



**JOBS  
GUIDE**  
Issue 4

# Jobs Diagnostics: A Step-by-Step Guide

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# **JOBS DIAGNOSTICS: A STEP-BY-STEP GUIDE**

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# CONTENTS

- CONTENTS .....2
- ACKNOWLEDGEMENTS .....3
- A. JOBS DIAGNOSTICS: PURPOSE & APPROACH .....4
- B. BENCHMARKING, COUNTRY STAGES OF DEVELOPMENT, DEMOGRAPHICS .....5
- C. JOBS DIAGNOSTICS: STEPS .....7
- ANNEX A: JOBS DIAGNOSTIC ONLINE TOOLS .....13

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The Jobs Diagnostic approach in the World Bank was developed under IDA17 as a specific request from the Bank’s clients and IDA Deputies. A team in the Jobs Group developed standardized data analysis tools for; (a) economy-wide aggregate data (Dino Merotto with Hild Rygnestad, Consultant), (b) individual worker data from household surveys (Michael Weber with Jorg Langbein, Consultant), and (c) for firm-level data (Reyes Aterido with Adrian Scutaru, Consultant). These tools allow the user to answer a set of structured questions that were also designed by Dino Merotto, Michael Weber and Reyes Aterido to identify data “symptoms” as the foundation for the diagnostic approach set out here (see annex I). To date over 40 World Bank country teams have embarked on or completed a Jobs Diagnostic<sup>1</sup>, and this note draws on experiences from these Jobs Diagnostics.

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This guidance note should be used in conjunction with the overall *Jobs Diagnostics* tools<sup>2</sup> provided by the Jobs Group.

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<sup>1</sup> For more information visit: <http://datatopics.worldbank.org/JobsDiagnostics/index.html>

<sup>2</sup> Access the Jobs diagnostic tools here: <http://datatopics.worldbank.org/JobsDiagnostics/jobs-tools.html>

## A. JOBS DIAGNOSTICS: PURPOSE & APPROACH

This note first explains the thinking behind relating jobs outcomes to economic transformation, then provides a succinct summary of the Jobs Diagnostic approach as a series of key steps. It is supplemented by more detailed online guidance with examples, which can be found at each of the web links embedded.

**A Jobs Diagnostic is the first analytic step in an operational framework designed to help countries achieve inclusive economic growth through faster growth in labor incomes.** Created for IDA countries under IDA17<sup>3</sup>, its purpose is to guide policy makers and development practitioners in the design of country jobs strategies. Jobs strategies comprise policy reforms, regulations and investments to improve labor incomes and working conditions, especially for targeted vulnerable groups. Strategies provide solutions to problems identified and validated at the diagnostic stage.

**Jobs Diagnostics explore how workers benefit from growth with economic transformation.** The nexus between economic transformation, growth and jobs is the key to economic development in low and middle-income countries. Economic growth is necessary for a country to simultaneously raise workers' earnings and employment without reducing the profits of entrepreneurs<sup>4</sup>. There cannot be *more and better* jobs with buoyant private investment to sustain it, in the absence of economic growth. But real GDP growth alone is insufficient for most workers to benefit with increased labor incomes. To generate more and better jobs, economic growth must increase the demand for the types of labor that a country's workforce can supply. Increased labor demand comes from growth in the demand for the goods and services a country can produce: either from export growth, or from growth in domestic demand<sup>5</sup>. As growth in countries generates higher productivity waged jobs, household incomes rise, consumers demand more income-elastic products, creating profitable investment opportunities for entrepreneurs to supply them. However, if the lion's share of GDP growth accrues *not* as labor earnings, but as resource rent to extractive industries, rent to landowners, and as profits to the owners of capital, economic growth does not create a waged 'middle class' whose consumption can fuel further investment and transformation. Whether there *is* a supply response, by which firms, how labor-intensive it is, who benefits in terms of jobs, and how, are fundamental to the cross-cutting enquiry in a Jobs Diagnostic.

**To ground analysis in the jobs that people do, the guided enquiry in a Jobs Diagnostics starts with the profile of jobs and work in an economy and explores trends in the channels through which workers gain in a growing economy.** The profile and structure of jobs and work defines both the stage a country is at in its economic transformation, and the suitable path that economic growth should take for it to be rich in labor demand. From a worker's perspective, economies grow when<sup>6</sup>:

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<sup>3</sup> IDA17 Mid Term Review: <http://documents.worldbank.org/curated/en/470271467986375832/pdf/100927-BR-IDA-R2015-0226-Box393245B-OUO-9.pdf>

<sup>4</sup> In the long run it comes down to arithmetic, see Blanchard, O., R. Solow and B.A. Wilson (1995), "Productivity and Unemployment", mimeo., MIT.

<sup>5</sup> "In a poor country, the home market is small and therefore relatively "inelastic". For sales to rise, prices have to fall. The pattern of domestic spending may not correspond well to the strengths of domestic supply" (The Growth Report: Strategies for Sustained Growth and Inclusive Development (2008)).

<sup>6</sup> See Presentation [Conceptual framework: Jobs and Economic Transformation, Pathways and Transitions, and the Jobs Diagnostic Approach](#).

- a. **more people join the labor force and find work**; labor is accumulated when young people join the workforce and find a job, when unemployed people move back into work, and when people who withdrew from the labor force (such as mothers or care-givers) seek and find jobs;
- b. **workers get better at the jobs they do**; labor productivity improves in situ – within the existing job and location, including in self-employment or unpaid family work, and when;
- c. **employment shifts from low productivity to higher productivity jobs**; this shift can require a change in *occupations, locations, employment type, or movement between firms*. That means some workers are better able to make the required move than others, and some are better suited to the new jobs the economy creates than others.

**In supporting the design of Jobs Strategies, the Jobs Diagnostic must consider an appropriate [pathway](#) for jobs and economic transformation in the country.** This hinges on the country’s labor endowment, and the sorts of jobs these workers can do. It also depends fundamentally upon: (a) the overall rate of economic growth the country is experiencing, and can generate, (b) the stage of economic transformation that a country is at, and (c) the stage in the demographic transition that a country has reached.<sup>7</sup>

**A good Jobs Diagnostic should consider the constraints that could step in the way of investors and workers as they seek to progress along an appropriate pathway.** In a slow growing economy, a poor investment climate and high costs of doing business could, for instance, limit the incentive of investors to commit new capital to production. That could limit the rate of job creation from new businesses. Poor trade and transport logistics could limit the expansion of export production, skewing growth and jobs to the smaller and less lucrative domestic economy. The absence of electricity could stymie industrial processing. Along with high urban food prices from a lack of productivity gain in agriculture, the lack of new urban job opportunities could dissuade workers from leaving farms. A lack of infrastructure, housing and other amenities could also dissuade workers from leaving their farms. Information gaps and frictions in labor market matching can lengthen or weaken the transition into higher productivity jobs. Unduly tight labor regulations or a high tax wedge may dissuade firms from hiring workers in the formal waged sector, whilst corruption and bad tax administration could prevent firms from seeking economies of scale. But first the economy needs to be *growing* and *transforming* along an appropriate pathway to better jobs. It is there we look first for healthy and unhealthy symptoms.

## **B. BENCHMARKING, COUNTRY STAGES OF DEVELOPMENT, DEMOGRAPHICS**

**Central to the concept of any diagnosis are [benchmarks](#) for normal and abnormal results.** For the analysis of economies, this requires some idea of normal, healthy rates of economic growth, *directions* of economic transformation, growth in labor productivity, labor market indicators, and business dynamics. It also requires the comparison of *relative performance* across countries, which means some form of benchmarking against a typology of countries with similar characteristics and conditions.<sup>8</sup>

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<sup>7</sup> Merotto, Weber and Aterido (2018) “Pathways to Better Jobs in IDA Countries”.

<sup>8</sup> The [macro tools](#) allow five country comparisons.

Useful references for [country-type](#)<sup>9</sup> from a Jobs perspective are the stage of economic transformation that the country is at, and the pace with which it is advancing. Economic transformation raises different jobs challenges depending on how advanced a country is in the processes of structural change, urbanization and the formalization of waged work, and on how fast these transformations are progressing.

- **Low-income countries are typically in the early stages of structural transformation**, with surplus labor shifting from low-productivity agrarian employment towards higher-productivity urbanized industrial and service sector employment. In these countries, getting people to work is not the main issue. As most people in these countries cannot afford not to work, labor force participation and employment rates tend to be highest. It is not so much the quantity of work that matters for LICs, but; (a) the quality of the jobs currently available to, and within reach of, workers given their location and skill sets, and (b) the pace at which the economy is creating better, higher productivity waged jobs in new sectors and locations. It is not unusual to find low shares of waged employment in industry and services in LICs, nor high rates of informality and unpaid or self-employment, nor to see productivity in industry and services fall as labor leaves agriculture. But low or negative growth in agricultural productivity, slow or no growth in off-farm waged work, and a reversal or slowdown in urbanization would point at constraints to jobs and economic transformation.
- **In middle-income countries (MICs), the economic transformation across sectors and space is largely completed.** Most of the population work off-farm, living in urban areas. The private sector is more mature and labor markets are less shallow and more integrated. Because economic transformation is more advanced, economic growth in middle-income countries depends less on labor shifts across sectors and occupations. Within-sector productivity improvements are key. This places emphasis on effective capital markets, attracting new capital investment, facilitating R&D spending, and promoting selection and spillovers through competition in and for product markets. In these countries, a larger share of the labor force is *wage-based* and subject to *formal work arrangements*. Workers are generally better off and better educated, which results in higher reservation wages. Low labor force participation and high unemployment rates are usually more important for this group of countries than in low-income countries.

**Demographics also fundamentally shape the jobs challenges countries face.** Countries that are just beginning their demographic transition face the steepest challenges in creating more *and* better jobs. Such is the case in the Sub-Saharan Africa region, which has a very young population with only about one-half being of working age. To keep the unemployment rates and labor force participation rates constant, Sub-Saharan Africa will have to create new jobs at an estimated rate of three percent per annum. This contrasts with East Asia, where the demographic transition is further advanced, and the working-age population is around three-quarters of the population. To keep unemployment and labor force participation rates constant, the required annual job growth in East Asia is estimated to be only 1 percent. While Sub-Saharan Africa faces a much greater challenge than East Asia in terms of job creation, it also

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<sup>9</sup> See also the 2013 World Development Report on Jobs, Chapter 6 “[Diverse Jobs Agendas](#)”.

faces a greater opportunity in the form of falling dependency ratios, often referred to as a “demographic dividend”. As the proportion of working-age population rises, workers have fewer mouths to feed on each salary, boosting per capita income. In countries near the end of the demographic transition, where population growth is declining toward a new plateau, the challenge is not to create more jobs, but to raise the productivity of existing jobs. Particularly in youthful LICs given rapid growth in the working age population, three conditions must hold to achieve more and better jobs:

- ***Economic growth should exceed growth in the labor force and employment.*** This is necessary to deliver productivity improvements without a rise in unemployment or disincentive to seek work;
- ***Waged employment growth should exceed the growth in total employment.*** This is necessary to ensure that there is productivity growth ‘within’ sectors and firms, with rapid transformations in the capital/labor ratio, economies of scale and with the greater division of labor. If it doesn’t hold, jobs growth as the working age expands will be in less capital-intensive self-employment, and in unpaid family work. Self-employed and unpaid family workers in the ‘traditional sector’ are more likely to supply services or consumables to the rest of the economy, to be constrained by local demand for their goods and services, and to invest little.
- ***The share of unpaid family workers should be falling.*** Unpaid family work in LICs is undertaken mostly by youth and women. It is a means of absorbing household members’ labor. If it does not fall, then with rapid entry of youth in the workforce, the average hours worked will tend to fall, and the economy will fail to attain dynamic productivity gains from labor movement to higher productivity work. It will also most likely mean that women and especially rapidly growing numbers of young workers are benefiting less from the economy.

### C. JOBS DIAGNOSTICS: STEPS

1. **First, Jobs Diagnostics start by identifying a key jobs-related problem for a country.** Problem identification is data intensive, involving three sub-steps.
  - a. ***Collection of symptoms from guided enquiry.*** First, is the collection and careful analysis of direct data *symptoms* with reference to other observable outcomes. To assist the collection and interpretation of symptoms, we first generate standardized data indicators for a set of [economy-wide](#), labor [supply](#) and labor [demand](#)] questions that are set out in a [guided enquiry](#). Each is generated by standardized diagnostic tools and techniques (see overview of tools in **Annex A**, and access the tools at <http://datatopics.worldbank.org/JobsDiagnostics/jobs-tools.html>).
  - b. ***Benchmarking.*** Second, problem identification requires that these indicators are compared to *benchmarks* from other similar countries to look for signs of abnormal outcomes.
  - c. ***Prioritization of the binding constraint giving rise to the key jobs problem, and elimination of other non-binding constraints.*** Third, problem identification asks what jobs constraint or condition is responsible for the observed abnormalities. Abnormal symptoms can be indicative of more than one key Jobs problem. So, a careful diagnostic requires a listing of the potentially binding constraints and their associated symptoms, and the elimination of non-binding constraints which are inconsistent with the observed symptoms. For instance, a persistently high



and rising real wage for professionals for an economy identified in labor force survey data could be symptomatic of a constraint caused by a skills shortage. Alternatively, if coupled with the symptoms of persistent unemployment or under-employment of people with the required professional qualifications, the constraint could be poor labor market information, or restrictive practices amongst professional groups. The *cause* of the domestic shortage would however, still need to be explained (see step 3).

2. **The second diagnostic step is to consider whether the observed Jobs problem arises from deficiencies in labor supply or labor demand.** Generally, the key jobs-related problem in step 1 will point to sub-optimal values of either the amount or the price of a set of variables; typically, the amount of employment or the average real wage received. Since wages and employment are determined by the interaction of labor demand and supply, the diagnostic should consider whether the core problem arises from deficiencies in labor supply or demand. For example, suppose that the level of formal waged employment is low relative to peer countries, and/or is declining over time. This outcome could be due to a decline in labor supply (for example, from a high reservation wage or from out-migration of workers), or it could arise because the demand for formal waged workers is low or falling (for example because the costs of doing business are dissuading suppliers from producing locally). The first case of a decline in supply would be associated with a rise in wages if the demand for labor is unchanged. Whereas a fall in the demand for labor would be associated with falling real wages for a given labor supply. Understanding whether the key jobs problem has its origins in demand or supply is done alongside prioritization of the problem in step 1.3. It fundamentally shapes the conclusions on the causes and the prescription of solutions, and so is deserving of its own diagnostic step.
3. **The third step of a Jobs Diagnostic is to explain what is causing the key jobs problem identified in steps 1 and 2, with reference to *disaggregated* indicators and *associated* symptoms.** This is the crucial step in which the key problem posited in step 1 is validated with deeper diagnosis of symptoms and is related to a specific cause; that is, to a specific Jobs constraint, or to a Jobs syndrome that is likely causing it. The step involves three processes:
  - a. ***Disaggregate symptoms:*** Informed by step 2, the collection of more disaggregated supply or demand-side data for the abnormal symptoms in step 1 can help determine whether a problem is nationwide, unique to a region or sector, and whether it manifests itself for a specific group of workers or businesses. This can be important in identifying the specific cause of the Jobs problem. For instance, taking the earlier example of a perceived shortage of professionals, disaggregated data might show an increase in earnings for public sector professionals is driving up the average earnings and is reducing the incentive of professionals to seek private sector jobs. In that case the cause of the private sector shortage could be over-generous public sector pay, not a dearth of young graduates. In contrast, a rise in the average age of professionals might indicate that fewer are being trained, or that a brain-drain has manifested, with trained professionals emigrating. Either way the solution would be to train more.
  - b. ***Look for corroborative evidence:*** With a full set of disaggregated symptoms, the analyst should again list all the symptoms identified, posit a labor supply or labor demand constraint associated

with them, then consider the further implications of that constraint. That is, what further symptoms would one expect to see if the posited constraint was binding? This is where the diagnostic relies upon non-standardized data. Using the example of the shortage of professionals, the analyst would want to know more about the number of graduates and enrolled professionals from Universities and Colleges, and the qualifications of those professionals gaining work permits. A decline in enrollments and graduation in the face of higher probabilities of employment and higher average earnings may point to a problem with the colleges themselves. No decline might suggest that demand has increased beyond the Colleges' capacity to train, or that more professionals are leaving the country. To be convinced that a skills shortage is the binding constraint, the analyst would also need information on job vacancies and applications for work permits. In a growing economy where business services are booming, and accountants are in short supply, private firms would be training bookkeepers, bringing qualified accountants in on work visas, and would be placing advertisements in national and foreign newspapers to attract them.

- c. **Consider syndromes<sup>10</sup>**: it could be that after careful consideration, the cluster of abnormal or unhealthy symptoms identified does not have a specific and clear causal origin, which can be easily reversed. An example might be 'low human capital' which leads to low labor productivity and reduces both the attractiveness of the country to investors, and the employability of workers. It may have many causes. Another example might be structural dualism. In many LICs, where economic transformation is slow (symptom 1), the persistence of high wage gaps (symptom 2), and high and persistent skill premia between rural and urban labor markets (symptom 3) is commonplace. Large populations of workers such in countries often subsist or take unpaid family work (symptom 4), underemployed in capital-scarce 'traditional sector' occupations with low hours of work (symptom 5), low labor productivity and low hourly earnings (symptom 6). Meanwhile a more limited number of 'modern-sector' workers is typically employed in capital-rich, high labor productivity jobs in factories or office, enjoying much higher wages (symptom 7). Under these circumstances, market forces should operate so that modern sector wages are bid down by the inflow of excess workers from the traditional sector in search of higher waged work, and firms should expand employment until wages are equalized across the economy. But clearly, in many countries the process is not working, and/or it takes a very long time. It is not easy to discern a single cause; high moving costs with low probabilities of employment could be a factor; faced with excess labor, low skills and risky business environments, formal businesses may train their staff and pay efficiency wages; there may be a more general constraint on the demand for goods and services in the modern sector that stems from the country's low income and limited access to export markets. Where syndromes are identified in the medical sphere, the prescription is to treat abnormal symptoms directly.

**The fourth and final step of a Jobs Diagnostic is to prescribe policy and regulatory reforms and investment solutions to remove the causes of the constraints giving rise to jobs problems, and to ease transitions to better jobs.** As noted in the Purpose and Approach section, economic development entails

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<sup>10</sup> More information on syndromes can be found in [the longer working paper](#) on Jobs diagnostics.

various economic transformations. Such transformations, in turn, depend on investments in human and physical capital and factor mobility across economic sectors, geographic locations and occupations. When an economy exhibits worse jobs-outcomes than those observed historically, or in other countries at similar stages of development, it signals that something has gone awry in the transformation process. The first steps in the Jobs Diagnostic focus on finding out *if something needs to be fixed*, by looking for signals to identify symptoms of a malfunctioning transformation process. The next steps focus on *identifying what needs to be fixed or treated*, by relating the symptoms of possible malfunction to a Jobs constraint or syndrome. The final steps aim to *identify the cause of the constraint or syndrome* giving rise to the jobs-problem, and how best to treat it, either by; (a) proposing solutions to remove the constraint found to be responsible for the poor jobs-outcomes, or (b) by treating the symptoms associated with the syndrome leading to poor jobs-outcomes, when a particular constraint has not yet been identified.

**To justify government interventions to remedy poor jobs-outcomes on efficiency grounds, it is necessary to identify the relevant market or policy failure.** The Jobs Diagnostic approach is based on the notion that economic agents act rationally, and that an unconstrained market economy generally yields Pareto-optimal equilibrium outcomes, at least in the long run. From this theoretical perspective, the only reason why labor markets would not converge to Pareto-optimal jobs outcomes is, either, because of the presence of market failures or the presence of policy failures. In both cases, the assumptions underlying the perfectly competitive model would not be met and, thus, the product, labor and capital markets would not automatically equilibrate at a Pareto-efficient point. From this perspective, the only justification on efficiency grounds for government intervention is the presence of [market or policy failures](#).<sup>11</sup> Expressed differently, identifying the relevant market or policy failure responsible for a jobs-outcome is tantamount to identifying the *cause* of the key constraint giving rise to the Jobs Problem.

**Market and policy failures can be classified into four broad categories;**

- *public goods* (for example, public infrastructure, education)
- *imperfect competition* (for example, natural monopolies or monopsonies)
- *asymmetric information* (for example, agent-principal problems), and
- [externalities](#) (that is, when private and social benefits/costs differ).

**The market distortions created by these market failures can in principle be corrected;** through *direct provision* of public goods, through *fiscal policies*; taxation or subsidization of private production (Pigouvian solutions); through *government regulations* (involving changes in relative prices and market rules) or, through the *assignation of property rights* to promote private sector pricing solutions à la Coase.

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<sup>11</sup> See Joseph E. Stiglitz (2000), “The Economics of the Public Sector” (New York: W.W. Norton), pg. 89, who writes, “The fundamental theorems of welfare economics are useful because they clearly delineate a role for the government. In the absence of market failures and merit goods all the government needs to do is worry about the distribution of income (resources). The private enterprise system ensures that resources will be used efficiently. If there are important market failures [...], there is a presumption that the market will not be Pareto efficient. This suggests a role for the government. But there are two important qualifications. First, it has to be shown that there is, at least in principle, some way of intervening in the market to make someone better off without making anyone worse off; that is, of making a Pareto improvement. Secondly, it has to be shown that the actual political process and bureaucratic structures [...] are capable of correcting the market failure and achieving a Pareto improvement.

**All constraints are therefore caused either by distortive government interventions, or by the inability of the government to correct for market failures.** *Government interventions* that distort the functioning of markets in pursuit of objectives that are not related to any market failures are sometimes referred to as the “sins of commission”. In contrast the failure of public policies, regulations or fiscal transfers to address market failures can be referred to the “sins of omission”.

**Solutions for Jobs Strategies generally involve removing the source of the policy failure or applying corrective tax and subsidy measures to eliminate the distortions created by the market failure.** For example, when the binding constraint is a monopolized industry in the product market, the preferred corrective interventions in the case of natural monopolies generally involve public ownership or tightly regulated oversight of utilities, and the application of anti-trust legislation in the case of private monopolies.

**However not all poor jobs-outcomes can be traced to policy or market failures.** Exogenous developments may have nothing to do with market or policy failures but may worsen jobs outcomes; for example, a reduction in labor force participation from some epidemic is sure to result in a worsening jobs-outcome. The same is true of Dutch Disease, which refers to the consequences of a rapid rise in the price of extractables, which leads to a real exchange rate appreciation, jobless growth and the stagnation of production in the tradable sectors and leaves an economy in a highly vulnerable state. This may not be a satisfactory jobs-outcome from a distributive view or otherwise. But it may be the efficient jobs-outcome of freely competing market forces in a country richly endowed with extractable resources. Although corrective policy action is needed to maintain the competitiveness of traded goods, it need not involve any market or policy failure.

**That said, policy interventions to change unsatisfactory jobs-outcomes that are not rooted in market or policy failures require caution.** There might still be other legitimate reasons beyond the search for efficiency to seek changes in specific jobs outcomes. For example, a society may place a high value on distributive criteria that represent a trade-off with achieving maximal efficiency. The nice thing about measures designed to address a market or policy failure is that they focus on removing or correcting the source of failure and “restoring” a healthy economy. When the underlying cause of an undesired economic outcome is not known, however, policymakers would only be addressing symptoms, rather than restoring a well-functioning economy. This raises the danger of introducing a new policy failure. In other words, policy interventions to change specific jobs-outcomes without a market or policy failure justification introduce new market distortions that could result in an even worse outcome.

**The final steps are to review the experience of other countries in removing jobs-constraints, and to simulate alternative recommendations.** A review of other countries’ experiences with policy measures adopted to remove similar jobs-constraints or address similarly onerous jobs syndromes can give valuable insights about solutions (see Box 1 for links to resources on such solutions). Such cross-country reviews are particularly important when seeking to assess the effects of policies designed to change job-outcomes *in the absence of market failure*. All policymakers are left with under such circumstances is to adopt an

empirical approach and evaluate the outcomes of different policy packages adopted in other countries and assess whether those jobs outcomes are preferable overall to the jobs outcomes currently prevailing at home.

**Once solutions are proposed the diagnostic should identify technical assistance needs and possible political economy impediments to implementing them.** If a binding constraint results in an obviously Pareto-inefficient outcome, one might wonder why the government is not revising its policies or why political entrepreneurs have not already emerged to pounce on this issue and to remove the constraint. If it is merely a matter of

technical competence, it could be quickly corrected with technical expertise based on, say, jobs-market model simulations to estimate the market response to different types of government interventions.<sup>12</sup> More often than not, however, government behavior reflects a constellation of various interests in society. In that case, a jobs-strategy would have to include measures that create champions for change or to break the stranglehold of various interest groups that thwart progress.

**Identify the multi-sector labor market model that best describes the country being analyzed.** As pointed out by Fields (2004),<sup>13</sup> there are at least four alternative ways to model the formal sector labor market, at least three ways of modeling the informal sector, and at least three alternative ways to model the linkages between both markets, which yields thirty-six possible combinations for modeling a country's labor market, each of which exhibits somewhat different labor dynamics.

In view of the different behavior patterns exhibited by labor markets across the globe, there is no reason to assume that all countries are best represented by the same labor market model. For example, the East Asian countries as a group exhibit relatively low wage dispersion and low unemployment, which is indicative of an Integrated Labor Market model with Wage Equalization and no Unemployment. That model exhibits different characteristics than those shown by Dual Labor Market models without unemployment (Lewis 1954) or with unemployment (Harris and Todaro), which appear more characteristic of labor markets in sub-Saharan Africa. Labor Markets in Latin America, in turn, appear more integrated than in Africa, but also reveal more institutional wage setting than is observed in East Asia. The Mexican labor market provides another contrast; instead of regarding the informal sector as a residual sector for workers that cannot find employment in the formal sector, it is largely considered a preferable working arrangement.

**Box 1: Links to Resources on Jobs Solutions**

- [Training Course of Jobs Diagnostics and Solutions](#), Day 4-5
- [Special Economic Zones and Industrial Parks](#)
- [Agriculture Value Chains \(based on productive alliances models\)](#)
- [Tax and Benefit Reforms to Make Formal Work Pay](#)
- [Upgrading Apprenticeship Systems](#)
- [Reforming Skills & Vocational Training Programs](#)
- [Capacity Building Programs in Entrepreneurship](#)
- [Solutions for Women - Childcare and Flexible Work Arrangements](#)
- [Urban Development and Jobs](#)

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<sup>12</sup> This underlines the importance of identifying the right labor market model for each particular country, as discussed below.

<sup>13</sup> Fields, G. (2004). A guide to multisector labor market models. Cornell University, School of Industrial and Labor Relations site: <http://digitalcommons.ilr.cornell.edu/workingpapers/86/>

## ANNEX A: JOBS DIAGNOSTIC ONLINE TOOLS

The Jobs Diagnostic Tools page contains a range of useful tools to identify the main jobs challenges faced by a country—especially those that appear to be binding constraints to improving jobs outcomes for poor people and vulnerable communities. Click [here](#) for an introduction to the tools.

Analytical Tool and Description	Tool	Documentation
<p><b>1. JobsStructure Tool</b></p> <p>The tool decomposes per capita output growth into four components - contributions of productivity growth, employment growth, labor force growth, and change in working age population - using the Shapley decomposition method. The aim of the analysis is to understand the roles of productivity and employment growth in driving a country's overall growth. To understand a country's job structure, the tool calculates different sectors' contributions to aggregate productivity and employment growth. The tool helps the user make growth projections and analyze the consistency of such projections in terms of historical data as well as UN population projections. By using the Country Comparison feature, the user can select five countries and compare results.</p>	<p><a href="#">Excel Tool</a> (.xlsm)</p>	<p><a href="#">Documentation</a> PDF</p> <p><a href="#">Demonstration</a> Video</p> <p><a href="#">Demonstration - Comparison</a> Video</p> <p><a href="#">Demonstration - Projection Scenarios</a> Video</p>
<p><b>2. Jobs Group Tool</b></p> <p>The tool helps generate tables and charts of population and employment data - both historical and projected. Users can apply population projections from UN data, or add their own projections. In the projection sheet, indicators and charts guide users in developing consistent projections not only in terms of population, but also in terms of working age population, dependent population, labor force, and employment. Where possible, the data and projections are split between male and female to highlight any gender gaps. Output charts include population pyramids.</p>	<p><a href="#">Excel Tool</a> (.xlsm)</p>	<p><a href="#">Documentation</a> PDF</p> <p><a href="#">Demonstration - Demography</a> Video</p> <p><a href="#">Demonstration - Comparison</a> Video</p>
<p><b>3. Jobs Group Context Tool (*Beta)</b></p> <p>This tool compiles comparative policy indicators from WDI data for a range of macro, doing business and labor regulations. It complements the Jobs Diagnostics tools with relative policy performance, and lets the user view comparative data for a selected country - at a glance - from multiple databases. The user can select to compare policy performance against up to 15 countries.</p>	<p><a href="#">Excel Tool</a> (.xlsm)</p>	<p><a href="#">Documentation</a> PDF</p> <p><a href="#">Context</a> Video</p>
<p><b>4. Jobs Diagnostic Labor Demand Tool</b></p> <p>This tool uses formal private sector firm-level data to analyze jobs outcomes: employment, revenue, value added, labor productivity and labor costs. The tool creates a profile of private sector businesses hiring at least one employee, along with cross country comparisons. Standardized analysis is generated for aggregate trends in economic transformation from the formal private sector, and firm performance over time.</p>	<p><a href="#">Tool</a> (do. files)</p>	<p><a href="#">Documentation</a> PDF</p>
<p><b>5. Jobs Diagnostic Labor Supply Tool</b></p> <p>The Jobs Diagnostic Supply Side tool provides standardized Labor Market analysis from the Workers' perspective. It can help users conduct a Jobs Diagnostic Supply Side Guided Enquiry. The outputs of the tool present key Labor Market information ranging from labor force participation rates, types of employment, and unemployment to labor market outcomes for different population groups.</p>	<p><a href="#">Tool</a> (do.files)</p>	<p><a href="#">Documentation</a> PDF</p>



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