal to demand. These models are now widely accepted to be over-simplified and misleading (Carlin and Soskice 1990; Bewley 1999; Pissarides 2011). They are particularly inappropriate in the case of LMCs where wages are often not much above subsistence levels and there is no plausible route to substantially higher employment through wage cuts.

⁶ The magnitude E_D is sometimes referred to as *domestic absorption*, meaning the quantity of goods and services *absorbed* by domestic residents. See, e.g., Taylor (1988); Vines (2008); Temple and Van de Sijpe (2017).

⁷ For the purpose of this discussion, we will define the capital stock as the plant and machinery, infrastructure (such as transport), and other physical means of production that are involved in the productive process. This is a narrower definition than is sometimes used: *capital* can also be defined to include financial assets, legal entitlements such as patents, educational attainment, accumulated knowledge and more.

⁸ A possible objection is that, in the case of capacity-constrained employment, prices adjust so that capital is reallocated so that all a labour is employed. Some adjustment is possible, but evidence suggests that the elasticity of substitution between labour and capital – a measure of the ease with which scarce capital can be replaced with abundant labour – is less than unity (see León-Ledesma, McAdam, and Willman 2010; Semieniuk 2017; Gechert et al. 2021). Further, capital is production specific: while macroeconomic models tend to assume a single type of output, the reality is that medical imaging machines cannot be readily re-deployed for production of computer processors. Less sophisticated capital – cement production, for example – is, of course, more fungible – but increased technological sophistication comes with increased specialisation. These two factors – low elasticity of substitution and technological specialisation – suggest that the assumption of capacity-determined maximum rates of production and employment are not too implausible, so that many results which hold under the fixed proportions assumption will carry over to the more general case.

⁹ Algebraically, capacity utilisation, $u = Y/Y^*$. This can be related to the ratio of output to the capital stock, K , by decomposition such that $Y/K = (Y/Y^*) \times (Y^*/K) = uv$, where v is a technical coefficient representing the ratio of full capacity output to the capital stock.

¹⁰ This includes both formal employment and self-employment.

Instead, we treat the macroeconomic demand for labour as a *derived demand*: the demand for labour relies on employers expecting a market for their output. Changes in total expenditure will lead to changes in the demand for labour (including the demand for self-employed labour). We therefore posit a *macroeconomic employment relationship* stating that labour demand (available hours of employment or self-employment) will vary positively with total expenditure. This can only occur, however, *if spare capacity exists* so that increased production and employment can be accommodated without price changes. If spare capacity is *not* available, increased expenditure will lead to price changes.

Over the longer run, sustained job creation requires growth in capacity: with an upper limit set by the capital stock, employment promotion beyond the short run requires increases in productive capacity through *capital accumulation* (see Aboobaker and Ugurlu, 2020 for detailed discussion of this issue and An et al., 2017 for discussion of the evidence on the relationship between growth and employment).

2.5. Demand-side policies

Demand-side policies are interventions aimed at increasing one or more components of total expenditure. In a discussion of demand-side policies in LMCs, Dutt (1996) provides the following definition:

...[p]olicies that deal with problems of economies suffering low levels of output, employment and growth. ...Included are cheap money policies, deficit financing, increased government spending, government investment, and redistributive policies shifting the distribution of income towards poorer consumers with higher propensities to consume.¹¹

This is a broad definition which encompasses a wide range of policies. The breadth of definition may be unhelpful in that it includes policies which affect total expenditure by raising consumption, and policies that affect *both* expenditure *and* supply side capacity by raising investment. Dutt's definition includes policies deployed in examples of both successful structural transformation and in cases of failed structural transformation.

The common *demand-led* element is that these policies aim to generate an *expenditure-driven* effect: the intention is to raise the level and/or growth rate of one or more components of total expenditure on the assumption that sufficient capacity and unemployed labour are available to accommodate a short-run increase in production and employment.

We can increase precision by distinguishing between *consumption-led* and *investment-led policies* (See Section 4.5.2 for discussion of export-led policies).¹² The former aim to increase consumption expenditure for *given capacity*, thus raising capacity utilisation in the short term. The latter either directly or indirectly aim to raise the rate of investment thus increasing output and employment in the short run *and* the capital stock, and thus capacity, in the longer run.

Policies that generate increase in expenditure on investment thus have an important *supply-side* component. In the case of LMCs, increases in supply capacity through investment are a crucial element of the structural transformation process. The effectiveness of demand-side policies will generally be enhanced when augmented by policies with a supply-side character such as industrial policies targeting particular sectors or industries. This meaning of *supply-side* should not be confused with the widely-used term, *supply-side policies*, which often refers to policies which aim to generate an improvement in efficiency by reducing impediments to market function – such policies include liberalisation of markets, privatisation and deregulation.

The policies listed by Dutt can usefully be further categorised using the consumption-led/investment-led distinction:

Cheap money policies refer to interventions that aim to reduce the cost of funding for firms, households and/or government. This may lead to increased investment if lower funding costs stimulate firms to raise investment expenditure. Cheap money policies can also lead to consumption booms if consumer credit is used to finance consumption. Such consumption-led credit effects are often partially driven by wealth effects caused by growth in the prices of houses and financial assets.

Government spending raises total expenditure directly. Government consumption expenditure is typically a substantial proportion of GDP, while government investment tends to be lower. Government consumption

¹¹ Dutt refers specifically to “Keynesian” policies; we regard the terms *Keynesian* policy and *demand-side* policy as broadly synonymous.

¹² See Dos Santos (2015) for an analytical discussion of consumption-led and investment-led *regimes*.

expenditure includes both purchases of goods and services from the private sector and direct employment by government. In the case of public investment, quality of spending matters – well-designed and targeted government investment in infrastructure, research and development and “social infrastructure” such as care provision can have substantial positive medium run effects in addition to the short-run effects on output and employment, while badly designed projects may generate short-run increases in employment but no increase in productive capacity.

Social infrastructure and the “care economy” provide examples of public goods provision and regulation that do not neatly fit the consumption-led/investment-led distinction. While hiring care workers may be classified as government consumption, a well-functioning care system is likely to raise output and productivity, and to raise labour force participation, particularly for women who provide the majority of unpaid care. Similar points can be made about expenditure on low-carbon energy production, pollution reduction and other environmental investments. While these may not immediately increase productive capacity, such investment will generate jobs in the short run, and will contribute to mitigation of the supply-side impacts of climate change and environmental degradation and, in mature economies, low population growth and demographic change.

Taxation policies can affect total expenditure in several ways. In general, a higher share of tax in national income will be expected to reduce total expenditure, if not offset by other measures. However, if taxation is levied on those with a low propensity to consume, and matched by increases in government spending, the overall effect will be to increase total expenditure, an effect is known as the *balanced budget multiplier*.

Distributional policies aim to raise total expenditure by shifting the distribution of income away from those on high incomes to those on lower incomes. On the assumption that those on lower incomes tend to spend a greater share of their income, downward redistribution may be expected to raise expenditure. Policies that alter the distribution in this way include minimum wages, and transfer payments to those on lower incomes alongside taxation of those on higher incomes. These kinds of distributional policies can be considered consumption-led because the majority of the spending of those on low incomes is directed to consumption.

Deficit financing refers to a situation in which government spending exceeds taxation; since taxation reduces disposable incomes it is likely to reduce expenditure. Higher deficits *resulting from policy decisions* to raise spending relative to taxation will thus be expected to raise total expenditure.¹³

Successful investment-led policies will produce both a short-run effect on output and employment and a longer-run increase in capacity. “Consumption-led” and “investment-led” are not absolute categories, and most policies will involve elements of both. Investment and consumption expenditures are not independent: in the short run, increased investment is likely to lead to increased consumption as a result of higher employment in the production of capital goods and thus an increase in total wage income and consumption. It is also plausible that investment will respond to consumption demand: if consumption-good firms see increased demand they may respond by raising capacity. Thus, investment-led policies will raise consumption, while consumption-led policies may also stimulate investment.¹⁴

¹³ Care must be taken in inferring that higher public deficit mean higher total expenditure because deficits can also increase as a result of falls in private sector expenditure: deficits generally increase in a recession.

¹⁴ It is important to distinguish between levels, shares and growth rates. For example, increased investment may stimulate consumption expenditures such that absolute levels of both investment *and* consumption rise. In this case, higher investment may not lead to a higher *investment share* in total expenditure, despite the increase in total output and growth rates.

► 3. Employment promotion in low- and middle-income countries

3.1. Demand-side policy and low- and middle-income countries

An early theme in the nascent macro-development literature of the 1950s was the need to distinguish the character of unemployment in underdeveloped economies from the unemployment problem of advanced economies. Policies to address the latter were informed by the Keynesian ideas that developed in the wake of the 1930s depression. Early writers on development were sceptical about the application of these ideas and policies to developing countries: Rao (1952) argued against the “rather unintelligent application of ...Keynesian economics to the problems of the underdeveloped countries”, questioning the relevance of the consumption multiplier to contexts of inelastic consumption-goods supply due to agricultural or industrial incapacity. Kalecki (1955) raised similar concerns, emphasising the potential for inflationary dangers in cases of rigid food supply. Instead of advocating deficit spending, Kalecki emphasises the importance of tax policy to put downward pressure on capitalist consumption to mitigate inflationary tendencies during the development process Ghosh (2005).

Harris (1996) echoes this scepticism regarding the relevance of Keynesian policy for addressing growth problems in the developing country context, given the scale of the challenge of the structural transformation required to raise the share of tradables in output and the difficulties in conducting domestic monetary policy under the threat of capital flight. The problem of underdevelopment, it is argued, calls for an approach which considers the need for structural transformation in the context of the specific features of the economic system at hand, rather than adopting a one-size-fits-all approach to theorising the growth strategy that underpins development policy.

The structuralist macroeconomics literature, associated in particular with Latin American scholars, highlights important constraints on employment expansion in LMCs – productive capacity constraints, external trade and financing constraints and fiscal constraints – but also acknowledges that demand management policies are likely to have an important role to play in generating sustained growth in output and jobs. An important theme in this literature is the need to consider the “dual” nature of labour markets in LMCs: a large pool of underemployed surplus labour commonly exists outside of the formal, technologically advanced capital-intensive sector where rapid growth is feasible (Merotto, Weber, and Aterido 2018; Skott 2019). Job creation in LMCs thus requires rapid expansion of the formal sector to absorb surplus labour. Structuralist authors argue that the productivity growth needed for sustainable generation of good quality jobs does not originate purely on the supply-side, as in conventional models, but is also driven by demand: “productivity growth is as much a result of as a cause of economic growth, largely because demand matters not only for short-term but also for long-term growth” (Ocampo, Rada, and Taylor 2009, 145) This echoes the historical argument made by Rosenstein-Rodan (1943) who emphasises the need for substantial capital investment and upgrading, but also the importance of demand externalities in ensuring a market for manufactured goods.

Pessimism about Keynesian policy is countered by Dutt (2019) who argues that cases may exist where deficient total expenditure limits both output and growth. He argues that agricultural constraints may be over-stated, that capital reallocation may be possible (i.e., that fixed-proportions technology assumptions may be too restrictive), and that there may be levels of output at which foreign exchange constraints do not bind, and aggregate demand is instead the limiting factor. Dutt also expresses scepticism about excessive concern about public sector debt limits. Dutt (1996) and Thiruvadanthai (2018) argue that expansionary fiscal policy, and public investment in particular, played an important role in India's growth spurt in the 1970s and 1980s.

The experience of high growth Asian economies provides mixed evidence on the role of demand-side policies. In the case of China, Herr (2010) and Michell (2012) argue that China's high growth period – a period of job creation on an unprecedented scale – was characterised by sustained positive feedback between state-directed credit to state-owned enterprises, sustained investment spending by state-owned enterprises and retained earnings in the corporate sector (see also Beggs et al. 2019). Notably, this expansion took place without the use of Washington Consensus development policies such as capital account and financial sector liberalisation (see ILO 2015). Instead, credit was allocated using the state-owned banking system. In other Asian economies, similarly successful growth strategies also appear to contravene the standard policy contemporary proposals of the time: instead of

liberalisation and deregulation, successful East Asian economies combined easy monetary and credit conditions with directed lending, and expanded public provision with fiscal constraint. Rapid capital accumulation was a notable feature of high growth periods (Rodrik 1997).

More recently, high-growth economies in Africa and Latin America paint a more complex picture of the drivers of (employment) growth. Diao, McMillan, and Rodrik (2019) argue that in both cases, the East Asian pattern of rapid capital accumulation and sectoral transformation has not occurred: instead, it is argued, expansion of activity in the African countries studied has been driven by external demand, and this has concentrated activity in *less* advanced sectors and has been accompanied by *declining* productivity in the modern sector. In Latin American countries, within-sector productivity increases were documented, but these occurred without significant structural change. Whether recent expansions in output and employment can be sustained, given these patterns, remains to be seen.¹⁵

3.2. Consumption-led policy

A range of policies have been put forward that fall into the category of *consumption-led*. In some cases, policies that will raise consumption are justified with claims that these policies will raise growth: policies introduced with the aim of poverty reduction or basic needs support are sometimes argued to be simultaneously growth-enhancing. It is important to acknowledge, however, that in some cases trade-offs cannot be avoided, and that raising consumption may in the short-run may be in tension with raising the rate of growth and facilitating structural transformation.

The extensive literature on “wage-led growth” provides an example of advocacy for consumption-led policies. Proponents argue that raising the wage share will raise consumption, because the propensity to consume out of wages is higher than out of income from capital, and this will in turn stimulate higher investment, raising the growth rates of output and employment. A large empirical literature classifies countries depending on whether this mechanism holds: countries where a higher wage share is expected to raise growth rates are labelled *wage led*, while countries which are predicted to show the opposite effect are labelled *profit led*. The literature argues that most rich countries are wage led.

The literature on the prospects for such strategies in developing countries is more limited (Razmi 2016; Ros 2016; Lavoie 2020). On the basis of statistical analysis of a large sample of both high-income countries and LMCs, Onaran and Galanis (2014) do not find evidence of a wage led demand structure for most of the LMCs in the sample, although they also find little support for wage restraint policies. Using a similar theoretical framework, Akcay et al. (2021) provide a categorisation of eight large middle-income countries into one of four possible demand-driven regimes: 1) debt-led private demand, (2) export-led mercantilist (3) weakly export-led, and 4) domestic demand-led.

Building on long-standing “Harroddian” concerns, the wage-led approach is criticized for a range of reasons in Skott (2017) while Razmi (2016), Ros (2016) and Aboobaker (2019) outline reasons it may be inappropriate in dual economies.¹⁶ Skott (2021, 2019) argues that aggregate demand (total expenditure) is important as a driver of income and jobs growth both in the short and long run, but likewise emphasises the importance of distinguishing between *mature* and *dual* economies: the former are labour-constrained while the latter are capital constrained. Given supply side constraints, what holds for mature economies may not carry over to dual economies, raising aggregate demand should not, therefore, be seen as a development strategy in and of itself. Instead, Skott argues that rapid accumulation rates should be the target of policy in dual economies, and that capacity constraints require policy to constrain public and private consumption.

Recent years have seen growing interest in the use of job guarantees and public works programmes to combat unemployment directly, and the use of cash transfers and basic income grants to alleviate the poverty associated with the lack of good jobs (e.g., Canning 2021). Some argue that such programmes can be financed by government borrowing, using deficit monetisation if necessary (Wray 2007). These proposals are criticised by Bonizzi, Kaltenbrunner, and Michell (2019) and Aboobaker and Ugurlu (2020) who argue that proposals which ignore financing and capacity constraints fail to understand key structural features of LMCs. While public works

¹⁵ The Latin American countries included in the Diao et al. (2019) study were Brazil, Chile, Venezuela, Mexico, Argentina, Costa Rica, Colombia, Peru and Bolivia. The African countries were Botswana, South Africa, Mauritius, Nigeria, Ghana, Senegal, Kenya, Zambia, Tanzania, Malawi and Ethiopia.

¹⁶ One of the authors, Aboobaker, does not find proponents of wage-led growth to have provided compelling responses to the criticisms raised in Skott (2017) and elsewhere.

programmes may be useful for short-term alleviation of high unemployment, treating such programmes as a long-run development strategy is misguided (e.g., Kregel 2009).

3.3. Industrial policy and investment-led policy

Industrial policy has returned to favour after a period on the periphery of policy debates. This is perhaps most evident in the 2019 IMF Working Paper “The Return of the Policy That Shall Not Be Named: Principles of Industrial Policy” (Cherif and Hasanov 2019). The authors highlight the considerable debate over the drivers of the “Asian Miracle”, emphasising the important role of industrial policy – or more specifically, in their view, technology and innovation policy.

In the case of LMCs, industrial policy refers to policy aimed at transforming the structure of the economy. Why were such policies written out of the contemporary development policy toolkit in recent years? Rodrik (2008) notes the inconsistency in standard criticisms which argue that industrial policy is targeted at loosely defined and hard to observe imperfections by incapable bureaucrats prone to malfeasance. These criticisms apply equally – although they are made less frequently – to other areas of government intervention, including education and health policies, social insurance, and macro stabilisation. These also have hard to observe market failures and the policy response is presided over by bureaucrats with large degrees of autonomy, who are subject to political influence. In contrast to the debate on industrial policy, however, the debate on these areas rightly emphasises how rather than whether government should intervene.

Welcome though it is to see a renewed interest in industrial policy from institutions with a history of (misleading) focus on “good governance” as the key driver of long-run growth, Cherif and Hasanov (2019) note a distinction between explanations emphasising “perspiration” (high investment rates) and “inspiration” (productivity growth) as the drivers of industrial development among the “Asian Miracle” economies. This is misleading because “perspiration” and “inspiration” should be seen as complementary rather than competing strategies. Innovation, technological upgrading, and export sophistication are crucial factors in sustaining productivity growth and exiting the middle-income trap. Learning by doing mechanisms, and high shares of secondary and tertiary educated individuals provide important means to promoting these aims. However, these are unlikely to be effective in the absence of high rates of investment, both public and private.

Rodrik (1997) identifies some common features of the economic strategy used successfully in South Korea and Taiwan: easy credit conditions, constrained interest rates, subsidised credit, and competitive exchange rates. While fiscal policy was generally tight, government spending raised investments in health, education, and infrastructure while marginal tax rates were lowered, alongside a broadened tax base. Property rights were not always secure in these countries, and there was limited deregulation in terms of trade, capital flows and privatisations. These policies contrast strongly with both orthodox stabilisation packages, and the current skills and technology-focused consensus.¹⁷

While care must be taken in generalising from specific success stories, the approach taken in successful East Asian countries suggests some general principles for effective design of complementary supply-side and demand-side policies.

¹⁷ An interesting case study is presented by Lane (2021) who tries to quantify the impact of the heavy chemical industry (HCI) drive on South Korean development using event studies. The HCI period witnessed a strong targeted policy agenda structured around the use of investment incentives, directed credit from state development banks and trade policy exempting HCI sector firms from import duties and tariffs. The combined set of policy instruments persistently raised fixed capital accumulation in HCI sectors relative to non-HCI sectors.

► 4. An analytical framework for employment promotion policy

In this section we develop a framework for analysing the interactions between total expenditure, capacity, income distribution and employment; the main features are introduced in this section while a more technical exposition is presented in Annex A. We first briefly consider the short-run mechanics of a system with a given stock of capital. This allows us to illustrate the potential short-run reaction of the system to changes in expenditure. We then extend the analysis to the medium run in which the capital stock varies, to consider the interactions between total expenditure, capital accumulation, income distribution and inflation.

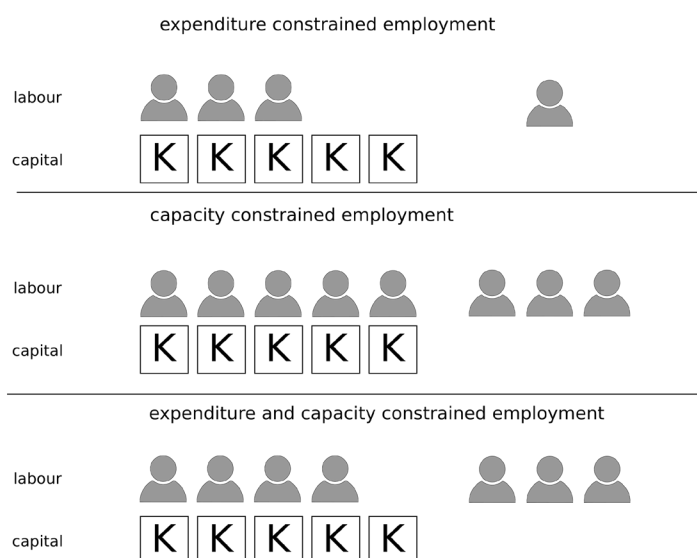
As described in Section 2, when the capital stock is *fully utilised*, the fixed-proportions technology implies that employment will be at a maximum, N^* , given the available capital stock. With constant productivity per labour-capital bundle, the level of employment will generate a maximum level of production, Y^* . This implies a maximum level of total *nominal* expenditure, E^* , that can be accommodated by increased production *without price changes*.

When $E < E^*$, the result will be production less than Y^* and employment below N^* . This is broadly what is meant by “Keynesian unemployment”: the existence of unused productive resources alongside unemployment resulting from *insufficient total expenditure*. For several decades, the conventional view in macroeconomics has been that such shortfalls of total expenditure from the level required to generate “full” employment, are possible, but that this is a short run cyclical issue: if $E < E^*$, there exist forces that will ensure that E increases until it equals E^* in the long run. The job of macroeconomic stabilisation policy – meaning monetary policy – is to reduce the time taken for this to adjustment to occur. As already noted, evidence is mounting that this view is incorrect, and that persistent stagnation and unemployment are possible.

What of the case where $E > E^*$? In this case, physical production cannot increase beyond full capacity, so the possibilities are either *rationing* or *price adjustments*. In the former case, the attempt to increase E beyond E^* fails: if firms respond to demand in excess of capacity by refusing to make sales to some customers, then total expenditure remains equal to E^* , and some who want to buy are unable to make purchases. The more likely possibility, beyond the very short run, is that prices increase. Maximum nominal output, E^* will increase *because of price changes* not because of increased capacity. Such price changes are likely to have both *distributional* effects and *expenditure composition* effects.

4.1. Types of unemployment

► Figure 1: Categorising different types of unemployment



We can identify different types of unemployment based on the limits to expansion, as illustrated in Figure 1. The top row shows the case where insufficient total expenditure leads to a level of employment insufficient to use all available capacity: a situation of Keynesian *expenditure-constrained employment*. This contrasts with the middle row which depicts the situation of *capacity constrained employment* where unemployed labour remains when expenditure is at a level which generates full capacity utilisation. In this case, unemployment is not caused by insufficient total expenditure: if expenditure were to rise, production and employment would not increase. In this case, unemployment cannot easily be solved in the short run by raising total expenditure; an increase in the capital stock is required, and production and installation of capital machinery takes time.

A more realistic characterisation of many economies is shown in the bottom row, which combines the features of the two rows above. In this case there is under-utilisation of the capital stock, but even if total expenditure increased to the level required to ensure full capacity utilisation, unemployment would not be eliminated. This situation represents a combination of *expenditure constrained* and *capacity constrained* employment: total expenditure is insufficient to utilise the available capital stock, despite the fact that full capacity use would not generate full employment. This could occur, for example, when a relatively technologically advanced sector exists alongside substantial unemployment/underemployment in a lower productivity informal sector, and there is unused capacity in the former due to inadequate total expenditure. This combination will be particularly evident in cyclical downturns

In many LMCs, the excess supply of labour substantially exceeds available excess productive capacity. Underdevelopment is a situation of inadequate structural transformation: the level of capital accumulation is not sufficient to provide decent incomes and good quality jobs to all who need them. When designing employment promotion policies in LMCs, it is important to strike an appropriate balance between short-run adjustment of production and employment given available capacity, and longer-run increases in capacity. This requires correct diagnosis of the current situation and the causes of unemployment: how large is the capital-intensive sector relative to other sectors? How much excess capacity is there in this sector? How large is the number of unemployed or underemployed persons?

4.2. Dual economies and mature economies

Analysis in terms of a *dual economy*, in which a modern high-productivity sector coexists with a low-productivity sector characterised by surplus labour, is a key feature of the classic development literature. This literature shifted the focus away from the Keynesian problem of a “labour demand gap” – the problem of total expenditure insufficient to generate full employment – to “gaps” in available saving, foreign exchange, and capacity to run fiscal deficits: “the fight against cyclical unemployment caused by a ‘labour demand gap’ lost most of its importance in the light of unlimited supplies of labour assumed to be prevalent in developing countries” (Bender et. al. 2005). The authors of classic models regarded the central problem of development as the need to raise the rate of capital accumulation in the face of limited productive capacity, requiring that consumption is restrained to prevent the curtailment of investment by an inflationary tug-of-war for economic resources.

In the famous model presented by Lewis (1954) and extended and formalised by Ranis and Fei (1961), development is conceptualised as a process in which excess labour is absorbed from a “subsistence” sector into a “capitalist” sector. Capitalist profits, which are assumed to be spent on capital accumulation, are protected from rising wages – and thus consumption – by the existence of surplus labour in the subsistence sector: workers in the capitalist sector cannot bargain for a wage substantially higher than prevails in the subsistence sector because others would leave the subsistence sector and undercut them. Lewis thus focuses on the interaction between distribution and accumulation under the assumption that capital accumulation typically takes place under conditions where substantial reserves of surplus labour hold down the wages and consumption of workers during the initial stages of the development process.

Of the scenarios summarised in Figure 1, classic development models thus focused on the problem of *capacity constrained employment* and regarded capital accumulation as the primary mechanism for absorbing surplus labour through job creation.

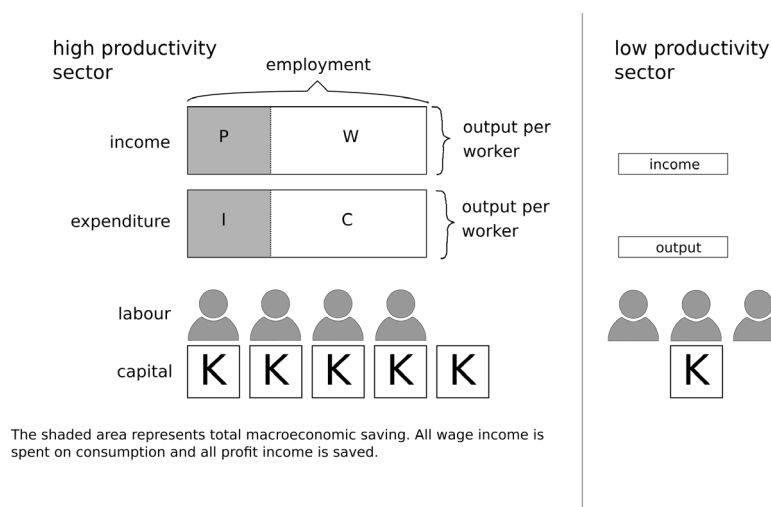
The later structuralist literature maintains the emphasis on dual economies, but also introduces aggregate demand effects: manufacturing capacity under-utilisation can occur in dual economies, and expansion of capacity can be

constrained by inadequate demand. The problem of demand-side policy design in LMCs thus requires a balance between maintaining the growth of expenditures while navigating capacity constraints (Ocampo, Rada, and Taylor 2009).

4.3. A simple closed economy dual sector system

To analyse the problem of capital accumulation while balancing expenditure and capacity, we develop a simple accounting framework. We start by considering a closed system without government (extensions to include the public sector and the external sector are presented in the Annex). A graphical representation is shown in Figure 2.

► **Figure 2: Two sector system with income distribution**



The system is divided into a high productivity sector characterised by use of manufactured capital goods, and a lower productivity sector characterised by extensive unemployment and underemployment. A key assumption is that increasing output and productivity requires movement of labour from the low productivity to the high productivity sector. Following Lewis (1954), we assume that the marginal product of labour in the low productivity sector is close to zero.¹⁸ As the high-productivity sector grows relative to the low-productivity sector, the proportion of economic activity and employment in the low-productivity sector will fall. The transition from low productivity informal underemployment to high-productivity formal employment is an important element of the structural transformation process.

Total expenditure on output in the high productivity sector is equal to the sum of consumption and investment, $E = C + I$. Nominal income in the high productivity sector, Y is divided between profits, P , and wages, W , so that $Y = P + W$.¹⁹ We assume that the low-productivity sector uses minimal capital, and that total output of the sector is fixed, regardless of the number of people working in the sector (this is equivalent to assuming significant surplus labour and a zero marginal product of labour). This allows us to focus on the high productivity sector, and treat expenditure, output, and employment in the high productivity sector as equivalent to total output and expenditure.

We assume that firms have autonomy to fix the mark-up of prices over money wages. The real wage therefore depends on the relative bargaining strength of workers and employers, which will be affected by the level of employment: at low levels of unemployment, workers will have more capacity to press for increases in money

¹⁸ The clear logical separation into two sectors is an analytical convenience which doesn't translate directly into a real-world sectoral split. In most countries, the "formal" and "informal", or "capitalist" and "subsistence" sectors are intertwined. However, a *logical* distinction between high productivity and near-zero marginal productivity *activities* is a useful analytical device.

¹⁹ This division is an over-simplification; in particular, rents make up a substantial proportion of incomes. For simplicity, we can regard profits as a broad category of capital income which includes rents.

wages. Capital shares and wage shares are not only determined by wage and price bargaining but by a wide range of additional factors.²⁰

If we initially assume that all wage income is spent on consumption, $C = W$, then all profit income must be spent on investment, so $I = P$. In addition to the capital stock and the labour supply, nominal income and nominal output are also shown. For any volume of production such that $Y < Y^*$, nominal income, Y , can be represented as a rectangle with horizontal length equal to the number of employed labour-capital production units, and vertical height equal to output per unit. This area can be divided into two sections representing total profit income, P , and total wage income, W , respectively. The relative sizes of these areas represent the distribution of income between capital and labour income, determined by the mark-up of prices over wages.

Since, in a closed economic system, income, Y , is equal to expenditure, E , we can represent expenditure, E , with a second rectangle of equal size and proportions to the first. Given the assumption that $C = W$, the area representing consumption expenditure is equal to the area representing wages, and likewise for investment and profits.

The diagram also provides a visual representation of the national accounting identity stating that total *macroeconomic saving*, S is identically equal to investment I : since $Y = E$, *saving*, defined as total income less consumption, $Y - C$ must be equal to investment I . Total macroeconomic saving is represented in the diagram as a shaded area equal to total investment expenditure.

The meaning of this magnitude is a source of confusion.²¹ In a simple system of this kind, saving, S is effectively another name for *investment*, I – the two magnitudes are identical, determined by the level of investment expenditure. Nonetheless, it is common to see discussion of “savings being channelled into investment” and claims that increased capital accumulation requires increased savings and thus reduced consumption.

These claims are mistaken, as Keynes emphasised in the *General Theory*: while *individuals* can affect their saving by reducing their consumption expenditures relative to their income, this is not possible at the *macroeconomic level* because reductions in consumption lead to lower total income and therefore *leave saving unchanged*. To avoid confusion, it is better to confine discussion to *categories of expenditure*: consumption and investment.

The crucial point is that reductions in consumption, *in isolation* will not cause an increase in investment (and thus saving).²² A fall in C will lead to reduced output, Y , and *unchanged* S . Although the *rate of saving*, S/Y will increase because of the fall in the denominator, the absolute magnitude of S can only increase if I increases – but there is no automatic mechanism by which a fall in C causes an increase in I .²³

At *full capacity utilisation*, however, an increase in investment *requires* a reduction in consumption. If there is no available spare capacity to produce capital goods, domestic capacity can only be made available by constraining consumption: higher “saving” (meaning lower consumption) may be necessary to deal with capacity constraints. Policy aimed at raising *household saving rates* may therefore be required to make capacity available for higher rates of capital accumulation.

If nominal demand exceeds productive capacity, due for example to increased investment without constraints on consumption, one possibility is rationing: firms will leave prices unchanged but will stop selling goods once full capacity is reached. Other than in the very short run, a more likely outcome is increased prices: if expenditure on consumption goods exceeds capacity to produce those goods, the price of consumption goods may rise relative to the price of investment goods. This may lead to “forced saving”: if nominal expenditure increases are matched by price rises so that physical consumption does not increase, the proportion of income spent on consumption will be unchanged. Another possibility is that inflation arising from conflicting claims on output affects the composition of expenditure: if the prices of both investment goods and consumption goods increase with given nominal demand

²⁰ For example, an oil price boom will raise profits for oil exporters, altering the overall national distribution of income between wages and profits without changes taking place in mark-up pricing and wage bargaining in non-energy sectors.

²¹ The useful linguistic distinction found in older literature between *saving*, to refer to a flow, and *savings* to refer to a stock, has largely been lost.

²² In the national accounts, inventory accumulation by firms is included as a category of investment. In the very short run, a fall in consumption will thus be matched by an increase in investment because unsold stock will be recorded as investment. In the case of falling demand, firms will not continue to produce and accumulate inventories. Unless demand is expected to recover, firms will respond by reducing output and employment.

²³ In models in which this *does* occur, the mechanism is that lower C causes the *rate of interest* to fall, which stimulates an equal increase in I . In this case “higher savings”, meaning a reduction in consumption, *does* lead to higher investment. But there is little reason to believe this is the case – empirical evidence does not provide strong support for such a mechanism.

for each, the composition of output will be determined by the change in relative prices. Any increase in the price of investment goods for given nominal demand will lead to lower total physical investment, and reduced capital accumulation.

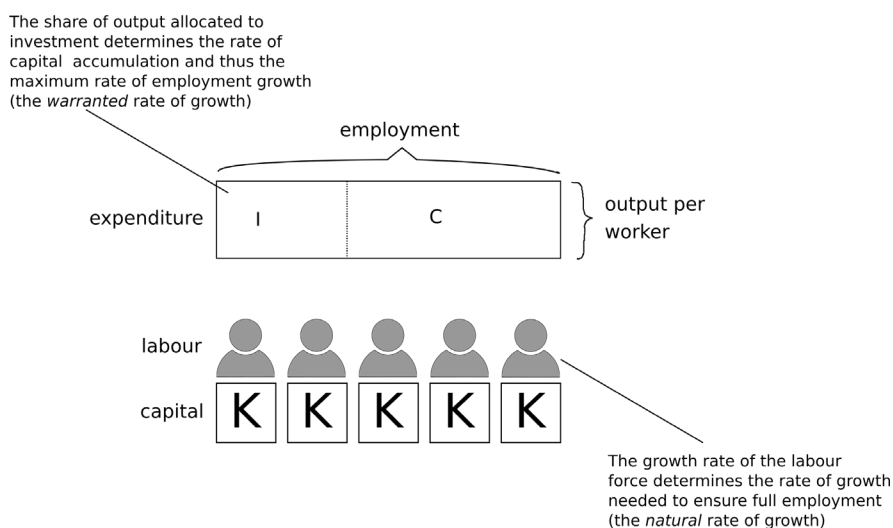
4.4. Accumulation, consumption and capacity

If we take as given that long-run job creation requires expansion of capacity and technological upgrading, a prerequisite is to maintain the conditions needed for sustained capital investment. This requires a balance between ensuring that a market is available for domestically produced goods and services – maintaining sufficient total expenditure – and avoiding the problems associated with insufficient productive capacity, overheating and inflation.

Discussion of these problems goes back at least as far as Harrod's distinction between the *natural growth rate* – the rate needed to absorb additional labour as the labour force grows – and the *warranted growth rate* – the maximum rate of growth achievable given the current rate of saving. This is illustrated in Figure 2. In Harrod's model, if the economy is initially at full employment, the natural rate is the growth rate required to maintain full employment, given the growth rate of the labour force. For Harrod, a key issue is to ensure that the warranted rate – the maximum rate that can be achieved given current consumption and saving behaviour – matches the natural rate, to avoid rising unemployment.

The concept of the natural rate does not apply directly to a dual economy with substantial surplus labour. Instead of maintaining full employment, the aim is to absorb surplus labour as quickly as possible. This requires raising the warranted rate by reducing the share of consumption in output. While raising the warranted may be *necessary* to raise growth rates and reduce unemployment, it will not be *sufficient* in isolation: consumption constraint may simply lead to lower total expenditure and thus higher unemployment. Policies aimed at raising investment will also be required. Further, while consumption growth may need to be constrained for long-run accumulation to take place, policy to *support* consumption may also be required in the case of sudden shortfalls due to business cycle recessions.

► Figure 3: Harrod's natural and warranted growth rates



There is no settled consensus on what determines the rate of accumulation. For capitalist firms, however, it is reasonable to assume that profitability plays a central role in investment decisions. Profits provide the financing for investment expenditures; current profits validate past investment decisions, while expectations over future profits influence current investment decisions. Policies which raise expected profitability should stimulate higher rates of investment. Such policies include ensuring access to credit at affordable rates, investment grants and subsidies, and provision of infrastructure (energy supply for example) which increase the likely returns on investment.

Even with such policies in place, business investment expenditure may not be sufficient to generate adequate rates of growth, and may need to be augmented with public investment, alongside active industrial policy to raise private investment. Substantial ongoing public investment may therefore be required if long-run growth is to succeed.

Investment in some public goods will not be adequately produced by the private sector based on profitability. These include investments in education, health, transport, infrastructure and climate mitigation and adaptation. Public investment in these areas is likely to be conducive to private investment: private companies are more likely to invest in countries characterised by good education, health, infrastructure and so on. Public investment thus *crowds in* private investment.

In the case of cyclical downturns caused by demand shortfalls – classic business cycle recessions – government spending may be needed to maintain consumption, preserve employment, and ensure a market for domestically-produced goods and services. The Covid pandemic provides an example of a conceptually distinct situation which requires support for incomes and consumption using fiscal tools. The pandemic differs substantially from standard demand-driven downturns, given the substantial supply-side element: during lockdowns, capacity effectively falls because sections of the economic system are shut down. The purpose of income support measures such as furlough schemes and basic income grants is therefore to prevent destitution due to sudden loss of income. This should not be confused with demand-side stimulus measures aimed at maintaining economic activity, or measures aimed at structural transformation and increasing the rate of accumulation.

As discussed in Section 3.2, there is substantial debate about the relationship between income distribution and accumulation (Lavoie and Stockhammer 2013; Skott 2017; Auclert and Rognlie 2018). The interaction between distribution and accumulation also has important gendered aspects. Women are paid less than men on average, and bear the majority of the burden of unpaid care. The structure of demand-side policy can have an important impact on female access to the labour market and on the gender composition of employment. Likewise, policy that affects gender inequality and access to the labour market may affect total expenditure and employment.

As with other aspects of policy, it is likely that policies which lead to increased female labour force participation in mature economies may not produce the same outcomes in dual economies: raising female labour force participation in dual economies is likely to require increased *demand* for labour. This contrasts with the situation in mature economies where policies that increase the *supply* of female labour, by reducing the burden of care responsibilities for example, are required.

Policy which affects gendered inequality will have likely macroeconomic effects. Blecker and Seguino (2002) note that low women's wages have been identified as an important element in the export-led development paths of successful East Asian economies, and highlight the tension between higher women's wages and export competitiveness and the rate of accumulation. As Seguino (2012) argues, "it would be macroeconomically naive to assume that we can easily attain a win-win-win outcome—greater equality, economic growth, and expanded human development." (p. 13). There may therefore be tension between increasing gender equality and raising growth rates.

If men and women have different propensities to consume, shifts in income distribution between men and women will affect total consumption expenditure. Limited attempts have been made to identify such effects (Seguino 2017), and the results are inconclusive: Onaran (2017) argues that women have a higher propensity to consume out of wage income while Seguino and Floro (2003) argue that women have a lower propensity to consume. Seguino (2012) suggests that in LMCs, women are more likely to consume domestic goods, while men consume higher proportions of imported or luxury goods. Overall, shifts in gender inequality are likely to cause changes in both the magnitude and the composition of total expenditure, but these changes are likely to be context-specific, and are likely to be weaker than the effects of changes in distribution between wages and capital incomes.

Design of policy to maximise the long run rate of accumulation while maintaining output and employment in the short run requires consideration of these interacting mechanisms. Redistribution policies that raise consumption may stimulate investment in the short run but may not lead to a persistent increase in the rate of accumulation. Supply-side constraints must be taken seriously: capacity constraints, foreign exchange constraints, and financial limits likely require constraints to consumption over the medium term to facilitate capital accumulation, as emphasised in the development and structuralist literature. Raising growth by raising either public or private consumption outside of business cycle recessions is likely to limit the capacity for high rates of capital accumulation.

The challenge for policy-makers is to navigate this balance: managing the need for counter-cyclical policy, poverty reduction and reductions in inequality alongside the need for accumulation and structural transformation in the presence of capacity constraints.

4.5 Constraints to accumulation and job creation

Beyond managing the balance between domestic expenditure, productive capacity, income distribution and profitability, several further potential constraints to accumulation can be identified. We briefly consider saving constraints, foreign exchange constraints and financial constraints.

4.5.1. Saving constraints

It is common to see references to problems of growth and development caused by a lack of savings. But, as already noted, *saving*, whether defined as *macroeconomic saving* or *private sector saving* is a residual measure defined as the sum of capital investment, the foreign balance and (in the case of private sector saving) the government deficit (see the Annex). When “inadequate savings” is identified as a constraint to capital accumulation and job creation, several meanings are therefore possible. The first is that consumption (private and/or government consumption) as a share of expenditure is too high, limiting capacity for production of capital goods. As emphasised already, this is more accurately characterised as a *capacity constraint* than a *savings constraint*, because the latter invites confusion with monetary and financial issues: a *savings constraint* could be interpreted as describing a shortage of monetary or financial assets (see Section 4.5.3, below). Other possible meanings of a “savings constraint” refers to the external balance, or to the willingness of domestic or foreign financial investors to hold specific financial assets. We discuss these issues in the following sections.

4.5.2. Foreign exchange constraints

In many LMCs, capital accumulation requires imports of capital goods, intermediate inputs and/or energy that cannot be produced domestically. An increased rate of capital accumulation therefore requires higher growth of imports. If, as is usually the case, imports must be paid for in foreign currency, there are two options: an increase in the growth of exports or accumulation of external debt.

In the short run, export demand is substantially determined by consumption and investment expenditures in the rest of the world, which are largely out of the control of domestic policy-makers.²⁴ Given limits to the extent that domestic policy can stimulate the growth of exports in the short run, the greater the import intensity of domestic capital investment, the higher is the potential for foreign exchange shortages to limit import capacity, and thus to limit accumulation.

This mechanism is emphasised in both *balance of payments constrained growth* models and *two-gap models*. In the former, with a balanced external position (exports equal to imports), the maximum rate of output growth is determined by the import elasticity of output and the exogenously given growth rate of exports. The alternative to a balanced external account is a constantly growing stock of external liabilities (or foreign ownership of domestic assets), as discussed in the next section. In Harrodian terms, if the *balance of payments constrained growth rate* is below the *warranted growth rate*, then foreign exchange constraints bind at a lower growth rate than capacity constraints. In such a situation, measures to increase domestic output are unlikely to be successful, even if there is unused productive capacity.

The “two-gap” literature considers the “savings constraint” (i.e., the capacity constraint) and the foreign exchange constraint in tandem and identifies configurations of demand and productive structure under which one or the other will be bind, and mechanisms consistent with the institutional structure of the country under consideration, that will resolve these constraints (Taylor, 1993, p. 19). Possible adjustment mechanisms include constraints on

²⁴ Over the longer run, expansion of exports can play an important role in development strategy. Subsidies for investment and R&D in export-oriented sectors, exchange rate management and wage controls in the export sector can be used to expand production of tradeable goods by raising productivity and competitiveness. In particular, substantial evidence suggests that exchange rate undervaluation is compatible with industrial development and long run growth in LMCs (see Dani Rodrik 2008; Razmi, Rapetti, and Skott 2012; Guzman, Ocampo, and Stiglitz 2018 for reviews of the evidence).

consumption, income redistribution and “forced saving” (via wage adjustment or inflation), changes in the rate of interest and so on.

4.5.3. Financial constraints

“Two-gap” models are extended to “three-gap” models by Bacha (1990), by adding a “fiscal constraint” – this captures the idea that private investment depends on provision of public investment in key areas, but spare capacity may not be available to raise public investment. This capacity constraint can be overcome in two ways. First, an increase in taxation will reduce consumption. If increased taxation is not possible (for political reasons), then a (possibly monetised) fiscal expansion may generate “forced saving” through price increases.

A final way to resolve “gaps” in foreign exchange, domestic productive capacity and political capacity for taxation is through expansion of debt. In many rich nations, the period preceding the 2008 crisis was characterised by expansion of private debt. Following the 2008 crisis, public debt expanded substantially. These debt expansions were arguably a reaction to *inadequate total expenditure*: debt-financed consumption and rising asset prices enabled consumption expenditures to be maintained despite weak income growth and rising inequality (Dafermos, Gabor, and Michell 2020).

In LMCs, the structural causes of debt expansion differ from those in rich countries, as do the associated risks. The position of LMCs in hierarchical global production and financial systems reduces policy autonomy. Substantial stocks of external liabilities, particularly when denominated in foreign currencies, leave LMC economies vulnerable to exchange rate devaluation and “sudden stop” reversals of foreign financing (Bonizzi, Kaltenbrunner, and Powell 2020; Bonizzi, Kaltenbrunner, and Ramos 2021). Expansion of foreign debt is one possible way to overcome the problems arising from import-intensive domestic growth: higher growth rates can be achieved at the cost of expansion of external debt. This is unlikely to be sustainable in the long run: debt servicing costs and the potential volatility associated with cross-border financing are likely to impose costs that counteract the short run advantages in terms of expansion of employment.

The scope for use of public spending to raise the rate of accumulation or reduce unemployment is likely to be constrained by the limits to public debt expansion. The evolution of the public debt stock is algebraically straightforward: the rate of change of public debt is given by

$$\dot{d} = -s + (r - g)d$$

where d is the nominal debt stock, \dot{d} is the rate of change in the debt stock, s is the primary surplus (taxation less expenditure, or $(T - G)$ in the analytical framework above), r is the nominal interest rate and g is the rate of GDP growth. The stability of this system is determined by s and the *growth adjusted interest rate*, $r - g$: even with a primary deficit, the debt stock will stabilise if as the growth adjusted interest rate is positive, i.e., if $g > r$. Unfortunately, this is not the case for many LMCs, given high nominal interest: avoiding explosive public debt dynamics thus requires adjustments to ensure a positive primary surplus, s (see, e.g., Sachs 2019).

The determinants of interest rates on public debt in LMCs are complex and include the structure of local financial markets, the composition of lenders to the government (local versus domestic, bank-based versus market-based), the size of domestic pension funds, monetary policy regimes and so on. The traditional “stabilisation” policies imposed upon LMCs have tended to exacerbate many of the problems identified so far: inflation-targeting regimes in which domestic interest rates are manipulated to control inflation are inappropriate to situations where inflation is driven by import costs and conflicting claims over output. Imposing high nominal interest rates in such cases is unlikely to ease inflationary pressure directly but will raise costs for business and the government and thus constrain job creation and capital accumulation.

Since 2008, it has become increasingly clear that monetary authorities in rich countries have substantial capacity to influence the cost of public borrowing. Quantitative easing reduces the marginal cost of public borrowing from the rate set in bond markets to the rate paid on central bank reserves. Several rich countries have explicitly or implicitly engaged in “yield curve control”: measures to prevent increases in long-term interest rates. While some LMC central banks have engaged in asset purchase programmes during the pandemic, this has been more limited than in rich countries. Although policy-makers in LMCs have less room for manoeuvre than rich-country policy-makers, the use of central banks to support government borrowing by holding down interest costs could form one element of a strategy to enable expansion of government expenditure. Over-reliance on this mechanism – in preference to more

politically difficult options such as raising taxes on the wealthy – is unlikely to be sustainable (Bonizzi, Kaltenbrunner, and Michell 2019).

LMCs also face financial constraints that prevent adequate provision of credit to private sector borrowers for capital investment spending. This is often presented as a problem of inefficiency in “mobilising savings” of domestic or international borrowers. This is misleading, as explained above. A shortage of savings does not constrain investment; a lack of *credit* or *finance can* constrain investment, however.

This is illustrated by taking the below equation, and splitting the terms for investment and private sector saving into separate entries for the household sector and the firm’s sector:

$$(S_H - I_H) + (P_F - I_F) = (G - T) + (X - M)$$

S_H and I_H refer to household saving and household capital investment (primarily residential construction). P_F is corporate retained profit and I_F is capital investment of the corporate business sector. An increase in business investment, I_F , requires either higher retained earnings, P_F , or mechanisms to ensure that firms have access to credit. In the case that firms can finance investment using credit rather than retained earnings, I_F will increase, and will be matched by some combination of an increase in retained earnings (allowing credit to be repaid and leaving balances unchanged), an increase in household saving, S_H , and thus increased holdings of financial assets by households, a reduction in the government deficit, or a fall in net exports.

Mischaracterisation of the financial problem in LMCs lies behind the misguided policies enacted in many countries. These include deregulation of financial markets, excessive opening up to short-run external investment, and expansion of markets for bonds and stocks. These policies led to substantial volatility of cross-border financial flows and exchange rates, domestic financial instability and probably exacerbated problems of structurally high interest rates.

Instead of financial deregulation, LMCs require mechanisms for domestic credit extension that prioritise *stability* of financing – mechanisms that lead to credit extension by *patient investors*, who will hold assets over a sustained period. This is likely to involve expansion of the domestic banking system, the use of publicly-owned banks (for example national development banks), and policy to encourage domestic investors such as pension funds to hold domestically-issued assets.

A range of initiatives under the umbrella of “environmental, social, governance” (ESG) investing are currently touted as vital mechanisms to enable “socially responsible” investment. These initiatives are promoted in particular as a mechanism to generate the funding required for large-scale investment to mitigate climate change. While there is potential for such initiatives to lessen the external financial constraint faced by LMCs, there are concerns that ESG investment is more a branding opportunity than a mechanism for meaningful change. In many cases, to access green bond markets, governments are required to “de-risk” large-scale investment projects by offering fiscal backstops and/or direct funding. The preference of rich world investors for liquidity and ease of entry and exit drives prioritisation of “green” bond market development over domestic banking and “patient” investment (Gabor 2021; Dafermos, Gabor, and Michell 2021)

► 5. Design of demand-side policy to promote employment in low- and middle income-countries

The issue of demand-led employment promotion policies in LMCs is under-explored. The experiences of some Latin American countries with recurrent inflation and exchange rate and financial instability have led some to dismiss strategies of demand-led structural transformation policy as “macroeconomic populism” (Dornbusch and Edwards 1990). While LMCs face important constraints to the use of demand management tools, the experiences of Asian economies demonstrate that successful policy is feasible. In this section, we draw on the preceding analysis to identify key issues that should be considered when designing demand-side policies to promote employment in LMCs

It is likely that size matters for successful demand-led policy. Historical evidence suggests that sustained growth in aggregate demand played a role in Indian and Chinese development. Strategies that were effective in such large economic units may not be effective for smaller units, particularly small individual countries. Regional cooperation and coordination are likely to be required for successful policy. It is also noteworthy that the Indian and Chinese cases involved substantial investment spending: public investment as a share of GDP increased substantially in India. In China, while investment during the high growth period is not officially recorded as public investment, state involvement – via state-owned enterprises and banking – was substantial. These experiences contrast with the experience in several Latin American countries where public spending was skewed towards consumption expenditures.

As already emphasised, demand-side policies – policies that increase total nominal expenditure – will only have the desired effect if there is sufficient available supply side capacity. Estimates of available spare capacity should therefore be attempted when calibrating policies aimed at raising expenditure. This is not a straightforward task: statistics are not readily available and may be misleading. Even if there is apparent spare capacity overall or in some sectors, linkages between sectors and potential bottlenecks due to inelastic supply of intermediate inputs, agricultural products or imports may constrict expansion. Policy-makers should attempt to identify the likely resolution mechanisms in the case that quantity constraints do bind: how will price increases in one sector be transmitted to other sectors, for example? Policy which raises income and consumption without generating sustained increases in productive capacity is unlikely to succeed: public employment programmes may be useful for short-run alleviation of the welfare costs of high unemployment, but not constitute a long-run development strategy (Aboobaker and Ugurlu 2020)

Demand-side employment policies should be designed with consideration of the likely effect on the external position: the impact on production and relative prices of tradeable vs non-tradeable, the balance of payments, net income flows, the exchange rate, and cross-border financial flows. The effect of increased output on total imports and the composition of imports should be considered, and the implications for the balance of trade. Many LMCs operate “intermediate” exchange rate regimes – managed floats or adjustable pegs of some kind – which make them particularly vulnerable to deterioration of the external balance and/or the willingness of external investors to provide credit. Rapid and disorderly exchange rate devaluation can lead to internal redistribution of income, compression of real wages and consumption, and increased foreign currency debt burdens.

Income distribution matters both as a driver of expenditure changes and consequently, raising the money incomes of those on lower incomes and those with higher propensities to consume will raise consumption expenditure. Whether this is appropriate depends on the expected reaction of investment, whether excess capacity is available, and the likely impact on the external sector. Redistribution to those on lower incomes aimed at poverty alleviation, for example, may require offsetting action to avoid breaching productive capacity: the luxury consumption of those on higher incomes can be curtailed, for example, to counter the potential inflationary effects of higher consumption of those on lower incomes (Skott 2019).

Conversely, price changes *resulting* from increased expenditure will have distributional effects with potential feedbacks to expenditure. Price adjustments in reaction to higher expenditures can lead to redistribution between wage income, retained earnings and rents; between businesses in different sectors (e.g., primary production vs manufacturing or tradeable vs non-tradeable); between geographic regions; and between demographic groups. Such redistribution is likely to have political implications as well as macroeconomic effects. Taxation and wage-

bargaining institutions have an important role to play in providing an equitable distribution of income and consumption while ensuring sufficient capacity for accumulation and structural change.

Financial constraints to increased expenditure, particularly debt-financed public expenditure, are substantial for LMCs. LMCs face structurally high interest rates due to inadequate domestic financial systems, short-term bias among investors – particularly foreign investors – and the subordinate position of LMCs in global monetary and financial hierarchies. Many of these problems do not have short-term solutions – reorienting financial systems toward patient investment, a domestic investor base and local-currency debt issuance is a long-term project. Many LMCs have substantial outstanding government debt and foreign currency liabilities, reducing room for further expansion. Growing debt stocks will, unless interest rates fall, lead to increasing interest payments. In the case of government debt, if rising shares of tax revenue are required to cover interest payments, resulting reductions in spending in the long run may outweigh short run gains from deficit-financed expansion.

Much of the problem of financial subordination is outside the control of domestic policy makers: better global credit allocation and risk sharing mechanisms are required. Climate finance initiatives may in some cases serve to lessen external financial constraints, but the potential for transformative change is likely overstated (Dafermos, Gabor, and Michell 2021). Policy space can potentially be created by introducing restrictions on cross-border financial flows, particularly short-run speculative movements. This may increase the scope for central banks to influence domestic liquidity conditions and interest rates. While the strategic use of public debt monetisation can reduce the costs of government borrowing, it should not be seen as a plausible long-run strategy for job creation in LMCs.

Raising these issues does not constitute an argument against the use of demand-side policies. On the contrary, in many situations there is likely to be an important role for higher government spending, particularly on investment, the use of public deficits to supplement private expenditure, and redistribution towards those on lower incomes. Identifying likely negative outcomes or side-effects increases the chance that these can be avoided or mitigated.

Obstacles to job creation may be due to political economy as much as economics: where policy-makers try to overcome political obstacles using government deficit spending or debt monetisation, these obstacles are likely to return with greater force. If the problem is inequitable distribution of income and excess luxury consumption by the wealthy, for example, raising the consumption of those on lower incomes by issuing public debt is unlikely to provide a sustainable solution.

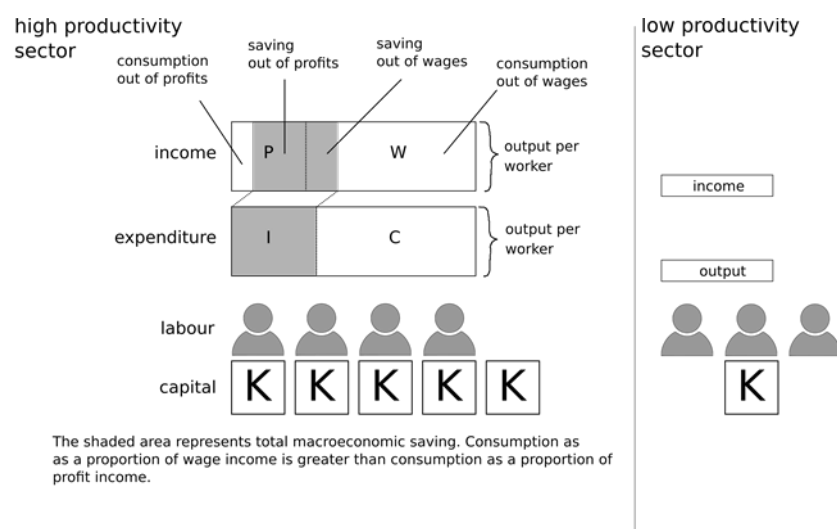
Job promotion policy requires both supply side and demand side elements and a focus that extends beyond the short run. Raising the rate of accumulation will generate both short run increases in employment, and long-run increases in capacity. Successful policy design will consider the complementarities and linkages between public and private investment, productive capacity, finance, distribution, and the external sector.

► Annex: an accounting framework for analysing demand-side policy

This annex develops the dual sector accounting framework introduced in Sections 4.2 and 4.3 by introducing income distribution, the government sector, and the open economy.

Income distribution

► Figure 4: Two sector system with income distribution and saving out of wage income



The system shown in Figure 4 can be used to consider the effects of changes in employment and in the distribution of income distribution. If we retain the assumption that all wage income is spent on consumption and assume fixed investment, then any change in income distribution must result in changes in employment and consumption expenditure: an increase in the wage share will increase the ratio of wages to profits and thus the ratio of consumption to investment. With unchanged investment, and as long as there is spare capacity (and unemployed labour), higher consumption spending will be accommodated by higher output and employment.

An alternative assumption is that the proportion of consumption from each of profit income and wage income is positive and less than unity. This implies an overall rate of consumption out of national income which depends on the propensities to consume out of each income type *and* the distribution of income between wages and profits. This is illustrated in Figure 4. In this figure, the shaded area representing total macroeconomic saving is now split between wage and profit income such that the implied propensity to consume out of profit is greater than the propensity to consume out of wage income. Although *saving* is now divided between saving out of wages S_W and saving out of profits, S_P , the identity $S = I$ must still hold: $S_W + S_P = I$. Changes in consumption out of profits and wages will affect output and employment, but overall S will remain unchanged unless I changes.

If behaviour is such that the overall *saving rate*, S/Y , remains constant – so that consumption as a proportion of national income, C/Y , is fixed – then the only way that output and employment can increase is for *investment* to increase – to raise total expenditure while maintaining a *constant* saving ratio requires both higher consumption *and* higher investment in order to keep the ratio of consumption to investment constant. This mechanism is known as *the multiplier*: increases in investment spending will be expected to increase consumption spending because some of the income generated from production of investment goods will be spent on consumption.

This mechanism is, of course, highly simplified and relies on implausibly crude underlying assumptions. However, the result that changes in non-consumption expenditure induce changes in consumption expenditure – the

multiplier – has substantial empirical evidence to support it, as does the driving assumption of “hand to mouth consumption”.

In our accounting framework, total profits can be increased in two ways: by raising output with a given distribution of income or by a shift in the distribution of income at a given level of output. Profitability is thus determined both by total expenditure and by income distribution. These variables are not independent: shifts in income distribution are likely to lead to shifts in demand. If the propensity to consume out of wages is higher than the propensity to consume out of profits, then redistribution from profits to wages (or redistribution from those on high wages to those on low wages) will raise total expenditure. Any reduction in profits as result of such redistribution will be offset at least partially by an increase in profits due to higher total expenditure. The overall effect on profit and accumulation depends on the balance between these effects.²⁵

Adding the public sector

We now extend the model to include a government sector. We assume, for now, that government expenditure is confined to consumption (current) expenditures (this matches both national accounts conventions and the reality that government consumption spending greatly exceeds government investment spending in most countries). With separate terms for private sector consumption and government consumption, total expenditure E , is now given by,

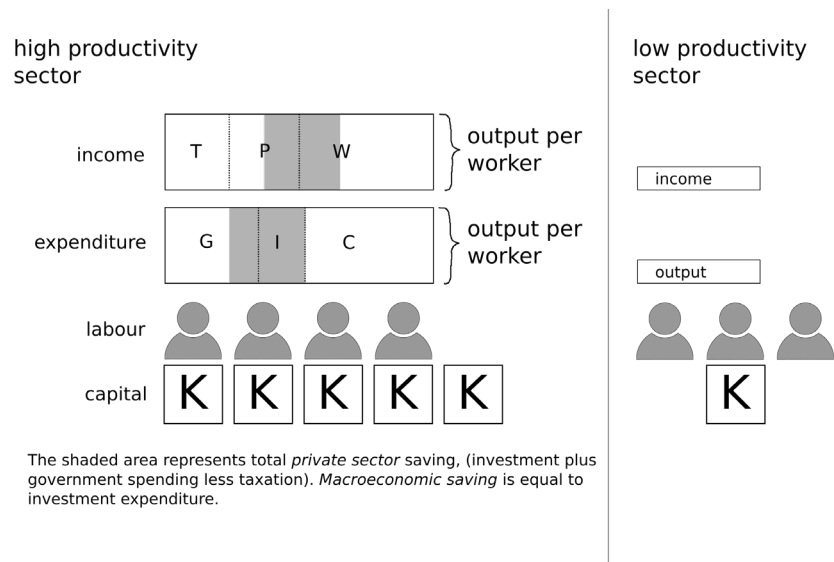
$$E = C + I + G$$

where G represents government consumption spending. A portion of domestic income is now taken in taxation, T , so total income, Y , becomes,

$$Y = W + P + T$$

This system is illustrated in Figure 5.

► **Figure 5: A macro system with income distribution and government**



We now need to distinguish between *private sector saving*, S_p , and *macroeconomic saving*, S . Confusion between these two concepts is common. The latter is equal to total domestic income less consumption: $S = W + P + T - (C + G)$, which is equal to I , as before: the identity, $S = I$, is unchanged. In the model described in the previous section and depicted in Figures 4 and 5, the saving of the *private sector* – the excess of private sector income over consumption expenditure – is identically equal to S and I . This is no longer the case once taxation is introduced. Private sector saving S_p is equal to *disposable income* less consumption: $S_p = (Y - T) - C$. Since income Y is now

²⁵ This is the basis of arguments in favour of “wage-led growth”, which claim that the stimulus to accumulation from higher consumption outweighs the effect of lower profit margins. This mechanism requires spare capacity: higher consumption can only lead to higher accumulation if capacity constraints are not breached. Even if spare capacity is available, the overall effect of redistribution between wages and profits can only be identified empirically, and the effect is likely to be specific to particular economic systems and time-periods.

equal to $G + I + C$, we find that $S_p = I + (G - T)$: private sector saving is equal to investment *plus* the government deficit.

While the previous equality, $S = I$, and the associated implications still stand, the relationship between private sector saving and the government deficit needs elaboration. The accounting shows that for *given investment*, a larger government deficit will mean higher private sector saving. This is sometimes incorrectly interpreted to mean that deficits “absorb savings” that could be redirected to investment spending. The correct interpretation is that, in order to achieve a specific level of output and employment with a *given propensity to consume*, a specific size of government deficit (or surplus) is necessary. To put this another way: if the private sector propensity to consume falls, with a *fixed level of investment*, then output and employment will fall *unless* government spending increases. Deficits will be needed to accommodate a lower share of private sector consumption in output – and this a higher saving rate – to avoid a fall in output and employment. This technical analysis tells us nothing, however, about whether it is appropriate to achieve a particular level of overall consumption, $C + G$.

Government consumption spending – and thus the deficit – can change both automatically, as a result of “automatic stabilisers” (increases in transfer payments such as unemployment benefits that occur in economic downturns) or as a result of discretionary policy changes, such as higher benefits or cash transfers, or increased discretionary government spending.

We now consider changes in discretionary government spending in two cases: an economy with spare capacity, and an economy without. Consider the case where spare capacity is available and assume that investment spending is unchanged. Increased government expenditure with unchanged taxation will be expected to raise private consumption expenditure: if the government spends on goods and/or services purchased from the private sector (e.g., food for distribution, security services), or the hiring of workers (e.g., nurses, teachers), private sector income will increase, and, assuming a non-zero propensity to consume, consumption spending will increase. Employment will also increase, both directly because of increased production of goods and services purchased by the government, and indirectly because of increased consumption spending by those employed in this production (the multiplier).

As long the increase in private consumption, C , is *less than* the increase in government consumption, G , and production remains below full capacity output, inflationary pressure will be avoided. The result will be higher output and employment alongside a reduced *rate of macroeconomic saving*: Y , G and C will have risen while saving, S , (equal to I and thus unchanged) will not change. The *rate* of macroeconomic saving, S/Y , will thus fall. This is *not* necessarily the case for private sector saving, however, which is equal to $I + (G - T)$. The overall effect on private sector spending depends on the propensity to consume out of the additional income. As long at this is less than unity, there will exist some new level of C such that private sector saving, $(Y - T) - C$ will equal $I + (G - T)$: $S_p = I + (G - T)$.²⁶

In other words, the savings required to finance the government deficit will be generated as a result of additional government spending and the working of the multiplier if available capacity exists: increased saving out of higher wages and profits will equal the increase in the deficit. (The fact that the private sector savings exist tells us nothing about the price at which the deficits will be financed – we will consider portfolio allocation and interest rates presently).

Whether or not such an increase can be achieved without hitting capacity constraints depends on available spare capacity and the size of the increase in consumption spending – the propensity to consume out of additional income. In the case that the available spare capacity is insufficient, given the propensity to consume, the analysis of excess nominal demand developed in the previous section again becomes relevant: inflationary pressure leads to “forced savings” and potentially to reduced *absolute* production of capital goods: a fall in the rate of accumulation. If government deficit spending *does* contribute to inflationary pressure and reduced capital accumulation, this can be mitigated by either reducing discretionary expenditures or raising taxation to reduce private sector consumption.

The medium-term effect of higher deficits is likely to be determined by the capacity constraint: with substantial spare capacity, increased consumption demand may stimulate higher investment and thus increase capacity. If the increase in capital goods can be accommodated without hitting capacity constraints and generating inflationary

²⁶ This identity can be rewritten as the well known identity that private sector saving less investment equals the government deficit: $S_p - I = G - T$

pressure, then the rate of accumulation and thus the growth rate of maximum capacity may increase. On the other hand, inflationary pressure due to production exceeding capacity may lower the rate of accumulation, and thus lower the growth rate of capacity (and thus the maximum medium-term growth in employment).

Extending the analysis to the open economy

The assumption of a closed economic system is not applicable to the great majority of LMCs. Export demand, foreign exchange availability, the need to import primary products, energy, manufactured consumer goods and capital goods, and pressure from international financial markets are crucial macroeconomic factors for many.

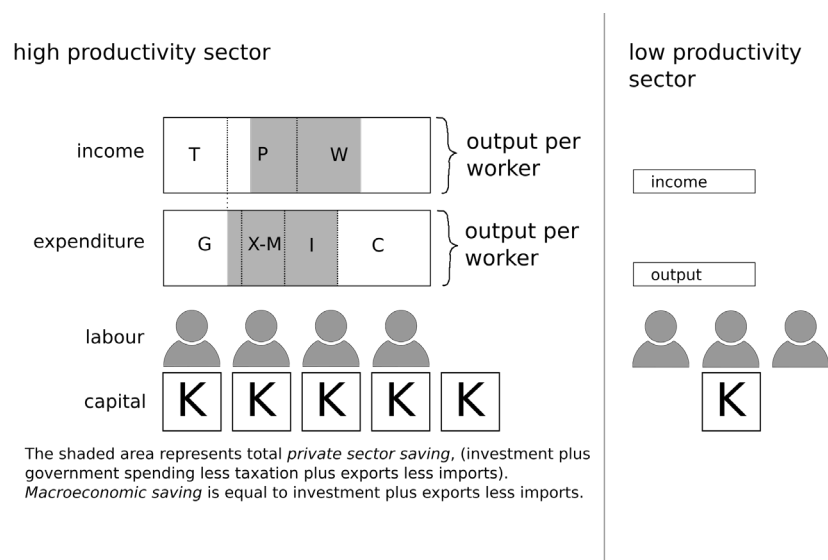
In this section, we introduce the accounting required to include the open economy. This complicates the analysis substantially. As noted in Section 2.2, total expenditure, E , on *domestically produced output* is equal to $C + I + G + (X - M)$. In order to extend the analytical framework to incorporate the open economy, net income from the balance of trade, $(X - M)$ needs to be appended to the definition of expenditure.²⁷ The updated system is shown in Figure 6. Introducing exports and imports to the analysis requires us to again update the definitions of *macroeconomic saving* and *private sector saving*. Macroeconomic saving is now equal to investment spending plus the trade surplus: $S = I + (X - M)$ (this can alternatively be expressed by stating that macroeconomic saving less investment is equal to the trade balance). As before, private sector saving is equal to macroeconomic saving plus the government deficit:

$$S_p = I + (G - T) + (X - M)$$

Private sector saving is again represented by the shaded rectangle in Figure 6. This can be alternatively expressed as stating that the difference between private saving and investment is equal to the sum of the government deficit and the trade surplus:

$$(S_p - I) = (G - T) + (X - M)$$

► **Figure 6: An open economy macro system with income distribution and government**



²⁷ The current account of the balance of payments also includes net primary income from abroad, which includes interest and dividend payments, and net secondary income, which includes remittance payments. These are important sources and uses of funds for many LMCS. Including these in our accounting requires us to replace net exports $(X - M)$ with the current account balance. In this case, total income, Y becomes gross *national* income (GNI) rather than gross domestic income (GDI).

This equation is sometimes known as the *three balances* equation, because it represents the sum of three *financial balances*: the net financial position of the private sector, the government deficit, and the trade balance of the balance of payments (which has its financial counterpart in the capital account of the balance of payments). If two or more of these financial balances are non-zero, changes in the stocks of financial claims between sectors (private, public, and foreign) are taking place.

An increase in consumption with excess capacity

As in the preceding analysis, the implications of this identity depend on the level of spare capacity. Consider first the case in which there is substantial spare capacity and unemployed labour. In such a case, output and employment are constrained by insufficient total expenditure: private sector consumption is too low to generate full capacity utilisation, given the level of investment, the government deficit, and net exports.

We first consider the effect of increased consumption under these conditions, due to a one-off increase in the propensity to consume, while I remains unchanged. The result depends on how additional consumption expenditure is allocated between domestically produced goods and services, and those produced abroad.

At one extreme, in which all additional consumption is allocated to domestically produced items, domestic production will increase to accommodate the additional expenditure. Although there is no direct increase expenditure on imports, it is likely that the trade balance will be affected because of the need for imported intermediate goods as inputs to domestic production: an increase in imports will only be avoided if all additional consumption expenditure is directed towards goods that can be produced entirely domestically, from primary extraction to final output.

Domestic income will increase by an amount equal to the difference between the increase in consumption expenditure, and the increase in imports: $\Delta Y = \Delta C - \Delta M$. Macroeconomic saving, $S = I + (X - M)$ will adjust by an amount ΔM . Increased domestic production, $C - M$ is transmitted to higher W and P , and, via the multiplier, further increases in C and M (assuming that the propensity to consume out of W and P is non-zero).

An increase in economic activity is also unlikely to leave tax revenues unchanged: taxes on production and consumption (and possibly imports) are likely to increase, so that T is likely to be higher and $G - T$ thus lower. The likely short-run outcome of an increase in consumption is therefore increased Y , T , M and C . The increase in $(Y - T)$ will be less than the increase in C so that private sector saving S_p will fall, matched by a reduction in the government deficit (or an increase in the surplus), and a shift in the trade balance $(X - M)$ as a result of increased imports.

At the other extreme we have the case where all additional consumption expenditure is allocated to imports of foreign-produced goods and services. In this case, $(X - M)$ will decrease by an amount exactly equal to the increase in C , and there will be no change in domestic income Y . Both macroeconomic saving, S , and private sector saving S_p will fall by an amount equal to C .

In reality, increased consumption expenditure is likely to lead to both increased expenditure on domestically produced items and increased expenditure on foreign-produced items. To the extent that increased domestic consumption leads to increased imports, this will likely lead to reduced availability of foreign exchange, increased external liabilities and/or depreciation of the exchange rate. These will have second round effects: exchange rate depreciation will raise the price of imported goods – reducing real wages and consumption – while lowering the prices of exports which *may* increase demand for exports. We return to the issues of foreign exchange shortages and external debt in a later section.

An increase in investment with excess capacity

Increased investment expenditure (either private or public) is another potential solution to unemployment resulting from excess capacity. Changes in I are unlikely to be possible, however, without additionally affecting C , T , and $X - M$.

Higher investment will lead to an increase in production, raising W and P , which will in turn tend to raise C . Investment spending will likely require imports: domestic production facilities for new capital equipment may not be available, requiring capital goods to be imported; in the case that domestic production is possible, imports of intermediate goods may be required. An increase in investment is therefore likely to cause the trade balance, $(X - M)$, to decrease.

To the extent that investment spending can be accommodated by domestic production, increased incomes will be generated, leading to increased consumption expenditure (the multiplier). This will be allocated between domestically produced consumer goods and foreign-produced consumer goods, as described above. Higher consumption will lead to a further decrease in $(X - M)$.

Increased domestic production, incomes and consumption should also be expected to raise T . Increased investment expenditure in a situation of excess capacity is therefore likely to show up in **all three balances in Equation**. The overall effect on *macroeconomic saving*, S is likely to be positive, but less than the increase in I . Since $S = I + (X - M)$, the effects of increased investment and increased imports work in opposite directions: the greater the import-intensity of investment spending, the less will be the increase in S . If *all* capital goods are imported directly, there will be no change in S , since increased I will be exactly offset by increased M .

The effect on realised private sector saving will depend on whether investment expenditure is carried out by the private sector or public sector, and the method of financing used. For now, assume that additional investment is carried out by the private sector. In this case, the effect on private saving will include the effect of higher tax revenue on the public deficit. In the identity $S_p = I + (G - T) + (X - M)$, higher investment expenditure will be offset by increases in T and M , so that the overall increase in S_p will be less than the increase in I .

Increased expenditure without excess capacity

We now consider the implications of increases in consumption or investment expenditure in a situation where sufficient excess capacity is not available, so that nominal expenditure exceeds productive capacity, leading to inflationary pressure. As in the preceding analysis, the likely result is inflationary pressure leading to lower real wages, “forced saving” and potentially a reduction in investment spending. We must now also consider the implications for the external balance.

The possible adjustment mechanisms to a situation of excess nominal demand in an open economy are complex. Part of excess demand will be directed towards imports – either of capital goods, intermediates or consumption goods. If net exports $(X - M)$ declines, then an increase in “foreign saving” may partially accommodate the lack of available domestic capacity, allowing nominal expenditure to exceed domestic productive capacity.

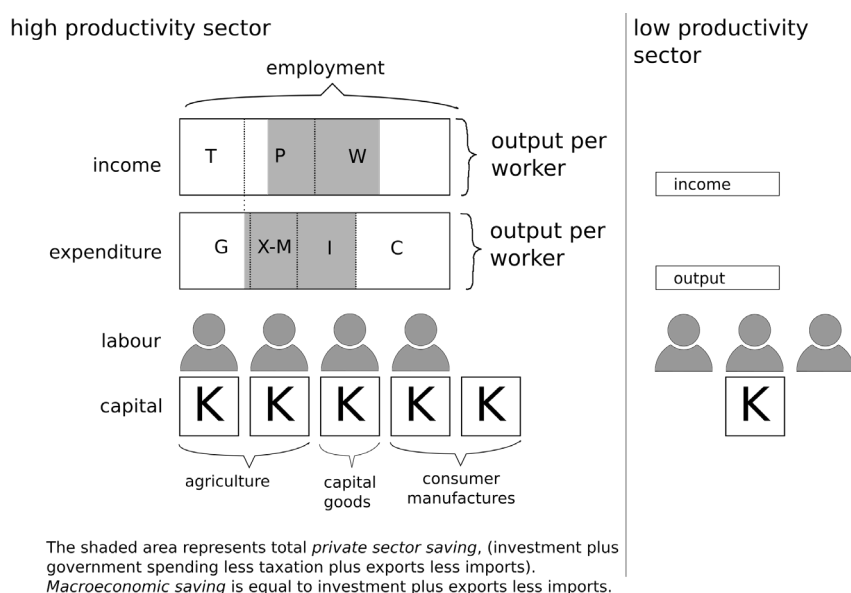
Instead of a quantity adjustment in terms of higher imports, however, the result may be exchange rate depreciation and higher prices of imports, so that overall real expenditure is unchanged, and higher import prices lead to a reduction in real wages. The net effect on output and employment of a currency devaluation cannot be determined *a priori*: this will depend on the import intensity of production relative to the price elasticity of exports. If the effect of increased costs of domestically produced goods outweighs the effect of increased exports, it is possible for exchange rate devaluation to be contractionary, *reducing* output and employment (Taylor 1983, 25).

In the case that a quantity adjustment (rather than an exchange rate adjustment) occurs, this is likely to entail accumulation of new foreign liabilities and/or the running down of foreign exchange reserves, with medium-run consequences.

Overall, introducing trade considerations into the simple framework we are developing complicates the analysis substantially and introduces significant new barriers to domestic demand-led policies.

Multi-sector production

► Figure 7: An open economy macro system with sector-specific production



Until this point, we have worked with the implausible assumption that capital goods are fungible: we assumed that increases in total expenditure would be accommodated by increased production so long as excess capacity is available. This is not a realistic assumption for most economies and particularly for low- and middle-income economies. Such economies are likely to experience bottlenecks in specific sectors in the case of generalised increases in expenditure. For example, domestic food production may be inelastic in the short run, with the result that increased demand for food will translate into higher prices rather than increased output, at least in the short run.²⁸

We therefore need to consider an economic system in which productive units are *product specific*. This system is shown in Figure 7. In this system, specific productive units (labour-capital pairs) are employed in either agriculture, manufacturing of capital goods, or manufacturing of consumer goods.

In the case of an increase in demand for consumer goods, even if there is spare capacity in the consumer goods manufacturing sector, an agricultural bottleneck may prevent expansion of production. This is the case because increased employment in the manufacturing sector will lead to increased expenditure – including expenditure on food – and if this increased demand for food cannot be accommodated, the result will be an increase in food prices, and lower real wages. This reduction in real wages may place a limit on expansion of demand for manufactures.

It is therefore possible to have a situation in which there is overall excess capacity, due to excess manufacturing capacity, but the economic system is supply-constrained because of inelasticity of supply in specific sectors, such as food production. The existence of excess capacity in manufacturing cannot therefore be regarded as a clear indication that production and employment can be increased by raising total expenditure.

Another possible configuration is found in countries with a substantial extractive sector. In many cases, the linkages between minerals or hydrocarbon extraction and the rest of the domestic economic system are limited, so that the – often foreign-financed – extractive sector operates relatively autonomously from the rest of the system. Nonetheless, the minerals sector will provide domestic income in the form of wages (typically a low share of GDP), will generate expenditure on domestic non-tradable (infrastructure, transport), and will generate exports, thus providing a source of foreign exchange reserves (depending on ownership structure and the degree of profit

²⁸ Inelasticity of food production was a central concern in the early development literature. It is likely to be a less binding constraint now.

offshoring). Macroeconomic management of such cases involves some difficult trade-offs: increasing output in the extractive sector will generate (limited) jobs and wage income, and will likely raise export revenues, thus providing additional foreign exchange. This comes at the potential cost of raising demand for domestically produced non-tradable which may be inelastic in supply. Higher costs of non-tradable may feed into domestic manufacturing costs, raising prices, and lowering real wages. Lower real wages may reduce overall expenditure, offsetting the increase in employment in the extractive sector. In other cases, windfalls in mining might manifest as increasing demand for industrial inputs such as mining equipment, chemicals, and explosives. These windfalls may accrue overwhelmingly to capitalists rather than workers in the mining sector, particularly if workers bargain over real consumption wages rather than real product wages. This may stimulate demand for domestically and foreign produced luxury tradable goods.

Policy-makers therefore face a trade-off between the job and income-creating potential of minerals extraction versus the drag on domestic manufacturing caused by higher costs as a greater share of domestic infrastructure is devoted to servicing the extractive sector.

In general, an assessment of the job-promoting opportunities afforded by raising expenditure in a multi-sector open economy will require careful assessment not only of spare capacity at the aggregate level, but of the linkages between key sectors and the potential for bottlenecks to constrain output and cause price adjustments that may affect costs, incomes and expenditures in other sectors, as well as open economy considerations such as the effects on the exchange rate and external financial position.

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