

Working Paper:

Measuring Job Creation in Private Sector Development

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Any feedback on the working paper is welcome. Please contact admin@enterprise-development.org.

I. Introduction to the Paper

With an estimated 200 million people unemployed worldwide, employment generation is gaining an important role in the development discourse.¹ Its rising prominence is being driven in part by a youth bulge in many developing countries that will bring 600 million more people into the labour force over the next 15 years.² Donors are increasingly orienting their private sector development investments towards job creation. Yet despite this shift, there are significant challenges impeding the measurement of job creation. The complexity of the topic makes measurement challenging and error-prone.³ A survey of results measurement practitioners conducted by MarketShare Associates in 2013 found that better understanding of how to measure job creation was among their top three priorities.⁴ Few guidance documents are available presenting methodologies for measuring project-level impacts on job creation.⁵ The aim of this paper is to complement existing resources⁶ with additional orientations and practical examples on measuring job creation and job quality.

This paper's intended audience is initiatives seeking to create jobs through private sector development. It is particularly relevant for practitioners seeking to comply with the DCED Standard for Results Measurement (hereafter referred to as the "DCED Standard"). For those not familiar with the DCED Standard, Section II provides a short overview. Sections III to VII articulate the importance of jobs for development and the relevance of job creation for private sector development programmes. They present definitions of jobs and job creation then explain key issues for practitioners to consider in measuring job creation and methods for doing so. Section VIII outlines eight steps for practitioners to follow in estimating their impacts on job creation, while Section IX provides a practical decision tree to use in designing an approach to measurement.

II. Introduction to the DCED Standard and Job Creation

The DCED Standard provides a practical framework for private sector development programmes to monitor their progress towards objectives. This enables programmes to better measure, manage, and demonstrate results. The DCED Standard was first developed in 2008, and has been gradually refined in collaboration with PSD programmes in the field. It includes eight elements:⁷

¹ For example, the World Bank's 2013 World Development Report focused on jobs and the International Finance Corporation recently released a significant study on jobs.

² World Bank. 2012. World Development Report 2013: Jobs. Washington, DC.

³ World Bank. 2012. World Development Report 2013: Jobs. Washington, DC.

⁴ A survey conducted by MarketShare Associates in early 2013 found that job creation was one of the priority challenges identified by practitioners seeking to apply the DCED Standard.

⁵ A list of documents that have been consulted in preparing this paper are presented in Annex A.

⁶ See, for example: Sen, Nabanita et al, 2018. [Guidelines to the DCED Standard for Results Measurement: Defining Indicators of Change](#). DCED.

⁷ Sen, Nabanita. A Walk Through the DCED Standard for Measuring Results in PSD. DCED. 2010.

1. **Articulating Results Chains.** Results chains visually represent the change process through which project activities are expected to lead to intended impacts, showing the anticipated causal links and relationships between them. They clearly demonstrate what the project is doing and the sequence of changes that are expected as a result.
2. **Defining indicators of change.** An indicator specifies what projects will measure in order to see whether change has occurred. Defining indicators on the basis of the results chain allows projects to develop an appropriate monitoring plan.
3. **Measuring changes in indicators.** Once indicators have been defined, projects develop and implement a monitoring plan that conforms to good research practice.
4. **Estimating attributable changes.** Once a change is measured, you need to assess the extent to which that change is due to your project, rather than to other influences. For example, an increase in jobs may be due to your project, to exogenous factors or to a combination of the two.
5. **Capturing wider changes in the system or market.** Many PSD programmes aim to affect entire market systems, and, if so, need to capture the results of these changes.
6. **Tracking programme costs.** In order to assess the success of the project it is necessary to know how much was spent in achieving the reported results.
7. **Reporting results.** Findings should be communicated clearly to funders, local stakeholders, and to the wider development community where possible.
8. **Managing the system for results measurement.** The results measurement system should be sufficiently resourced and integrated into project management, informing implementation and guiding strategy.

The DCED Standard suggests that programmes capture the following three universal indicators:⁸

Scale: Number of target enterprises who realize a financial benefit as a result of the programme’s activities per year and cumulatively. The programme must define its “target enterprises.”

Net income: Net additional income (additional sales minus additional costs) accrued to target enterprises as a result of the programme per year and cumulatively. In addition, the program must explain why this income is likely to be sustainable.

Net additional jobs created: Net additional, full time equivalent jobs created in target enterprises as a result of the programme, per year and cumulatively.⁹

Job creation is therefore an important aspect of the DCED Standard. However, in recognition that job creation may not be relevant for some programmes, measurement of this indicator is optional. Programmes that are audited for their compliance with the DCED Standard can receive full points even if

⁸ Sen, Nabanita, et al. 2018. [Guidelines to the DCED Standard for Results Measurement: Defining Indicators of Change](#). DCED.

⁹ The DCED Standard also notes that jobs saved or jobs sustained may be reported separately.

not measuring job creation, provided that the justification for the decision is documented and reasonable. The documentation can simply explain the reasons why job creation is not relevant to the programme's aims or funder. For example, the CAVAC Cambodia project and Samarth Nepal Market Development Programme both received a strong audit score despite not measuring job creation.¹⁰

This paper makes frequent reference to the DCED Standard and assumes a basic knowledge of its components. Additional information about the DCED Standard is available online.¹¹

III. The Importance of Jobs to Development

A significant body of research has asserted that earnings from employment are the most important driver of poverty reduction.¹² The World Development Report 2013 argues that “jobs are the most important determinant of living standards around the world”, serving to “boost living standards, raise productivity, and foster social cohesion.”¹³ The importance of jobs for development and poverty reduction is a critical argument for PSD programmes to measure job creation, despite its difficulty.

While the quantity of jobs that are created is an overwhelming priority for many governments and donors, the quality of those jobs is also an important issue. For instance, the tagline for the European Employment Strategy calls for ‘more and better jobs’,¹⁴ while the ILO’s Decent Work Agenda sets out to increase access to full and productive employment with rights at work, social protection and social dialogue.¹⁵ The ILO estimates that 60% of the labour force in developing countries works in the informal sector, with 34% earning below \$2 per day. Nearly half face vulnerable job conditions.¹⁶ A list of aspects of job quality is provided in Annex B.

IV. The Relevance of Job Creation for PSD Programmes

Private sector development (PSD) programmes seek to reduce poverty by facilitating the development of a strong and dynamic private sector that can deliver inclusive economic growth. Job creation is of varying importance for PSD programmes; several of the key considerations in determining its relevance are outlined in this section.

One factor is the programme’s strategy. Some types of private sector development projects will not have a significant effect on jobs. In the case of the Thai-German Programme for Enterprise

¹⁰ For example, see Wanitphon, Phitcha. 2013. [CAVAC Audit Report](#). DCED.

¹¹ See www.enterprise-development.org/page/measuring-and-reporting-results

¹² See, for example, Baulch, Bob, ed. 2011. *Why Poverty Persists: Poverty Dynamics in Asia and Africa*. Cheltenham, UK: Edward Elgar Publishing.

¹³ World Bank. 2012. [World Development Report 2013: Jobs](#). Washington, DC.

¹⁴ European Parliament. 2009. Indicators of Job Quality in the European Union. Policy Department A: Economic and Scientific Policy.

¹⁵ ILO. [Decent Work Website](#).

¹⁶ ILO. 2014. Global Employment Trends 2014: Risk of a Jobless Recovery?

Competitiveness, for example, the project decided not to measure job creation because the programme sought to increase the competitiveness of enterprises. While this will improve the longer-term security of existing jobs, it may not create significant numbers of jobs in the short-term.¹⁷ Equally, projects that support mobile banking may save people time and money without increasing employment opportunities. The following table presents evidence on the potential for job creation of various PSD programme strategies.

Table 1: PSD Programme Strategies and Potential for Job Creation¹⁸

Type of PSD Project	Job Creation Potential (High, Medium, Low or Variable)
<i>Business Environment Reform</i>	Variable potential. Business environment reform can create large numbers of jobs or, alternatively, actually reduce them. Reforms to the ease of business creation, tax policy and investment promotion show some evidence of creating jobs. In contrast, encouraging informal firms to formalize appears to create few net new jobs. ¹⁹
<i>Challenge Funds</i>	Medium potential. Additional employees at businesses directly funded by challenge fund and suppliers of businesses. The number of jobs created may be limited however, and may not be sustained if the innovation is not continued following the end of donor supporting.
<i>Employment training programmes</i>	Low potential. Employment training programmes typically build skills and link to employers. The act of training prepares an individual to fill a vacant job, but does not in itself create a job unless the individual uses the training to become self-employed.
<i>Market systems and value chain development</i>	Variable potential. Market systems development can create large numbers of jobs or, alternatively, very few. Programmes facilitating growth and upgrading in labour-intensive sectors are most likely to create jobs, whereas capital-intensive sectors and investments are less likely to do so. ²⁰
<i>Enterprise competitiveness development and productivity improvement</i>	Low to medium potential. Enterprises often improve competitiveness by increasing efficiencies, including output per worker. Where total output does not increase significantly, this may imply job losses or little change. However, jobs that might have otherwise been lost may be sustained as firms become more competitive. The sector matters; process innovations are likely to lead to job losses in manufacturing but job growth in the services sector. Product innovations are positively correlated with employment growth generally. ²¹
<i>Entrepreneurship training</i>	Low to medium potential. For programs working with microenterprises,

¹⁷ Wanitphon, Phitcha. 2011. [Case Study in using the DCED Standard Palm Oil Production in Thailand with GIZ](#). DCED.

¹⁸ This table does not consider how different types of PSD programmes may impact job quality. Yet types of programmes that may not create significant jobs may have strong impacts on improving the quality of existing jobs.

¹⁹ Although firms operating in the formal sector often create more jobs than those in the informal sector, there are many reasons that firms remain in the informal sector, including lower productivity and a lack of desire on behalf of the business owner to growth.

²⁰ Loayza, Norman and Claudio Raddatz. 2006. The Composition of Growth Matters for Poverty Alleviation. World Bank Policy Research Working Paper 4077.

²¹ IFC. 2013. IFC Jobs Study: Assessing Private Sector Contributions to Job Creation and Poverty Reduction.

	<i>many evaluations do not report impacts on employment of other workers or report small and statistically insignificant effects. The most direct employment impacts are likely to be for the owner him or herself. However, such increases in self-employment are likely to be offset by reductions in wage employment.²² Better potential for employment creation may exist when training larger firms²³, if training covers a substantial period of time and is specific to the enterprise. But it may have negative employment effects where it leads to the closure of poorly performing businesses.²⁴</i>
<i>Wage subsidies for enterprises</i>	Variable potential. <i>Little evidence exists on the employment effects of wage subsidies. Two out of the three direct subsidy programme evaluations identified by Grimm (2014) find a positive impact, however the size of the effects differ quite significantly.²⁵</i>

There is evidence that the sectoral focus of a project impacts the likelihood of direct job creation. For example, facilitating economic growth in the service sector is likely to create many jobs directly, given the labour-intensive nature of many services, whereas economic growth in agriculture may generate few direct jobs if firms' investments replace labour with capital.²⁶ This is common in countries transitioning to middle and high income status, as labour steadily shifts away from agriculture into other productive industries. The sector in which a PSD programme is operating also has significant implications for jobs measurement. Sectors in which most firms operate in the formal sector, in urban areas, have large numbers of employees, and employ their workers in full time positions are relatively straightforward to define and measure. In contrast, those operating in rural areas, where most workers are informal and work seasonally or part-time, will be much more difficult to measure. During upfront design, programmes should determine whether a realistic theory of change links their strategy and sectoral choice to the creation of jobs.

In some cases, even programmes that do not expect to generate additional jobs may decide to monitor job creation, for reasons that include:

- **Monitoring firm-level performance and efficiency.** Ratios such as revenue per worker can act as a proxy for firm competitiveness. They can therefore be very helpful for programmes seeking to improve firm-level and sector-level competitiveness.
- **Monitoring any negative impacts the project is having on employment.** When a PSD programme expects that some jobs will be lost as a result of its interventions – such as the introduction of a new labour-saving technology, for example – it may wish to assess whether displaced workers are able to obtain other work that is at least comparable to what they lost. The experience of one project that did so is profiled in the box below.

²² McKenzie, David and Christopher Woodruff. 2012. What Are We Learning from Business Training and Entrepreneurship Evaluations around the Developing World? World Bank Policy Research Working Paper.

²³ Ibid.

²⁴ Grimm, Michael and Anna Luisa Paffhausen. 2014. Interventions for employment creation in micro, small and medium enterprises in low and middle income countries: a systematic review.

²⁵ Ibid.

²⁶ Basnett, Yurendra and Ritwika Sen. 2013. What do empirical studies say about economic growth and job creation in developing countries? Overseas Development Institute.

Monitoring the Impacts of Mechanization of Job Creation

The Promoting Pro-Poor Opportunities in Commodity and Service Markets (PrOpCom) programme in Nigeria identified the minimal use of mechanized tilling technologies by farmers as an impediment to development of the agricultural sector. One solution that they developed and piloted with private firms was a tractor leasing service. In developing their results chain for the pilot, they considered the likely employment impacts. Based on their research in the sector, they felt that the impacts for existing farm labourers were likely to be either neutral or slightly negative, though mechanization would create new job opportunities as additional land was brought under cultivation. Given the developmental implications of job creation and risk of job loss for its development objectives, PrOpCom decided to include job creation within its results chain and actively measure it using field-based surveys with farmers. While the primary benefit of the intervention proved to be income generation – over \$5.2 million was projected to be generated by two years after the end of the intervention – the project also estimated that it had a positive net impact on job creation of over 500 net full time equivalent jobs.²⁷

There are other, more pragmatic considerations in deciding whether to measure job creation. One is the priorities of programme investors or donors. In some cases, investors have overall job creation targets that they expect all investments to contribute to. Where this is not aligned with programme strategy, programmes will need to decide whether to advocate for its removal from the results measurement framework. A second consideration is a programme's capacity. Staff may not be familiar with how to measure job creation or financial resources may be inadequate. Initiatives that include job creation in their measurement plans without the human or financial resources to do so risk overstressing their capacity and thereby compromising the performance of their entire results measurement system.

V. Defining a Job and Job Creation

Measuring job creation must start with an understanding of how the key terms are defined. This section defines a job then presents three approaches to measuring job creation, including the one used by the DCED Standard. It introduces nine issues that should be considered in selecting the appropriate definition for your context. These concern the types of jobs you expect to create: formal and/or informal jobs, jobs for particular target groups such as the poor, sustainable and/or temporary jobs, paid and/or unpaid work, employment for others and/or self-employment, jobs for those who are underemployed, and jobs for those already occupied with low-productivity tasks. They also relate to whether you want to consider your programme's attribution to the jobs that are created. This section finally helps to inform selection by examining how each approach to measuring job creation addresses the aforementioned issues.

²⁷ Peach, Julian and Sadia Ahmed. 2011. Case Study in Using the DCED Standard: Tractor Leasing in Nigeria with PrOpCom. DCED.

5.1 What is a job?

A job is simply defined as “a set of tasks and duties executed, or meant to be executed, by one person, including for an employer or in self-employment”.²⁸

5.2 How are jobs counted?

There are various approaches to measuring job creation, each with their respective advocates. This section outlines three approaches to measurement: full time equivalent jobs (which the DCED Standard uses), employment, and qualified headcount.

5.2.1 Full Time Equivalent Jobs

The first approach to jobs measurement is to sum up the aggregate number of jobs that have been created into a full time equivalent (FTE). This is the approach advocated by the DCED Standard. The DCED Standard defines net additional jobs created as: “*Net additional, full time equivalent jobs created in target enterprises as a result of the programme, per year and cumulatively.*”²⁹ This definition emphasizes several concepts that are explained in the following table.

Table 2: Elaboration on Key Concepts in the DCED Standard's Job Creation Definition

Concept	Definition	Example
Net	Jobs created - jobs lost = ‘net’ jobs created.	If 100 jobs are gained in a firm, and 50 lost, then the net number of jobs gained is 50.
Additional	Jobs created in ‘addition’ to what would have happened without the programme’s intervention, requiring an assessment of attribution.	If a company originally had 100 employees, and hired another 5 because of a PSD intervention, then it would have 105 jobs in total. However, the additional jobs created would be 5, not 105, assuming that the project’s attribution to the creation of those new jobs was assessed and deemed valid by the project.
Full-time Equivalent	A calculation to capture days worked. Days of work created/240 days = FTE. ³⁰	If two half time jobs are created of 120 days each per year, then that equals <u>one</u> FTE job.
Target enterprise	The final beneficiaries that a programme aims to benefit. These are usually the poor producers, such as farmers, and/or workers in the enterprises.	A programme seeks to benefit rural poor. One of its interventions works with a target agricultural firm. The firm purchases from smallholder producers. The target enterprises are the supplying smallholder farmers.
Cumulatively	All FTE net additional jobs created over the lifetime of the intervention.	As a result of a programme’s interventions, 2.5 FTE jobs are created in year 1 and subsequently sustained. An additional 0.75 sustainable FTE jobs are created in year 2. Thus a cumulative total of 3.25 FTE jobs would have been created by the project.

²⁸ ----- . 2007. Resolution Concerning Updating the International Standard Classification of Occupations. Adopted by the Tripartite Meeting of Experts on Labour Statistics on Updating the International Standard Classification of Occupations, ILO, Geneva, December 6.

²⁹ DCED. 2013. DCED Standard for Measuring Results in PSD. Version VI.

³⁰ Sen, Nabanita et al. 2018. [Guidelines to the DCED Standard for Results Measurement: Defining Indicators of Change](#). DCED.

The Harmonized Development Results Indicators for Private Sector Investment Operations³¹, signed by 24 international financial institutions in 2013, also advocates for calculating jobs in terms of FTE.

Table 3: IFI Harmonized Employment Definitions

Type of Employment	Definition
Direct Employment – Operations and Maintenance	Number of full-time equivalent employees as per local definition working for the client company or project at the end of the reporting period.
Direct Employment – Construction Phase	Number of full-time equivalent construction workers employed for the construction of the investor’s client company or project’s hard assets ³² during the reporting period.
Investee Direct Employment – Operations and Maintenance	Number of full-time equivalent employees as per local definition working for the company or project’s hard assets at the end of the reporting period.
Investee Direct Employment – Construction Phase	Number of full-time equivalent construction workers employed for the construction of the investor’s client company or project’s hard assets during the reporting period.

While both definitions adopt FTE as the basis for calculating job creation, they differ in several important ways. The DCED Standard’s definition focuses on measuring sustainable jobs and on seeking to assess a programme’s attribution to those changes. It is also applicable to measuring jobs in the informal sector and the self-employment. In contrast, the IFI definition explicitly considers the creation of temporary jobs and focuses on the jobs created directly by client companies and their hard assets.

In part, these differences relate to the types of initiatives that they were designed to measure. The DCED Standard was generated largely by the community of practitioners implementing the Making Markets Work for the Poor (M4P) approach; the rationale of M4P projects is they intervene strategically to address market opportunities and constraints, based on careful analysis. They therefore seek market-wide effects through a portfolio of interventions that are carefully designed to address the causes of market-based problems. International Finance Institutions, on the other hand, primarily deploy financial instruments to assist individual businesses to meet their full potential in the market. The rationale, world view and anticipated logic are different, and as a result, the employment effects anticipated are different. M4P programmes, for example, value sustainability and market-wide effects above all, while IFIs look particularly to measure the direct employment effects as a result of their investments. This contributes to substantial differences in their respective points of emphasis.

Using FTE to measure employment helps to reveal the total quantity of work created. Conversely, it does not reveal the number of people who benefited from additional jobs.³³

³¹ -----, 2013. Memorandum regarding IFIs Harmonized Development Results Indicators for Private Sector Investment Operations. October 12th. The full definitions are provided in Annex C.

³² This is presumably supposed to read “of the client company or project” rather than “of the investor’s client company or project’s hard assets”.

5.2.2 Employment

The International Labour Organization defines employment from a people-centric perspective (i.e., is an individual employed, underemployed or unemployed), rather than focusing on a job as the unit of analysis. The ILO's definition of employment is summarized as *"all those employed above a specified age who during a specified brief period, either one week or one day, were in the following categories: i) paid employment; ii) employers and self-employed; iii) unpaid family workers; unpaid family workers at work should be considered as being self-employed irrespective of the number of hours worked during the reference period."*³⁴

This definition classifies as employed those who are unpaid and self-employed. While an important measure for national-level analysis, measuring employment using this definition is less suitable for PSD programmes wanting to know the depth of job creation due to their efforts. It can obscure the total quantity of work created, as a job of one hour per week is counted equally to one of 40 hours per week.³⁵ This also does not capture the quality of work that is created.³⁶

5.2.3 Job Headcount

A third approach to measuring job creation is to count the number of jobs that are "good" (i.e. that meet certain minimum conditions). The job headcount indicator proposed by DFID, for example, considers a job to be a person that is:

1. Working at least 20 hours/week for at least 26 weeks/year
2. In conditions that comply with the 8 ILO Core Conventions³⁷
3. And earning at least the "living wage" for that country i.e. the greater of:
 - a. the national minimum wage
 - b. the wage required to take the worker plus an average number of dependents to the \$1.25 poverty line³⁸

Only those individuals that have improved either their wage or their hours of work above the threshold would be counted; those whose total earnings fall would not. This definition combines several important issues: the number of people benefiting from job improvement, the quality of the job in terms of wages and rights, and the increases in income for existing workers. It is therefore helpful in contexts with significant numbers of people working full-time but gaining little from their labour. However, by setting

³³ This can be accomplished by using a second indicator to measure the number of people who received economic benefits, such as the outreach indicator that is one of the DCED Standard's universal indicators.

³⁴ OECD. 2014. [Employment Policies and Data](#).

³⁵ Markus Pilgrim. July and August 2013. ILO Blog and Interview.

³⁶ Markus Pilgrim. July and August 2013. ILO Blog and Interview.

³⁷ These include: Freedom of Association and Protection of the Right to Organise Convention, 1948 (No. 87); Right to Organise and Collective Bargaining Convention, 1949 (No. 98); Forced Labour Convention, 1930 (No. 29) Abolition of Forced Labour Convention, 1957 (No. 105); Minimum Age Convention, 1973 (No. 138); Worst Forms of Child Labour Convention, 1999 (No. 182); Equal Remuneration Convention, 1951 (No. 100), and Discrimination (Employment and Occupation) Convention, 1958 (No. 111).

³⁸ DFID. 2012. How to note: Measuring job creation 2: How do we define a job?

a time threshold for counting a job, it cannot demonstrate the depth of employment generation. Nor does it capture the depth of improvement in wage rates. By specifying a minimum salary level, it explicitly excludes unpaid family labour.

5.3 Key issues in selecting an approach to defining job creation

There are several important issues to consider in selecting the appropriate approach to measurement.

Job formality

Some indicators of job creation are oriented toward measuring jobs created in the formal sector. Others include informal sector jobs (e.g., smallholder farmers, hawkers) that are often a focus of PSD efforts as well.

Quantity of employment

Job measures that use FTE are able to reflect the quantity of work that has been created. This is important where part-time or seasonal jobs are generated.

Poverty

Many PSD projects define their target beneficiaries as those living below a certain poverty line. Often, programmes find that their initiatives do not only create jobs for this group. For example, programme-supported firms may create new jobs at their headquarters to set up, manage or expand project-related initiatives. These ‘head office jobs’ often require advanced skills and attract non-poor candidates. Some definitions suggest that jobs for target beneficiaries be reported separately, while others do not make this distinction.

Attribution

Some definitions explicitly consider the issue of whether an intervention was responsible for job creation and expect that only attributable jobs will be reported. The concept of attribution is described further in Section VI.

Sustainability

Some job creation measures differentiate between sustainable and non-sustainable jobs. A characteristic of most PSD programming is a focus on sustainability. This implies that for such programmes, it is important to understand the sustainability of the jobs that are created. Temporary jobs created in the construction or installation of a new investment would then either not be considered or reported separately. In practice, the practical ability of programs to determine what jobs are sustainable is not always so clear. Fluctuations in the demand for labour imply that labour inputs are not always stable. The practicality of estimating how much of a job to report as sustainable is thus sometimes challenging. For example, in the case of a person who has increased their employment by 0.2 FTE in year 1, 0.5 FTE in year 2, 0 FTE in year 3, and 1 FTE in year 4, it can be difficult to estimate the amount of sustainable FTE that has been generated. In such cases, programmes need to explain the quantity of FTE jobs that are likely to be sustainable in the context of their intervention strategy and the context.

Remuneration

PSD programmes often identify and promote upgrading opportunities that require additional labour, such as packaging or removing debris from crops to receive a higher selling price. Within many microenterprises, these tasks are performed by family members and may be unpaid. Measures of job creation differ in their perspective; the definitions of DFID and the IFIs do not include unpaid work, while that of the ILO does.³⁹ The DCED Standard does not explicitly stipulate the types of jobs that may be included in its definition. Those projects choosing to use the definition outlined in the DCED Standard may therefore determine what is most relevant in their context and outline in their documentation whether they will measure unpaid family labour.

Self-employment

Some indicators of employment only consider those who are employed by others, while others include self-employment as well. Measuring self-employment is particularly important in contexts with a large informal sector.

Underemployment

Millions of people experience underemployment globally, in which they would like to work more hours than they do or are overqualified for the work that they can obtain. FTE measures of job creation can capture increased work opportunities for those wishing to work additional hours. The job headcount definition described above does so to an extent as well, as only those able to work at least a minimum amount are included. None of the measures reviewed above incorporates the issue of over-skilled workers, though the ILO often advocates that the level of underemployment be measured separately and classifies this issue there.

Low productivity

For female and male self-employed and informal sector workers, increasing the quantity of employment is not always a problem. In fact, unemployment levels are relatively low in many very poor countries, where people must engage in a livelihood in order to survive. Many already work more than a full time equivalent job, yet the returns to their labour are very low.⁴⁰ The ILO refers to such work as “inadequate employment”. In these cases, increasing the amount of work is typically less important than improving the productivity of labour by upgrading current practices or transferring to a different job. Measures of job creation based on increasing FTE will not capture improvements in working status of this group. Nevertheless, addressing inadequate employment would be captured in other indicators, such as the net income change attributable to PSD programmes.

The following table compares how the various definitions of job creation address the above issues.

³⁹ OECD. 2014. [Employment Policies and Data](#).

⁴⁰ DFID. 2012. How to note: Measuring job creation 1: What do we mean by job creation?

Table 4: Comparison of Job Creation Definitions

Type of Job Creation Measure	Full Time Equivalent Jobs		Employment	Job Headcount
Entity	DCED Standard	International Financial Institutions	International Labour Organization ⁴¹	Department for International Development ⁴²
Definition	Net additional, full time equivalent jobs created in target enterprises as a result of the programme, per year and cumulatively	Number of full-time equivalent employees as per local definition working for the client company or project (or company or project's hard assets) at the end of the reporting period; and Number of full-time equivalent construction workers employed for the construction of the investor's client company or project's hard assets during the reporting period.	All those employed above a specified age who during a specified brief period, either one week or one day, were in the following categories: <i>i)</i> paid employment; <i>ii)</i> employers and self-employed; <i>iii)</i> unpaid family workers; unpaid family workers at work should be considered as being self-employed irrespective of the number of hours worked during the reference period	One job equals one person: * Working at least 20 hours/week for at least 26 weeks/year * In conditions that comply with the 8 ILO Core Conventions * And earning at least the "living wage" for that country i.e. the greater of <i>i)</i> the national minimum wage, or <i>ii)</i> the wage required to take the worker plus an average number of dependents to the \$1.25 poverty line.
Job formality	Includes both formal and informal jobs	Oriented to formal jobs	Includes both formal and informal jobs	Includes both formal and informal jobs
Quantity of employment	Counts full time equivalent jobs, so measures precise changes in the amount of time worked	Counts full time equivalent jobs, so measures precise changes in the amount of time worked	Only measures whether people are working more or less than one hour over a given reference period	Establishes a higher minimum threshold than the ILO for someone being employed (i.e., 20 hours per week for 26 weeks), but still does not measure any additional work generated above that threshold
Poverty	Focuses on the jobs that are generated among the programme's target	Does not consider the poverty level or other characteristics of the job	Does not consider the poverty level or other characteristics of the job	Counts only jobs that pay above a minimum level, but does not require that the job taker fits within a

⁴¹ OECD. 2014. [Employment Policies and Data](#).

⁴² DFID. 2012. How to note: Measuring job creation 2: How do we define a job?

	population (typically those living under a particular poverty threshold)	taker	taker	specific target group
Attribution	Specifies that only additional jobs should be included	Does not address attribution	Does not address attribution	Does not explicitly address attribution in the definition, though elsewhere mentions the importance of considering it
Sustainability	Only considers sustainable jobs	Considers all jobs, requiring that temporary jobs be reported separately	Considers all jobs, whether sustainable or not	Requires that jobs be long-term in nature; does not include temporary jobs
Remuneration	Does not specify whether jobs need to be paid or not	Definition is focused on the formal sector, so likely excludes unpaid work	Includes unpaid family work	Only includes paid work paying above a minimum level
Self-employment	Does not specify whether self-employment can be included	Does not include - definition focuses on employees working for the client company or project (or company or project's hard assets)	Includes self-employment	Includes self-employment
Underemployment	By focusing on FTE jobs, time-based underemployment can be measured.	By focusing on FTE jobs, time-based underemployment can be measured.	The ILO's definition of employment includes both the employed and underemployed.	Counts improvements among those underemployed who exceed 20 hours per week per year for at least 26 weeks, but not those who are still working less than that amount following an intervention.
Low productivity	Does not measure improved productivity among low income earners ⁴³	Does not measure improved productivity among low income earners	Does not measure improved productivity among low income earners ⁴⁴	Addresses this by counting those who work a similar number of hours but earn more.

⁴³ Improvements in productivity of already employed individuals are instead captured by the DCED universal indicator on income.

⁴⁴ This issue is recognized by the ILO as inadequate employment, which they have posited as being an aspect of underemployment, but is not part of their definition of employment. See Hussmans, Ralph. Undated. [Measurement of employment, unemployment and underemployment](#). ILO Bureau of Statistics.

5.4 Selecting the appropriate definition of job creation

In summary, it is important to select a measure of job creation that fits with the context of your programme and its strategy. Doing so from the beginning of the programme will establish clarity among the programme, results measurement staff, donors, evaluators, partners and other important stakeholders. Existing definitions of job creation vary substantially in their focus. For programmes following the DCED Standard, the definition outlined by the DCED should be applied. The DCED Standard leaves several aspects of job creation open, such that programmes can determine the definition that best suits their context. An FTE-based measure of employment will also be most suitable for programmes expecting to create significant amounts of new work. For programmes whose target populations are already fully occupied in less productive tasks, or operating in rural areas with significant informal sector employment, a job headcount approach may be suitable, as would separate indicators that track the number of people who have benefited economically and the size of the economic benefit they have received.⁴⁵ The remainder of this paper will focus on the application of the definition outlined by the DCED Standard.

VI. Key Issues in Measuring Job Creation

This section presents several key issues that need to be considered in developing a job creation measurement approach, even before selecting specific measurement approaches. One issue is the attribution of job creation to a programme's interventions. Determining how to address the attribution question should be done early in a programme, taking into consideration job creation, displacement and substitution. A second issue that practitioners should consider is the types of jobs they will create. Direct, indirect and induced jobs are all common results of PSD interventions, but typically require different measurement strategies. Third, understanding the characteristics of job takers should be carefully considered, given the difficulty of doing so in many cases and the implications for the measurement methods that are chosen. Finally, the information that a programme will report on job creation will necessarily affect the design of the results measurement system.

6.1 Job Creation, Displacement and Substitution: Measuring the Attribution of PSD Programmes to Job Creation

The private sector is the primary driver of job creation, responsible for 90% of worldwide employment.⁴⁶ Job creation in the private sector is driven by sector growth and firm investment. Firms grow when the enabling environment is conducive, labour policies are effective and profitable opportunities for investment exist. As such, PSD programmes can support job creation by addressing the constraints that limit firm expansion and introducing viable business innovations. The process of job creation and destruction is continual and the scale can be significant. Manufacturing jobs equivalent to between 7% and 20% of the total manufacturing labour force are created each year in developing countries, but a

⁴⁵ These two indicators are among the DCED Standard's universal indicators.

⁴⁶ World Bank. 2012. [World Development Report 2013: Jobs](#). Washington, DC.

similar number are lost.⁴⁷ As economies grow, high-productivity jobs replace low-productivity jobs. In some cases this process leads to a net reduction in jobs in the short-term, while in others it leads to an increase.⁴⁸ The net impacts are therefore not always clear.

The DCED Standard expects complying programmes to estimate their attribution to observed impacts. Establishing causality between intervention activities and observable outcomes can be complicated, particularly around job creation. Simply showing that a business is employing more people is not evidence enough to attribute these changes to PSD programming. In the context of jobs, there is the risk that PSD interventions do not actually create net new jobs. One reason that this might happen is job displacement, in which growth and hiring by some firms causes a reduction of jobs in others. For example, growth in one large processing factory and resulting new jobs there may create pressure on other firms in that industry. If the growth ultimately causes other factories to go out of business, the net change in employment may be neutral or even negative. This is particularly likely if the firm that closed was less efficient with a larger workforce than its competitor. Measuring job displacement is very difficult; quantitatively estimating the economy-wide job losses of an intervention is beyond the reach of nearly all projects and evaluations.

A second reason is job substitution, in which new jobs are taken by people previously employed elsewhere. For example, new employees in a processing factory may have previously worked as agricultural labourers. With a tight labour market, the farms on which those labourers will struggle to identify new workers, and consequently struggle from reduced productivity, at least in the short run.⁴⁹ Research suggests that the likelihood of this substitution effect is dependent upon the elasticity of labour supply.⁵⁰ In areas or professions characterized by full employment or labour shortages, a new job is more likely to pull a worker from another job, with no aggregate effect on employment. Thus the likelihood of job substitution is greater in contexts where there are low rates of unemployment or underemployment. When this happens, the net benefit of the job is reduced. In contrast, where unemployment is high, the creation of new jobs is likely to attract previously unemployed or underemployed workers into the labour force. Even if the actual worker who takes the new job was previously employed, it can be more safely assumed ultimately someone gained new employment.

Considering Job Substitution in Measuring Net Changes in Income and Jobs

Many projects that are seeking to comply with the DCED Standard measure the net income change that they've generated for target enterprises. This can be done in a fairly straightforward manner by estimating the additional income associated with the adoption of project-supported business models or innovations. In the case of job takers this is more complicated. The most straightforward approach would be to compare the additional wages being earned in the new position to those being earned previously. However, this risks underestimating a programme's impacts. For example, the job taker may

⁴⁷ World Bank. 2012. [World Development Report 2013: Jobs](#). Washington, DC.

⁴⁸ World Bank. 2012. [World Development Report 2013: Jobs](#). Washington, DC.

⁴⁹ In the long run, these farms may invest in labour saving equipment that reduces their need for labour.

⁵⁰ IFC. 2013. IFC Jobs Study: Assessing Private Sector Contributions to Job Creation and Poverty Reduction.

have been previously fully employed and even earning a comparable or higher salary to the one in their new role; other non-salary factors (e.g., location, benefits) may have driven the decision. This would suggest that the programme did not create any net change in employment or earnings. In such cases, it is important to consider what changes the programme is creating in the overall labour market. Have other unemployed or underemployed individuals benefited by taking the positions that the job takers vacated? Programmes can use surveys to assess the previous employment status of job takers (both to the new job created and those that were vacated) and their salary levels. This information can inform a better understanding of the net change in job creation and in income.

Some types of projects face more challenges establishing counterfactuals than others. For example, if an initiative of a partner firm is fully or largely funded by programme funds, all people directly employed by the firm to implement the project can be reasonably attributed to the PSD programme's investment. In contrast, attributing measured changes in job creation to a business environment reform project is often far more challenging. Demonstrating that your project intervention led to policy change and that the policy change led to job creation is difficult, as many factors outside of the project's interventions can lead to policy change and jobs in that sector; these will need to be controlled for. Typically, the degree of difficulty will depend in part on how many steps exist in the results chains between project activities and the eventual jobs created, as well as the ability to establish a counterfactual.

The approach to attribution will also necessarily depend upon the approach to measuring job creation. If using multipliers in combination with measuring net attributable income change (an approach described further below), a programme can rather assess its attribution to that increased income flow and then avoid needing to assess an employment counterfactual. In other cases, programmes will only be able to realistically measure a condition before and after the intervention, relying on opinion surveys to assess the attribution of the project to the changes observed. If the changes articulated in the intervention results chain are verified by the programme, this can satisfy the DCED Standard's expectation of "good enough".

For more information on attribution and counterfactuals please review the DCED's guidelines entitled [Guidelines to the DCED Standard for Results Measurement: Estimating Attributable Changes](#).⁵¹

6.2 Direct, Indirect and Induced Jobs

Private sector development programmes can create direct, indirect and induced jobs. Understanding and distinguishing between them is important to inform a results measurement system, as the appropriate approaches to measurement differ for each one. Often programmes only consider measuring and reporting on their direct job creation, yet their impacts in terms of indirect or induced job creation may be much greater. The following table outlines the definitions of these concepts as used in economics literature.

⁵¹ Sen, Nabanita. 2013. Guidelines to the DCED Standard for Results Measurement: Estimating Attributable Changes.

Table 5: Defining Direct, Indirect and Induced Jobs

Type of Job	Economics Definition	Example
Direct	Jobs created by the service providers that a programme directly works with.	A PSD programme works with an agricultural input supplier to develop and market smaller-sized input packets suitable for the needs of smallholder farmers. The supplier adds additional staff to conduct the marketing activities.
Indirect	Jobs created by firms' distributors and suppliers within the value chain.	The farmers who purchase packets from the input supplier increase their yields and thus use additional workers to harvest the crop (including both paid and unpaid family labour). Companies that supply or purchase from the input supplier hire additional people to meet its increased demand owing to increased sales. Other agricultural input suppliers observe the commercial success that the supplier has from introducing the new innovation. They copy this innovation and hire additional staff to market it to farmers.
Induced	Jobs generated by the consumer spending created by new direct and induced jobs.	The new employees of the farmers and agricultural input firms spend their salaries on new consumer goods and education and health services. The businesses that receive this spending in turn recycle this money in the economy. This new spending generates additional jobs throughout the economy.

It is important to note that other communities use somewhat different definitions of these terms. For example, the M4P community (which uses the DCED Standard widely) has historically considered direct results to be all those that flow directly from the market development intervention; they therefore cover both intermediary partners and ultimate beneficiaries. Spontaneous replication by other market players is counted as indirect; the direct/indirect distinction has however proven to be not particularly useful because the dividing line between these is not all that clear. The ultimate take-away of these distinctions is that PSD programmes will often have a larger impact on job creation through indirect and induced effects, and therefore should carefully consider measuring them.

6.3 Understanding and Mandating the Characteristics of Job Takers

Many donors desire that programmes disaggregate the recipients of the jobs they create. For example, they may want to know how many new jobs were created for previously unemployed individuals, women, or individuals with other characteristics. When measuring FTE jobs, this can create misunderstandings among stakeholders who interpret the creation of 500 FTE jobs as necessarily having been filled by 500 people. In fact, the 500 FTE jobs may have benefited 1000 or even more individuals, depending on the average amount of FTE work created per person. A programme's capacity to determine the characteristics of job takers depends on the types of jobs it is seeking to measure – the recipients of induced jobs can only be estimated, not observed – and the measurement methods that are selected.

A second common issue is the desire of many investors or donors to mandate the characteristics of job takers. This is commonly done to ensure that a PSD programme is creating benefits for particular communities that are a priority for the donor. However, there are practical difficulties with doing so. Few PSD programmes are in a position to determine who will receive new jobs; this is ultimately the decision of employers. At best, PSD programmes can apply tools (e.g., skills development, wage subsidies) that increase the likelihood particular groups will be hired. Nevertheless, many factors will remain out of a programme's control. This makes it problematic for programmes to commit that a large proportion of new jobs will be assumed by specific groups.

Case Study: Mandating the Characteristics of Job Takers

One PSD programme is responsible for creating 10,000 jobs. It operates in an area characterized by youth marginalization and high un- and underemployment. The donor specifically allocated funding for this project in order to address these issues. Accordingly, it mandated that the project should create jobs specifically for people that are most likely to be marginalized. It defined this as those who are ages 15-35, poor, unemployed or underemployed, have completed less than secondary school, and female. Drawing from available secondary sources, the project calculated that only approximately 4% of the entire population has all of these characteristics. While the number of people belonging to this group greatly exceeds the 10,000 job target, the likelihood that job takers will have all of these characteristics is extremely minimal. More so because these factors are correlated with poorer performance in the job market, making this population even less likely to be hired by employers who create new jobs.

6.4 Reporting on job creation

Given the complexity of measuring job creation, programmes that do so should transparently explain the method(s) that they have used and the degree of confidence in the findings. It is also important to explain how job results are being presented. Not doing so can invite criticism and skepticism of the numbers produced. The following box describes two very different approaches to reporting on jobs.

Sustainable Jobs vs. Person Years of Employment

When using FTE to measure jobs over a timeframe of at least a year, there are several ways to present the number of jobs created. One method is to report on the total number of sustainable jobs that have been created, which excludes any temporary job creation. Another is to report on person-years of employment, in which a person working for 120 days (half time) for each of two years represents one person year of employment over that two year period. It is critical to clearly explain the method that is being used in reporting the number of jobs created. In a recent Canadian election campaign, a political party garnered considerable criticism for mistaking person years of employment with permanent jobs and consequently estimating that their platform would create many times more jobs than it actually would.⁵²

For some programmes, it will make sense to distinguish between the types of types that they have measured (direct, indirect, and induced), while for others this will not be a helpful or feasible distinction. For programmes seeking to help specific target groups, it would be appropriate to report separately on

⁵² See <http://www.theglobeandmail.com/news/politics/economists-poke-holes-in-hudaks-job-creation-plan/article18881984/> for an example of misunderstanding job creation concepts.

the jobs created for targeted and non-targeted individuals if the chosen methodology allows. Taking these steps creates transparency for donors and other stakeholders. Programmes reporting on the jobs that they have created can use a format such as the one presented in the following table:

Table 6: Presenting Job Creation Results

Reporting Period	January 1 – December 31, 2014		
Type of Job Created	Sector 1	Sector 2	Total
Direct (FTE) jobs*	450 targeted, 50 non-targeted	400 targeted, 0 non-targeted	850 targeted, 50 non-targeted
Indirect and induced jobs (FTE)	2500**	Not measured	2500**
Total Net Job Creation	450 FTE direct jobs created for targeted individuals (50 FTE direct jobs for non-targeted individuals), plus 2500 FTE indirect and induced jobs	400 jobs created for targeted individuals	850 FTE direct jobs created for targeted individuals (50 FTE direct jobs created for non-targeted individuals), plus 2500 FTE indirect and induced jobs***

*The definition of a job includes unpaid family labour. It does not include temporary jobs, but rather only those jobs expected to be sustained over the long term.

**By using a multiplier methodology, it is not possible to distinguish the distribution of jobs received by targeted and non-targeted individuals.

*** In addition to the net job creation presented in the table above, the programme also sustained an additional 500 jobs.

VII. Methods for Measuring Job Creation

7.1 Job Creation Measurement Methods

The choice of methods to measure job creation has significant budgetary and human resource implications. It also determines the type of job creation that can be measured. It is therefore prudent to carefully evaluate and select the most appropriate method(s) based on a programme's capacity and priorities.

There are two broad approaches for measuring job creation: direct measurement and estimation using multipliers. Direct measurement may be done by obtaining employer records, conducting employer surveys, or surveying employees. Job multipliers may be applied by developing localized multipliers or estimating the employment elasticity of income generated by the programme. The following table summarizes each method, explains where it is most appropriately applied, potential challenges, and the relative difficulty of application. In general, direct measurement is most used by those working directly with one or a few partner firms. Less direct methods are most needed by projects working to develop entire market systems.

Table 7: Overview of Data Collection Methods for Measuring Job Creation

Suggested Method	Description	Most Helpful For	When to Use	Potential Challenges	Difficulty of Application
Direct Measurement					
A. Obtaining Employer Records	Records collected and shared by employers.	Large, formal sector firms with good records and stable hiring patterns. Measuring <u>direct</u> jobs.	When you have a strong, trusting relationship with the employer. When you have confidence in the accuracy and completeness of the records.	Data may not be collected and stored in a helpful format. Difficult to receive if trust does not exist (e.g., with non-partners). Estimating displacement is difficult.	Low: inexpensive and typically not time intensive.
B. Surveying Employers	Questionnaires administered with company representative.	All firms, from service providers to smallholder farmers. Measuring <u>direct or indirect</u> jobs.	When business records do not exist, are not of high quality or are not adequately detailed. When you need additional information not typically captured in employer records such as information around job quality.	Interviewees need to understand the employee situation. The validity of information depends upon the openness of interviewee. Estimating displacement is difficult.	Moderate: somewhat costly and time intensive. Difficulty depends on the type of firm that is targeted; firms that were not directly reached by programme will be more challenging.
C. Surveying Employees	Surveys administered with ultimate beneficiaries.	Employees that have stable and fixed places of	When information on employees is difficult to obtain through employers.	Obtaining a sample size robust enough to draw generalizable conclusions	Moderate when conducting

Suggested Method	Description	Most Helpful For	When to Use	Potential Challenges	Difficulty of Application
		<p>employment.</p> <p>Measuring <u>direct and indirect</u> jobs.</p>	<p>When you are concerned with job quality or other qualitative aspects of employment.</p> <p>When you want to understand the characteristics (e.g., gender, ethnicity) of employees.</p> <p>When you want to verify the previous conditions (e.g., salary level, employment status) of job takers.</p>	<p>can be challenging.</p> <p>Problematic to interview the employees of firms you have not worked with directly.</p> <p>Estimating displacement is difficult.</p>	<p>periodic, non-representative validation of employer-provided information.</p> <p>High with significant expertise, cost and time requirements to obtain robust employment figures.</p>
Estimating Job Multipliers					
<p>D. Developing Localized Multipliers</p>	<p>Collecting information from market actors to develop a localized employment multiplier (i.e. jobs created in the sector by a change in a metric such as land under production caused by a PSD programme) then calculating the direct and indirect job creation.</p>	<p>Estimating job creation impacts when working with large numbers of market actors.</p> <p>Measuring <u>direct and indirect</u> jobs.</p>	<p>When ratios exist that have a clear impact on job creation and apply to large numbers of firms within target market systems.</p>	<p>Designing the multiplier requires significant expertise.</p> <p>Estimating a counterfactual is difficult.</p> <p>Linear models may have unrealistic assumptions (e.g., local procurement ratios will be maintained with increased spending).</p>	<p>Moderate - High: significant expertise typically required. Expense may high if data not already available.</p>

Suggested Method	Description	Most Helpful For	When to Use	Potential Challenges	Difficulty of Application
E. Using Employment Elasticity Estimates	Using published employment elasticity figures to estimate a programme's impact on employment.	Calculating aspects of job creation that cannot be measured affordably or through surveying. Measuring <u>induced</u> jobs.	To estimate the number of jobs created in the broader economy by a certain input (e.g. increased production, increased revenues) generated by a PSD programme. When significant induced jobs are likely to be created. When published employment multipliers exist and are credible. When programme size, complexity or budget do not allow direct measurement of job creation. Also when the impacts of interventions are difficult to measure directly (e.g. business enabling environment programming).	Verifying the calculated result is impossible. Linear models may have unrealistic assumptions (e.g., local procurement ratios will be maintained with increased spending) that will not hold over the long term. Establishing the credibility of published multipliers and their relevance to the programme's context is difficult.	Moderate: if published multipliers exist and seem reliable, this method can require much less staff time. Expertise required in establishing and defending the methodology for calculation.

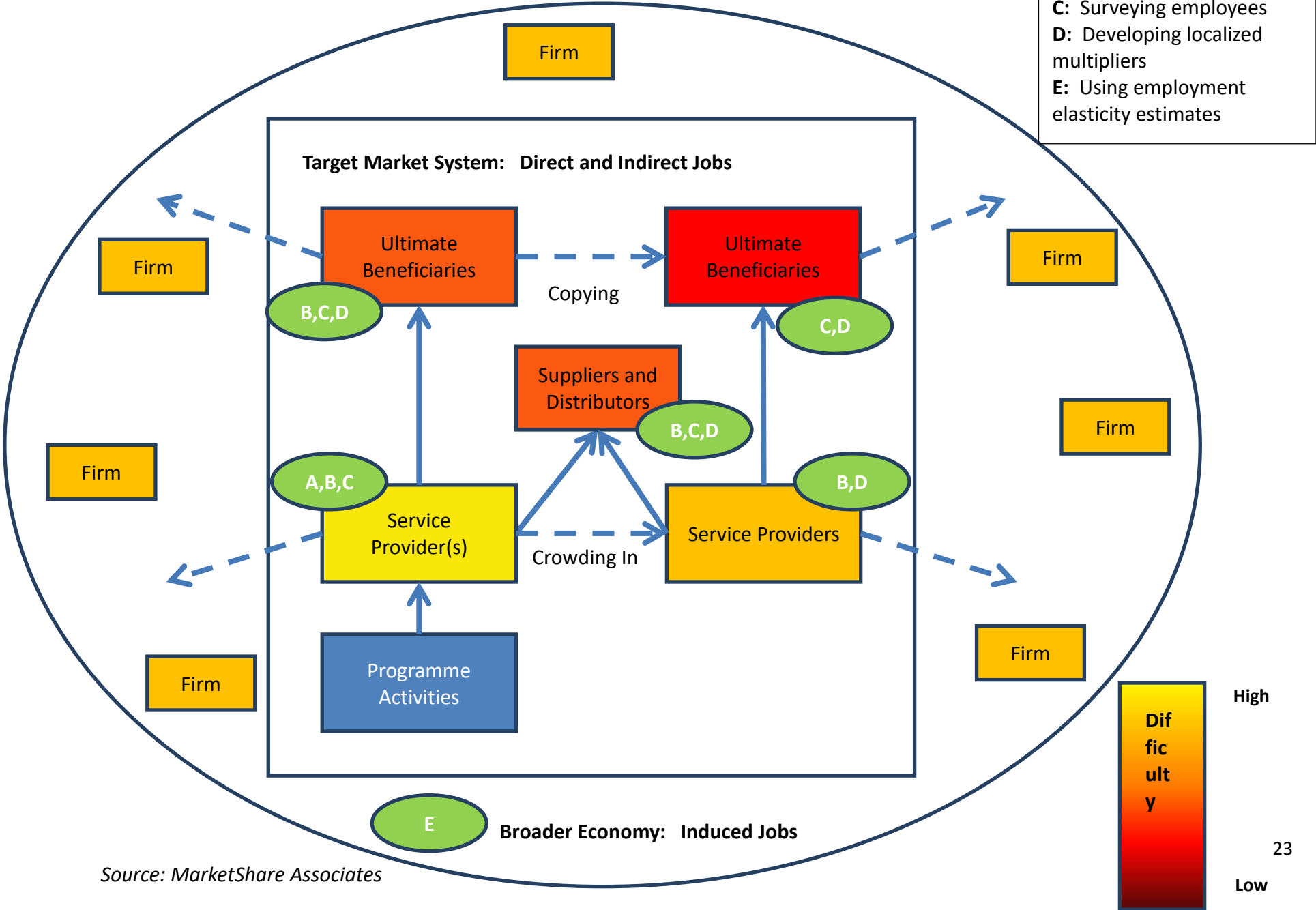
The figure on the following page suggests where each of the methods in the above table would be most appropriate for measuring direct, indirect and induced jobs at different places in the market system. In some cases multiple methods would be required to measure the desired types of jobs. The varying colours in the figure denote the relative difficulty of measurement. As is apparent, measurement generally becomes more challenging as the location of job creation or displacement becomes further removed from the programme's own efforts. This reflects the difficulty that programmes face obtaining information from stakeholders that they have not directly interacted with. Yet while it is more problematic, only measuring the jobs created by a programme's direct partners risks limiting a programme's understanding of the benefits it has created within broader supply chains, distribution networks and the overall economy. For instance, one study found that for every one job created directly by a mining company they supported in Ghana generated 28 jobs in the broader economy.⁵³ If you expect that significant indirect or induced jobs will be produced, then you should consider measuring them. To do so, it is advisable to involve experts with relevant experience. Poorly designed methodologies and data collection approaches can be more misleading than helpful.

⁵³ IFC. 2013. IFC Jobs Study: Assessing Private Sector Contributions to Job Creation and Poverty Reduction.

Figure 1: Appropriate Data Collection Methods for Types of Job Creation

Selecting Job Creation Data Collection Methods

- A:** Obtaining Employment Records
- B:** Surveying employers
- C:** Surveying employees
- D:** Developing localized multipliers
- E:** Using employment elasticity estimates



Source: MarketShare Associates

7.2 Direct Measurement

7.2.1 Description

A common method of measuring job creation is to collect information directly from market actors.

7.2.2 Benefits and Limitations

Directly measuring job creation can facilitate estimates of attribution to programme interventions. By measuring the series of changes linking interventions to new jobs, programmes can produce a more robust attribution story about how they contributed. Moreover, by engaging with market actors, programmes can understand the qualitative factors driving employment decisions. It is also the only way to understand qualitative aspects of employment, such as job quality or the characteristics of job takers.

However, direct measurement does also have limitations. It can be quite expensive, particularly if attempting to measure employment of large numbers of informal, seasonal and self-employed individuals or family members. Some employers or employees will be unable or unwilling to provide information. Moreover, direct measurement cannot estimate induced employment effects. In contexts with significant flux in employment, it can be quite difficult to determine what jobs are sustainable. It is also extremely difficult to assess job displacement.

7.2.3 Methods and Examples

Three approaches of direct measurement include obtaining employer records, surveying employers and surveying employees. Each is described here.

7.2.3.1 Obtaining Employer Records

Description

One of the easiest methods of obtaining information on job creation is to access employer records, such as those maintained for payroll. These records are collected by firms themselves, who may already have been collecting the information or begin to collect it on the request of a PSD programme. Employer records typically capture quantitative information, such as the number of people employed and total hours worked.

Suggested Steps

- Identify target employers
- Review their existing record systems, if any
- Propose and support adjustments to collection as needed
- Collect data from employers at regular intervals

Benefits

Using employer records is inexpensive and efficient. It can be a simple and accurate measure of job creation.

Challenges

Firms are not always willing to share internal information. A trusting relationship between the project and the firm can be a prerequisite to obtaining employer records. Such relationships are more easily generated in cases where programmes directly fund or otherwise benefit a business. If firms are unwilling to provide this information it can be possible to obtain the information from other sources such as the Chamber of Commerce.

Information is also not always accurate. Businesses may have incentives to make job creation numbers larger or smaller than they actually were in the hope of additional support. It can be challenging for projects to verify this self-reported data. In other cases, businesses simply lack the expertise and internal systems to collect and store information on employment. This may be particularly true for businesses with seasonal variations in employment or large numbers of non-traditional workers. Where information is collected, it may be in a format that is not easy for a PSD programme to analyse and use. For example, records may not estimate the total amount of input provided by each employee, which is important for calculating FTEs. Finally, using employer records alone may be inadequate to estimate the PSD programme's attribution to the changes observed: were the new employees working on tasks related to programme interventions?

Tips

- It is most feasible to collect employer records from larger, formal firms that are already keeping records. Accordingly, PSD programmes have almost exclusively relied on employer records to collect data from service providers. It is very rare for PSD programmes to request this information from smaller enterprises operating in the informal sector (e.g., smallholder farmers) given the challenges noted above.
- When there are many other firms that are similar to the target firms, the use of a control group can help to establish a counterfactual in terms of additional jobs created. Sources such as Chambers of Commerce or government ministries may collect job data on a wider group of firms from the same industry as a control group.
- It is not likely that employer records will provide information on job creation by a firm's suppliers or distributors. However, employer records may provide information that can help to calculate such job creation, such as increases in the firm's purchases. The Chemonics case below provides an example of how employer records were used to calculate broader job creation in the sector.
- An employer's definition of full-time or part-time employment may not match that used by a PSD programme. Unless records enable the calculation of FTE jobs it will be impossible to report on the DCED Standard's universal indicator on job creation. Reviewing definitions with employers at the beginning of collaboration is therefore essential to obtaining useful records.
- Collecting qualitative information is often necessary to interpret the information collected from employer records.
- Work with firms to disaggregate the data as needed. At a minimum, data should be disaggregated by sex to help projects analyse their impacts on gender equality. To achieve this, data collection instruments can include questions about the number of female and male

employees. If jobs are not full time, work hours disaggregated by gender should need to be gathered to estimate FTEs for women and for men. If the project seeks further information about gender equality, other questions such as the number of females and males in management positions can be useful. A breakdown by age or other relevant factors should be considered for projects seeking to increase jobs for other specific groups such as youth. The project can work with the firm to incorporate questions to address the needs of other subgroups of people that the project seeks to target.

7.2.3.2 Surveying Employers

Description

Employer surveys are a common method to collect information on the creation of direct and indirect jobs. A PSD programme may conduct these surveys with businesses operating at multiple levels within a market system. They are most commonly applied with the employers that a PSD programme is directly working with (i.e. service providers). Where there are multiple levels of service providers (e.g., a wholesaler supplies retailers who supply smallholder farmers), separate surveys may be conducted with each type of firm to capture changes in job creation at each level. Such surveys can be very brief, with just a few questions, and easy to conduct. Employer surveys may even be applied to end beneficiaries, such as smallholder farmers, when they are expected to create additional employment. Employer surveys typically become more costly and time-intensive as the interviewees become more removed from a PSD programme's direct interventions. It also becomes more difficult to attribute the measured job creation to a programme's interventions.

Suggested steps

- Select the survey questions
- Select the methodology (e.g., sample frame, sample, survey location)
- Prepare, test and refine the survey tools
- Train the enumerators
- Conduct the surveys
- Analyse the results

Benefits

Employer surveys are helpful when businesses do not keep records on job creation, the records are not of high quality or are insufficiently detailed. They can also be helpful when a project needs additional information – particularly qualitative – that is not captured by business records.

Challenges

There are several challenges to obtaining accurate data from employer surveys. These include:

- **Sampling:** If planning to use control groups or a representative sample, it is important to identify a sampling frame of eligible businesses to survey. In some contexts, identifying these businesses can be difficult because many are not formally registered and so do not exist in official records. Developing a representative sampling frame that includes informal/unregistered

businesses is challenging and may require specialized expertise. Also, if a panel approach to sampling is used, it is important to ensure that you are talking to the same companies and same employers each time. Many of these issues become even more challenging when seeking to assess a programme's impacts on non-targeting firms.

- **Seasonality and Timing:** The seasonality of jobs is significant in many sectors. For example, if working in agricultural subsectors, conducting the survey during the harvest time may lead to overestimates of FTE job creation.
- **Questionnaire Design:** The concept of a job and job creation in one context may differ even from a nearby area in a similar language. Translating and explaining complicated issues like full-time equivalents can be confusing.

Tips

- It is important that the individual(s) being surveyed have adequate and accurate knowledge of the company's operations and job creation record. If surveying a large firm, the interviewee should hold a position that is relevant to human resources. If surveying a household, the surveyed household member should be the one who manages financial and hiring decisions for their enterprise.
- The difficulty and cost of administering a survey vary depending on whether it will be conducted independently or incorporated into other data collection efforts with those firms. The level of cooperation by employers will also determine the ease of administering the survey.
- Each type of employer may require a separate survey. For example, the types of questions asked of a large service provider that only hires full-time employees will differ from those asked to a smallholder farmer exclusively using seasonal day labourers.
- Employer surveys can sometimes collect information on job creation by other firms in the sector that work directly with the surveyed firm, such as suppliers or distributors. Where feasible, this can save significant resources.
- To avoid the challenges of measuring seasonal employment, it is ideal to collect employment data at least a couple of key times during the year. If that is not possible, it is advisable the company estimate its annual employment levels rather than simply providing a point-in-time figure of its current staff. If one annual survey is all that is possible, it is important to carefully select the season and repeat follow up surveys at the same time in following years as possible to facilitate comparability of the responses.⁵⁴
- If it is necessary to rely on recall data to establish prior data points, limit questions to those that can be more easily remembered with accuracy (e.g., those that happened more recently, such as in the most recent agricultural cycle).
- Where it is difficult to create a valid sample frame, respondent-driven sampling (RDS) may be worth considering. Researchers at RTI International are exploring RDS as a preferred sampling method for enterprise surveys. From their experience applying this sampling method Ethiopia,

⁵⁴ Lau, Charles. 2013. Interview.

they have found it can “produce samples similar to those obtained from traditional probability sampling methods.”⁵⁵

Application

A case study on the application of employer surveys by Enterprise Challenge Fund (ECF) in South-East Asia is provided in the box below. ECF conducted intervention-specific employer surveys to capture direct job creation by the firms that it funded. It also measured job creation by the firms’ suppliers, such as smallholder farmers and distributors.

Box 2: Enterprise Challenge Fund Case - Employer Surveys

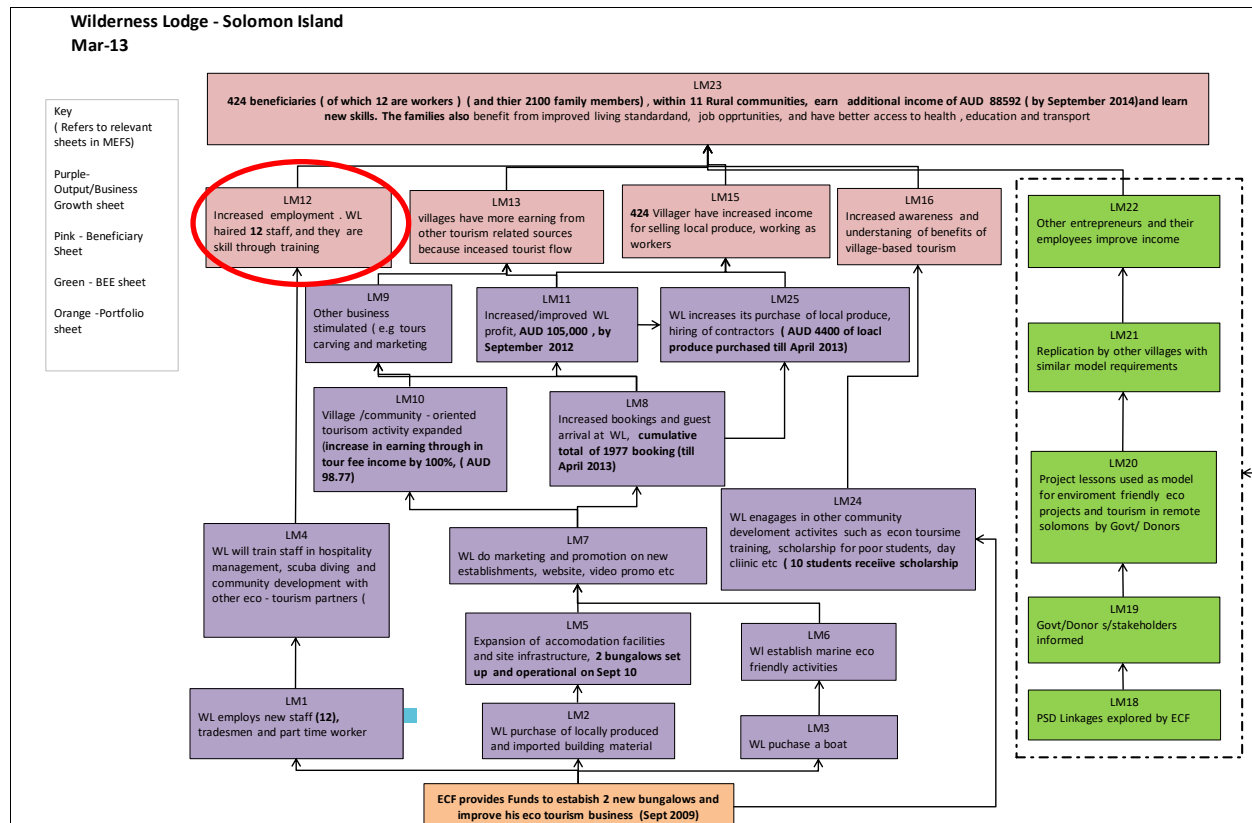
The Enterprise Challenge Fund for Pacific and South-East Asia was an A\$20.5 million initiative of the Australian Government, led by AusAID and managed by Coffey International. The project aimed to contribute to poverty alleviation by “creating income generating opportunities and access to good and services with a positive economic benefit for poor people.” ECF funded 21 businesses to initiate investments with developmental impacts on the poor in Cambodia, East Timor, Fiji, Laos, Papua New Guinea, Philippines, Solomon Islands and Vanuatu. All grants were awarded in a competitive bidding process run by the fund managers. ECF worked towards compliance with the DCED Standard for Results Measurement.

Methodology

ECF developed results chains for each of its interventions to articulate the changes it expected to observe as a result of its funding. All projects funded by ECF included job creation as an expected result in their results chains. The following figure shows an example of how jobs were expected to be created directly by a programme partner of the Enterprise Challenge Fund, the Solomon Islands Wilderness Lodge. The results chain documents how ECF’s co-investment with the Lodge was expected to create additional jobs at the service provider (i.e. Wilderness Lodge) level. Because the Wilderness Lodge was a direct partner of ECF, and therefore had a strong relationship with them, ECF decided to use direct measurement to capture job data.

⁵⁵ Lau, Charles and Georgiy Bobashev. 2013. Using Respondent-Driven Sampling to Improve the Quality of Enterprise Survey Samples in Ethiopia. RTI International.

Figure 2: ECF Wilderness Lodge Results Chain



ECF conducted baseline surveys and semi-annual visits by country managers to assess project progress through the use of mixed methods such as observation, interviews, surveys and data collected by the business itself and shared with the project managers. A common indicator of job creation – “number of new employees directly added due to ECF intervention” – was used by all projects, thereby allowing the information to be aggregated for reporting. To capture this data, the project implemented surveys targeting various market actors including: a) the management of its partner firms, b) farmers, c) suppliers to its partner firms (e.g., suppliers of coconut buttons, bamboo), d) local government, and e) factory and home-based workers. ECF used these surveys to obtain information on equipment used, production, number of suppliers, characteristics of suppliers, and jobs created. The survey was purposefully short and asked questions directly linked to indicators in their performance measurement plans. Presented below is a sample ECF factory survey from the Cagayan de Oro (Handmade Paper) agribusiness project in the Philippines. The job creation measure is the fourth question. The factory employed both full time workers at the site and contracted home-based workers (mostly women) for completion of large orders so this information was collected regularly alongside turnover.

ECF Management Survey Questions:

1. Has the equipment and factory set up been completed?
2. What is the current production level?
3. How much Abaca [n.b. a type of fibre] tow are you using?
4. How many employees (m/f) do you have and what income are they receiving? Are they factory or home-based?

5. How many suppliers (m/f) do you have, what is the type of product being supplied?
6. Where are your key markets for selling products?
7. How will the project be sustainable?
8. What other contributions are there to the project?

Surveys were delivered face to face at the head office so the questions were designed to facilitate discussion. The information was validated against business records and through discussions with a limited number of employees and contract workers. For less-than-full-time staff and contract workers, ECF would enquire about hours worked and the frequency of work in order to estimate ETF. They determined, for example, that some home-based workers worked close to full time, while others worked more periodically. This was then reflected in the calculation of FTE jobs. ECF would periodically reconfirm this, as firms' use of employees varied according to their production levels. In the case of Cagayan de Oro, for example, the use of home-based workers declined following the typhoon in 2013.

Data were separated between the employment of poor workers (typically those in rural areas or manual contract workers) who were not previously working or had limited work and head office workers who were typically skilled workers who had previous employment.

Results

Using the results of the surveys, ECF calculated that their investment portfolio has increased incomes for over 78,154 poor people. ECF estimated that they created 192 FTE (163 male, 29 female), as well as 71 casual positions. The total monetary benefits for the poor through employment and contracting were equivalent to A\$676,980 over a three year period, with an additional A\$628,747 projected for the two years following the end of the project. The companies also created 426 new head office jobs (251 male, 175 female). These employees are skilled managerial, technical, specialist and office workers attracting non-poor candidates and therefore are reported as part of business growth indicators separated from the program's development benefits for its target beneficiaries.

7.2.3.3 Surveying Employees

Description

Employee surveys are conducted with employees of firms that a PSD programme expects to benefit directly or indirectly. They are typically used to verify the information reported by employers. They can also be used to assess qualitative aspects of employment, such as the quality of work or the characteristics of job seekers (e.g., gender, ethnicity). Employee surveys can also suggest the previous employment status of job takers, such that a programme's net impacts on employment can be assessed.

Suggested steps

- Select the questions
- Select the methodology (e.g., sample frame, sample, survey location)
- Prepare, test and refine the survey tools
- Train the enumerators
- Conduct the surveys
- Analyse the results

Benefits

Employee surveys or studies provide a balancing perspective to that provided by employers. They are particularly helpful in providing information on job quality or the perspectives of a particular subgroup of beneficiaries such as women or young people. Often employers have a poor understanding of how different types of people experience the workplace. Speaking directly to employees can elicit these perspectives.

Challenges

Surveying employees is not always welcomed by employers. This may make it difficult or impossible to collect information, or bias the results if employers coach employees prior to the completing the surveys. This is particularly the case for employers that a PSD programme is not working with directly, who may be very suspicious of the motivations for collecting information. Unless employees trust in the confidentiality of their responses, information on contentious issues such as job quality may be inaccurate. Employee surveys may also be time-intensive and costly, particularly if used with seasonal or contract workers that can be difficult to locate.

Tips

- If planning to use employee surveys or studies, it is important to establish that expectation early in the relationship with programme partners.
- Use employee surveys when there is doubt about the information being provided by employers or employers are unable to provide required information.

Application

The following case study examines the application of employee surveys by the Mennonite Economic Development Associates (MEDA) in Afghanistan. These surveys enabled MEDA to verify the direct jobs created by target service providers.

Box 4: Mennonite Economic Development Associates (MEDA) Case - Employee Surveys⁵⁶

The Afghanistan Secure Futures (ASF) was a \$2.9 million USD project that operated in Afghanistan. Funded by USAID, it was implemented by the Mennonite Economic Development Associates (MEDA) and managed by FHI360. The project worked with small-scale enterprises in the construction sector to improve employment pathways, working conditions and educational opportunities for their young apprentices. ASF strived to address constraints within support markets that inhibited business growth among the enterprises using apprenticeships. It also worked with the enterprises to improve working conditions and worker safety, and link apprentices to non-formal education opportunities.

Methodology

The project undertook various qualitative and quantitative assessments to measure the results of the interventions. It used employer surveys with workshop owners to analyse changes in business performance and job creation among its target beneficiaries, youth apprentices. ASF then conducted employee surveys with the youth apprentices to verify the information it collected from employers,

⁵⁶ Interview. Scott Ruddick. MEDA. 2013; and Denomy, Jennifer, Scott Ruddick and Ben Fowler. 2013. "Leveraging Apprenticeships to Reach and Benefit Vulnerable Youth: Lessons from STRIVE's Afghan Secure Futures Program." STRIVE Learning Series. Report No.2.

particularly around job quality. To avoid hesitation by workshop owners, ASF met with them in advance to explain the types of questions it was going to ask the apprentices and the reason for doing so. The employee surveys asked the apprentices for their perceptions of working conditions and worker safety – both measures of job quality. MEDA used a qualitative method to collect this information called Most Significant Change. Here, data was gathered by collecting impact stories, anecdotal evidence, and audio and video clips. Then the team reviewed the qualitative data and looked for consistent points or messages. These data trends were tagged and weighted, which allowed for the quantifying of qualitative data.

Results

The employee surveys showed that working conditions did improve over the life of the project. It also showed that very poor households often used familial relationships to organize an apprenticeship for their sons. These apprentices generally had lower levels of education and faced strong family pressure to remain with enterprises regardless of poor working conditions or low wages. In contrast, apprentices from relatively higher income households tended to have greater labour mobility and were able to seek opportunities with new employers if conditions were poor. This helped ASF to understand the likely employment trajectories of the apprenticeships it worked with and the barriers that existed for apprentices in challenging conditions.

7.3 Employment Multipliers

7.3.1 Description

Employment multipliers are a type of input/output model that can be useful to estimate the number of jobs created in a target market system or the broader economy due a change in another indicator, such as gross domestic product, firm revenues, investment, or production levels. They are often calculated using percentages, estimating the percentage change in employment due to a percentage change in the other variable. Depending on the sources of information used, employment multipliers may estimate the generation of direct, indirect and/or induced jobs. They are derived using data collected from surveys or secondary sources. For example, programme interventions may increase the earnings of enterprises and their employees, who in turn increase their spending on restaurants, hotels, construction, and many other products. This spending generates additional employment in the recipient businesses. Several factors influence the size of the employment multiplier, including:

- The level of advancement of the economy (wealthier countries tend to have lower multipliers)
- The sector (some sectors are most labour-intensive than others)
- The extent to which firms outsource operations (those that outsource more will have large multipliers)

Employment multipliers can vary dramatically. In a review of global multiplier calculations, the creation of one direct job was found to generate 1.2 jobs in the Chilean agricultural sector but 28 jobs in the Ghanaian mining sector.⁵⁷

⁵⁷ IFC. 2013. IFC Jobs Study: Assessing Private Sector Contributions to Job Creation and Poverty Reduction.

7.3.2 Benefits and Limitations

Employment multipliers are helpful because they can potentially save a programme the burden of having to do extensive surveying. They can also illustrate induced job creation that would be difficult to obtain directly.

However, multipliers are dependent upon the quality of the data used to construct them. Where available information is unreliable, calculated employment multipliers will be questionable. Moreover, multipliers are calculated using past relationships between variables with the expectation that these same relationships will hold true in the future. These linear models may have unrealistic assumptions. For example, based on past data, it may be assumed that increased growth in the sales of dairy processors will generate a certain additional employment impacts in other firms including their suppliers (dairy farmers) and their distributors (small retail shops). Yet if no spare capacity exists among domestic milk producers to increase their milk production in response to an increase in demand, the dairy processors may import their needed milk supplies, thereby reducing the domestic employment multiplier. Upon reaching a certain level of production, firms may also decide to mechanize some of their processes. This would reduce the labour intensity of the investment. For these reasons, their use may not be accepted by programme funders and other stakeholders.

7.3.3 Methods and Examples

Surveyed PSD programmes may use two methods to apply employment multipliers: primary data collection with market actors or the application of published employment elasticity estimates to measured job creation. Each of these methods is described in more detail here.

7.3.3.1 Developing Localized Multipliers

Description

In many contexts, employment multipliers either do not exist or are insufficiently tailored for the programmes needs (for example, they may be calculated at a national rather than regional level). In such cases, multipliers must be developed by a programme prior to application. This requires collecting data directly from market actors in target market systems. Data are typically collected from both service providers and target enterprises (the ultimate beneficiaries). The surveys are used to establish the additional labour input generated by programme-supported behaviour change. This is then compared with the labour input that was required prior to the intervention. This increased effort is then multiplied by a change in another relevant variable. These variables may include:

- **Amount of new land under cultivation with target crop:** as additional land is brought under production with the selected crop, more labour will be required.
- **Productivity or product produced / sold:** as more product is produced and sold, additional inputs of labour are likely to be required in harvesting, post-harvest handling, transportation and processing.

Information on the change in these variables may be collected from a sample of farmers or from large firms operating in the target market system. As the programme measures changes in those variables, it multiplies these by its derived multiplier to calculate the number of jobs it has created. These can be verified using spot checks. Programmes that develop their own multiplier typically limit their job creation estimates to their focus sector.

Suggested steps

- Identify programme interventions that will create additional jobs among large numbers of target enterprises
- Understand the variables that are linked to increased FTE jobs.
- Determine the enterprises in which FTE jobs will be considered (e.g. producers, distributors, suppliers, transporters, processors)
- Use secondary sources or primary research (e.g. enterprise surveys) to calculate the additional FTE jobs generated per unit of change in the selected variable
- Measure the change in the selected variable that is tied with FTE job growth
- Multiply the change in the selected variable by the FTE job multiplier to calculate the total FTE job creation that the programme is responsible for

Benefits

The development of a localized multiplier ensures that it is grounded in the context in which the programme operates. Where published multipliers are extremely broad and local variations significant (e.g., in countries that have both large formal and informal agricultural operations), they are less likely to be accurate.

Challenges

Developing localized employment multipliers requires a significant amount of information. Surveying an adequate sample of firms, particularly if wanting to include suppliers and distributors, has significant cost and time implications.

Moreover, developing a multiplier requires the expertise of an economist or other skilled professional to design the ratio and analyse the results.

Certain variables, such as production levels, are prone to fluctuations in their value because of exogenous events including poor rainfall. This can make it challenging to determine the “average” amount of effort required to produce a certain level of production and control for exogenous shocks (e.g., a drop in rainfall). For example, in contexts where climatic conditions vary widely, the amount of work required to produce a given output will fluctuate widely. Distinguishing changes in effort due to these exogenous variables from changes due to the adoption of new practices or innovations is difficult.

Tips

- Realistically assess the validity of applying existing multipliers to programme results before deciding to develop your own. Develop a strong attribution story that makes the estimated changes plausible.
- Derive your own multiplier when there are a sufficiently large number of target enterprises doing a similar activity to justify the effort.
- More capital intensive production models will generate fewer jobs. If there are significant differences in the level of technology being applied within the sector, consider developing several multipliers rather than just one.
- Be transparent about the use of multipliers for job creation estimations in project reporting. Outline any limitations of the multipliers being applied and the degree of uncertainty that exist.

Application

Two examples of the use of employment multipliers are provided in the following two boxes of projects operated by Chemonics and Katalyst. Chemonics developed employment multipliers based on the revenues of the service providers that it worked with. These multipliers estimated direct job creation at the service provider and farm levels, and in certain cases indirect job creation by suppliers of the service provider, drawing from an estimate of the labour input required through the supply chain to generate a certain level of firm revenue.

Box 5: Chemonics Poverty Reduction and Alleviation (PRA) Case - Deriving a Revenue-Based Employment Multiplier⁵⁸

The Poverty Reduction and Alleviation (PRA) project is a long-term investment of USAID in Peru that has been implemented by Chemonics. Following its first phase, which lasted between 2000 and 2008, it was extended for a second phase from 2010 to 2014. PRA's objective is to reduce poverty along economic corridors in Peru. The generation of incremental jobs was an important objective to PRA as a contributor to poverty reduction. In Phase 1, the project focused on improving the competitiveness of enterprises with the potential to grow and create positive impacts on micro, small and medium enterprises. It did so via economic service centers that provided non-financial services to firms once they had created a business plan.

Methodology

The PRA project used the business plans that it generated with each target enterprise as the basis for its results measurement system and for asserting its attribution to measured results. The business plans outlined the firm's expected growth strategy and the role that project funds would play in realizing that strategy. To calculate its impacts on job creation, PRA created a multiplier using the incremental sales generated by the target enterprise as a result of the supported business plan. The multiplier considered the direct jobs created by the enterprise and in its supply networks. Where data was available, it also included jobs generated in related production services such as machinery maintenance and transport. To derive this, PRA hired external consultants to calculate "employment factors" (i.e. the workdays

⁵⁸ Chemonics. 2010. PRA Performance Management and Monitoring Plan. Period 2010-2014.; Personal Communication, January 25, 2014.

required to produce a unit of production, also known as labour inputs) for the products of the companies it supported and their suppliers. So, for example, 0.05 workdays might be required to produce and sell a kilo of coffee. If an enterprise therefore sells an additional 10,000 kilos of coffee as a result of PRA's interventions, this would have generated an additional 500 days of employment in the company and its supply chain. To calculate this, the external consultants would collect information from farmers and other service providers as possible on the actual time spent on the crop-related activities. It would then divide this by the level of production achieved to derive a quantity of workdays per unit of output. The PRA project would then apply same employment factor to all firms producing the same product using a similar level of technology. Consultants reviewed the multipliers annually for accuracy using sales indicator quality evaluations and updated them as necessary.

The formula used to calculate the incremental jobs created by a supported firm was as follows:

$$EI = [Qr(F)] - [Qlb(F)]$$

Where:

EI = Incremental jobs (in workdays) attributed to the Project

Q = The amount sold by the target firm (in physical units)

F = Employment factor

r = Results by Project intervention

lb = Baseline

The PRA project then calculated the *equivalent permanent jobs* created per year (their version of full time equivalent jobs) by dividing the incremental jobs by 200 days per year, the estimated annual work year in Peru. The PRA project collected information on the amount sold by target firms monthly via emailed records. The business case collected information on sales of the firm in the previous 12 months to calculate a baseline level of employment using the employment factor. It then compared this with the subsequent figure to calculate the change in employment.

To assess its attribution to the calculated results, the PRA project conducted field visits. It would ascertain the strength of the connection between PRA activities and the bottlenecks to growth outlined in each firm's business plan and the extent to which the business had actually required the project's support to address the bottlenecks.

Results

By applying this methodology, PRA estimated that it created approximately 82,000 equivalent permanent jobs during Phase 1.

In the following case, the Katalyst programme estimated its attribution to on-farm job creation in its target sectors by measuring the results depicted in its results chains. It estimated the results for both farmers engaging with the firms it worked with directly and with those farmers who had copied their strategies or worked with other companies who had crowding-in to new business models.

Box 6: Katalyst Case – Deriving a Productivity or Area-Based Employment Multiplier⁵⁹

Katalyst is a donor-funded market development programme operating in Bangladesh. It is implemented by SwissContact and GIZ International Services under the Government of Bangladesh’s Ministry of Commerce. Katalyst seeks to comply with the DCED Standard and has been audited twice. It targets multiple agricultural sectors, including fish, prawn, fertilizer, seed, maize and vegetables. In phase 2, Katalyst sought to benefit 2.3 million farmers and SMEs over its second phase (2008-2013).⁶⁰

Methods for Measurement

Katalyst has used various methods to study its impacts on job creation. This included identifying the pathways by which Katalyst’s interventions were creating job creation and measuring the elasticity of non-agricultural job creation to agricultural output. In 2012 and 2013, they conducted a further study to estimate their direct, indirect and induced job creation impacts with the assistance of a specialized economist.

At first, the team planned to conduct retrospective ‘end-of-intervention’ household surveys with a sample of 1,500 beneficiary and non-beneficiary farming households in each value chain. The non-beneficiaries were expected to act as a control group. The sample was to be divided into the four regions where Katalyst operates. These surveys would have collected information on the labour usage rates associated with each step of the production cycle for each household surveyed. A comparison analysis between direct beneficiaries and non-beneficiaries with a focus on labour input, yield, cropping techniques and acreage would have spoken to the project’s employment effect. Alternatively, Katalyst could have computed the labour inputs between the two groups with multivariable regression analysis.

However, Katalyst’s management team concluded that these methods were too expensive and complicated. The team already had a significant amount of information on yield and income from the baseline studies, which could be used together with some additional data on labour inputs and a few assumptions to provide an estimate of the FTE jobs generated by its interventions. Thus, the team decided to use a combination of limited farmer surveys to understand labour input in each sector and multipliers to calculate their project’s impact on jobs.

For estimating its on-farm job creation impacts, Katalyst used what it termed a “bottom up” approach. It first assessed the workdays in FTE required at each stage in the on-farm production process for the target sectors with the greatest expected employment impacts. It did so using secondary sources, where available, and complemented these with retrospective household surveys with farmers in each sector to triangulate existing labour input statistics. Katalyst conducted approximately 200 surveys in the sectors where secondary sources were available and approximately 700 where they were not. The surveys were very short and asked questions designed to estimate the farmers’ current labour input versus their labour input prior to the being involved in the intervention. Recognizing that the labour required varies by farm size, the calculated workdays were disaggregated by the amount of land used by the farmer. The following table demonstrates the resulting data that was generated for fish production.

⁵⁹ This case study is drawn from information presented in Katalyst. 2013. A short note of Employment Creation due to Katalyst.

⁶⁰ For more information on Katalyst, visit www.Katalyst.com.bd.

Katalyst then reviewed its intervention results chains and selected those that it expected to increase farmers' income by increasing their productivity or area under production (by cultivating previously fallow land).

Steps	Land size (decimal)			
	0-40	40-80	80-150	150+
Pond Prep	0.110	0.242	0.187	0.315
Cultivation	0.686	1.213	1.625	2.726
Harvest	0.042	0.069	0.101	0.403
Final Sales	0.007	0.014	0.023	0.036
Total FTE	0.844	1.537	1.936	3.480

It then used employer surveys and impact assessments to verify the actual number of farmers that applied and benefited from the new models or products that Katalyst promoted with service providers. This included an estimate of the number of farmers who would copy programme-supported innovations. Katalyst then multiplied the estimated number of farmers that

implemented and benefited from each intervention by the increased FTE that it implied to calculate the FTE jobs created by the intervention. It then summed the results for every intervention together to calculate the total number of on-farm jobs created in its target sectors.

Results

By applying the “bottom up” methodology described above, Katalyst calculated that it had a significant direct impact on employment. Its surveys of direct and indirect job creation based on its results chains suggested that Katalyst had created 46,000 farm-based FTE jobs. Katalyst recognizes that its approach relies on several assumptions. These included assuming that the labour usage rates are the same for farmers that Katalyst benefited directly and those benefited via crowding-in or copying. In reality, farmers that are indirect beneficiaries may actually use less labour than direct beneficiaries. A second assumption is that the estimates of direct and indirect beneficiaries are approximately correct. Because Katalyst uses an M4P approach and does not provide any direct services to its ultimate beneficiaries, this is difficult to estimate.

Conclusion

An independent researcher concluded that the estimates based on Katalyst's data and ratios provide a reasonably accurate picture of the number of FTEs created.⁶¹ Katalyst team members note that the approach was less costly than carrying out a representative household survey. They concluded that using FTE greatly simplified the estimates and that well-articulated result chains and accurate baselines make this approach much more simple and attributable to the project.

7.3.3.2 Estimating Employment Elasticity of Income

Description

Where secondary data sources are available, programmes can access or estimate employment multipliers by drawing on the elasticity (i.e. sensitivity) of increases in employment to increases in income. This is represented by the formula $\frac{\Delta L/L}{\Delta Y/Y}$ where L stands for employment, Y denotes GDP for the economy as a whole, and Δ denotes the change in that variable.”⁶²

⁶¹ Katalyst. 2013. A short note of Employment Creation due to Katalyst.

⁶² Ibid.

Employment elasticities can be accessed from published sources, and applied to calculate a programme's estimated impact on job creation. These elasticity estimates may be published for the overall economy or present a more specific relationship, such as for a specific sector (e.g., agriculture), or area (e.g., a province, rural areas). They are typically calculated using national data and published by the government, the International Labour Organization or think tanks to understand the impact of economic growth on employment levels. These multipliers can also help PSD programmes to estimate the impact of the additional income that they are generating on job creation. Once an appropriate employment elasticity has been identified, private sector development programmes can use their data on the net attributable income change that they have generated from their interventions to generate an estimated job creation impact.

Suggested steps

- Identify published employment elasticity estimates or calculate one using available statistics
- Select the most appropriate elasticity estimate(s)
- Determine what types of net attributable income change the programme will measure (e.g., of target enterprises, service providers, distributors and wholesalers, wage payments to other workers)
- Measure the net attributable income change generated by selected interventions during and following their implementation
- Apply a discount rate to calculate the net present value of the net attributable income change
- Multiply the result by the ratio of employment to income for the specified region/sector/etc. and then by the employment multiplier to estimate the amount of jobs created
- If the programme's direct job creation results were calculated using another method, subtract these from the net result to derive the indirect and induced job creation figure

Benefits

Using an employment multiplier that draws from available elasticity data is a very cost effective way to measure job creation. This is particularly so for estimating induced jobs, which may otherwise be impossible to estimate. This approach can be applied when large-scale firm surveying is impractical. They are also helpful when an intervention's impacts are difficult to measure directly, as in the case of business environment reform programming. Moreover, they enable the estimation of induced jobs created by PSD programmes.

Challenges

Where published multipliers do exist, they are often so aggregated (for example, at a national level or for entire sectors like agriculture or services) that they are less informative. As the IFC notes, multipliers are "highly context specific, rarely based on a counterfactual, and vary across industries, within industries across countries, and even within one industry in the same country".⁶³ Applying a pre-existing multiplier without understanding the sources of data that have been used may therefore generate

⁶³ IFC. 2013. IFC Jobs Study: Assessing Private Sector Contributions to Job Creation and Poverty Reduction.

inaccurate results. Moreover, it can be difficult to assess the quality of published multipliers; this can make it challenging to select the ones to use in cases where multiplier multipliers exist.

Another limitation is that it is impossible to directly assess the proportion of the calculated jobs that have benefited a programme's target beneficiaries. Equally, the reliance on national income figures implies using this approach will not include any additional unpaid family labour that was generated.

Finally, it is impossible to directly verify whether the multiplier has actually produced the number of jobs that the multiplier suggests. Multipliers may be most helpful in predicting short-term change, but have a smaller long-term impact.⁶⁴

Tips

- Identify if more than one published multiplier exists, and compare them. If they are significantly different and both appear equally valid, consider using both as an upper and lower bound to demonstrate the uncertain nature of applying multipliers.
- In selecting the income value to use in calculating the employment multiplier, consider whether significant wages were paid out by market actors to generate that income increase and whether these can be measured. Including these wages in the calculation may significantly increase the calculated number of jobs created. Similarly, decide what types of income to measure and include in the calculation. While many programmes only use the income generated by target beneficiaries, the large partner companies they work with often also generate significant income.
- Be transparent about the use of multipliers for job creation estimations in project reporting. Outline any limitations of the multipliers being applied and the degree of uncertainty that exist.

Application

Two cases demonstrate the estimation of the employment elasticity of income. In the first case of Katalyst, the project estimated its total job creation impacts by calculating the net attributable income change due to the programme and then applied employment elasticity estimates to derive an induced impact on job creation. This experience is presented in the following box.

Box 6: Katalyst Case – Calculating Job Creation based on Income Elasticity Estimates⁶⁵

As noted above, Katalyst is a donor-funded market development programme operating in Bangladesh that sought to generate significant job creation in its second phase. In addition to deriving a localized multiplier based on direct surveying of farmers within its target market systems, Katalyst strove to estimate its broader impacts on job creation.

Methods for Measurement

To estimate the induced and off-farm employment impacts, Katalyst used what it termed a “top down” approach in which it used two estimates of Bangladesh’s employment elasticity (i.e. the percentage

⁶⁴ DFID. 2012. How to note: Measuring job creation 3.

⁶⁵ This case study is drawn from information presented in Katalyst. 2013. A short note of Employment Creation due to Katalyst.

change in employment associated with a percentage increase in Gross Domestic Product). The first was a World Bank report⁶⁶, while the second was its own calculations. To calculate its impacts on job creation, Katalyst first estimated its contribution to Bangladesh’s national GDP. This was done by estimating the total increase in farmer incomes that was attributable to Katalyst’s interventions in each year of its programming and then applying a GDP deflator to produce a figure in constant local currency that nets out inflation. This produced an estimated contribution by Katalyst to Bangladesh GDP growth of between 0.04% - 0.062%; the low estimate uses more conservative assumptions.

Katalyst recognized that using increases in farmer income alone may have underestimated of the programme’s total impact on job creation because it ignored the increased labour costs that were required to generate that additional income. Farmers were often hiring additional workers on their farms, using their revenues to pay their salaries. Katalyst’s assessments in the fish, maize and potato sectors indicate that farmers were paying a ratio of between 30% and 70% of the amount of net income that they earned in salaries to workers. Katalyst therefore adjusted its income figures up by 0%, 30%, 50% and 70% to demonstrate the impact of including these jobs. In doing so, Katalyst treated the estimated ratios of wages to profits as fixed over the lifetime of the intervention for simplicity while recognizing this assumption may be inaccurate. Katalyst decided not to include the increased income of the companies it supported in its income multiplier. Although it recognized this was an important result of its programming, Katalyst felt this information would be very time consuming to collect. As it was not an indicator in the programme logframe, they decided to only include income generated for its target beneficiaries and their workers.

Results

The application of the “top-down” method led to estimates of an overall job creation of between 58,000 and 146,000 on-farm and off-farm FTE jobs in the Bangladeshi economy as a result of Katalyst’s intervention.

Total Labour (2008-2013)	No wage Income	+Wage @ 30% Income	+Wage @ 50% Income	+Wage @ 70% Income
Income Conservative with annual elasticity	58,437	75,968	87,655	99,343
Income Conservative with WB Elasticity	68,410	88,933	102,615	116,297
Income non conservative with annual elasticity	73,411	95,434	110,116	124,798
Income non conservative with WB Elasticity	86,122	111,958	129,182	146,407

The wide range in the estimates reflected the assumptions used in applying the employment multiplier. Because Katalyst had also calculated its on-farm job impacts as 46,000 FTE positions (as highlighted above in a previous box), it subtracted this number from the result of its calculation to determine it had created 12,000 to 100,000 off-farm and induced jobs.

Conclusion

An independent researcher concluded that the estimates based on Katalyst's data and ratios provide a reasonably accurate picture of the number of FTEs created. Katalyst team members note that the approach was less costly than carrying out a representative household survey. They concluded that using FTE greatly simplified the estimates and that well-articulated result chains and accurate baselines make this approach much more simple and attributable to the project.

⁶⁶ World Bank. 2012. Bangladesh: Towards accelerated, inclusive, and sustainable growth – opportunities and challenges, Bangladesh Development Series.

In the case of Kenya Markets Trust, the programme similarly used income elasticity estimates to estimate its employment impacts.

Box 7: Kenya Markets Trust Case – Income-Based Employment Multipliers⁶⁷

Kenya Markets Trust is a non-profit organization that seeks to transform the performance of key agricultural and basic service markets in Kenya so that they can function better and improve the lives of those participating in them. KMT seeks to comply with the DCED Standard in its programming. One of the factors that it measures in its programming is the jobs that it is creating. Job creation is an important issue in Kenya, where there is a significant ‘youth bulge’ entering the workforce without sufficient formal sector jobs to absorb them. KMT is consequently measuring its impacts on job creation.

KMT implements the Market Assistance Programme (MAP) in collaboration with Adam Smith International. MAP targets the dairy, seeds, agri-inputs, livestock, and water market systems. MAP recognized that the largest opportunities in its target agricultural sectors involved improving the productivity of smallholder farmers. Its research indicated that these productivity improvements were unlikely to create a large number of on-farm jobs and would, in some cases, actually reduce them. However, the significant increased income they would generate for smallholder farmers and others in the value chain would lead to a large number of induced jobs elsewhere in the economy. Directly measuring jobs also implied significant additional costs. Consequently, with guidance from external experts, KMT decided to focus its data collection on induced jobs. It selected an approach that would estimate its job creation inputs by using published estimates of the employment elasticity of income growth. For its target agricultural sectors (dairy, livestock, seeds and agri-inputs), it decided to use the income generated by beneficiary farmers. In the water market system, it decided to measure and use the income generated by the suppliers of water through sales rather than by the income saved by consumers from reduced time spent on procurement. KMT otherwise did not incorporate the income generated by the large firms it works.

Methods for Measurement

KMT did research to identify the most appropriate multiplier to use. It found that multipliers had not been calculated for the specific subsectors and areas in Kenya where it working but were available for rural Kenya generally. One that was produced by the Society for International Development had a value of 0.59. The SID paper further outlined the duration over which income increases would be manifested in rural employment, estimating that 82% of the effect would occur within five years and 97% within ten years. In contrast, a different multiplier derived by the International Labour Organization for Kenya’s agricultural sector had a value of 1.67. Given the significant divergence between them and also the lack of data to determine whether one of the two was more accurate, KMT decided to average the two to derive its employment multiplier. To apply the employment multiplier, KMT took the following steps:

1. Identify the baseline employment and income levels. To assess the impact that KMT’s income increases will have, it is necessary to first calculate the baseline employment and income levels against which programme-generated income increases will be compared. Because KMT was using a multiplier that was explicitly for rural Kenya, it needed to identify employment and income levels in rural areas for

⁶⁷ This case study is drawn from information presented in Woller, Gary. 2013. Using Employment Multipliers to Estimate the Employment Impact of MAP Interventions. Unpublished; and Tomecko, Jim. 2011. Estimating the Employment Effect of KMT Interventions.

its baseline year prior to the start of MAP. KMT found this information through secondary sources from the International Poverty Centre⁶⁸ and IFAD⁶⁹.

2. Measure the net attributable income change that KMT generated through the MAP programme for smallholder farmers and water sellers in its target sectors. KMT did so by conducting surveys and impact assessments in its target sectors.

3. Calculate the net present value (NPV) of the net attributable income change that KMT generated. This was done by applying a discount rate of 10% annually, using the first year of the programme (2011) as the base year.

4. Apply the multiplier. After completing steps 1-3 above, KMT then calculated the multiplier.

MAP will not attempt to directly verify the jobs estimates that it calculates, given the extreme difficulty of doing so.

Results

By applying its income-based employment multiplier to calculate job creation, KMT estimated that it created over 1,200 jobs in the first two years of MAP during. As its outreach and income achievements grow considerably, MAP estimates that it will reach over 71,000 jobs by two years after the end of the program.⁷⁰

Conclusion

By employing an employment multiplier to estimate its job creation impacts, MAP was able to project its job creation impacts to the end of the project and two years afterwards, in accordance with the DCED Standard. Applying the multiplier has also enabled MAP to estimate its achievements towards job creation in a context where it is unlikely to create significant direct jobs. It has thus proven quite useful for MAP's measurement and results reporting.

⁶⁸ Pollin, Robert and James Heinz. 2007. "Expanding Decent Employment in Kenya: The Role of Monetary Policy, Inflation Control, and the Exchange Rate." International Poverty Centre, Country Study Number 6.

⁶⁹ *No longer available on-line*

⁷⁰ MAP is combining this income-based approach with another methodology to measure job creation. Using that other methodology, MAP's overall job creation estimate is over 109,000 by two years following the end of the programme.

VIII. Job Creation Measurement in Practice

The first part of this paper focused on outlining key concepts on job creation and how to measure it. This second part articulates how to practically apply these concepts within a PSD programme by following a series of steps. For each step, questions are provided to provoke decision-making and action.

Step 1: Determine Whether to Measure Job Creation

Programmes should decide during intervention design whether they will measure job creation, based on the considerations outlined in Section V above. Guiding questions include:

- Is the programme strategy, including the selected market systems, geographic location and PSD approach, likely to create jobs?
- If no, are there other reasons to measure job creation? These may include:
 - Monitoring firm-level performance and efficiency.
 - Monitoring any negative impacts the programme is having on employment, particularly for the poor.
- Are there pragmatic considerations? For example:
 - Does the funder or other stakeholders have a strong opinion?
 - Does the programme have the financial capacity and human resources to measure job creation?

Step 2: Identify the Characteristics of the Jobs that will be Created

Once a decision has been taken to measure job creation, it is important to consider the characteristics of the jobs that will be generated. Guiding considerations include:

- Are you expecting to generate jobs in the informal sector and for the self-employed?
- Are you expecting to generate less-than-full-time jobs?
- Are you planning to work in rural or remote areas?
- Are you most concerned with creating jobs for a particular target group?
- Are you only concerned with measuring those jobs that are likely to be sustained, or also about temporary job creation?
- Are you concerned with measuring the contribution of unpaid workers (such as household members)?
- Do you want to measure your impacts on raising the productivity of low productivity workers who may already be working full-time?

Based on the answers to these questions, programmes may define the characteristics of the jobs that they expect to create and wish to measure. This will then determine the definition of job creation that they should use.

Step 3: Determine Where Jobs are Likely to be Created

Once you have defined the characteristics of the jobs that you plan to create and measure, it is critical to determine where those jobs are likely to be created. This will depend upon the type of PSD

interventions that the programme intends to implement and the structure of the target market system(s). Guiding questions include:

- Where are significant jobs likely to be created?
 - By the service providers that the programme works with directly?
 - By the suppliers and distributors that work with those market actors?
 - By the programme's target enterprises?
 - By the programme's target population starting enterprises?
 - By enterprises that imitate the behaviour changes promoted by the programme?
- Is the programme likely to generate significant income gains and therefore have an impact on induced job creation?

Step 4: Decide Whether to Measure Job Quality or the Identities of Job Takers

After determining where jobs are likely to be created, your programme should consider whether other qualitative considerations are important. Guiding questions include:

- Is it important for your programme to measure job quality?
- Is it important to understand who is receiving the jobs that you are creating?

If either consideration is important, it will likely be necessary to survey employees. These surveys are possible with every measurement method except for using employment elasticity estimates, as it is not possible to identify the induced jobs that have been created to survey the jobholders.

Step 5: Incorporate Job Creation into your Intervention Results Chains and Indicators

Based on a determination of where jobs are likely to be created within or without the target sector(s), programmes should then reflect their expected pathway to job creation within their intervention results chains and indicators. Guiding considerations include:

- Do your results chains articulate all expected pathways to job creation, including direct, indirect and induced employment?
- Do your results chains incorporate job quality issues, if relevant?
- Have indicators been articulated for each type of job creation?
- Have indicators been articulated to understand job quality and the identities of job takers, if relevant?

Additional information on building job creation into results chains and indicators is provided in Annex B.

Remember! As with any type of result expected from PSD programming, it is possible that a programme will not accurately predict ex ante where jobs will be created as a result of its programme. A programme should therefore revisit its intervention logic and results chains regularly during the life of the initiative (as required in the DCED Standard) and use qualitative research to monitor for job creation in unexpected places.

Step 6: Select the Appropriate Measurement Method(s)

Once job creation has been reflected within intervention results chains and indicators, programmes should then select their overall approach (direct measurement or use of multipliers) and the specific measurement method(s):

- A. Obtaining employer records
- B. Surveying employers
- C. Surveying employees
- D. Developing localized multipliers
- E. Using employment elasticity estimates

Figure 1 above can guide in the selection, based on the appropriateness of the method for the type of job creation that you wish to measure, your budget and expertise. Guiding questions include:

- Will the selected method(s) measure the types of job creation that are expected to occur?
- Are sufficient financial and human resources available to implement the selected measurement methods?

Step 7: Measure your Impact on Job Creation

Once you have selected your measurement methods, the next step is to apply them. The appropriate method for doing so depends upon the measurement method that is selected. Examples of how to apply each of the methods are provided in the case studies presented above. Some general guidelines for applying good practice in research is available on the DCED Website.⁷¹ Guiding questions include:

- Has a baseline been established for all indicators, to the extent practical?
- Have survey tools been pre-tested or pilot-tested prior to wider application?
- Have you planned to consider attribution in the design of the measurement plan?
- Has your results measurement approach considered and tested for systemic change (if that is intended)?

Step 8: Report Results

After having calculated your job creation impacts, it is advisable to transparently publish them. Guiding questions include:

- Is it appropriate in your context to report direct job creation separately from indirect or induced job creation?
- Is it appropriate in your context to report separately on the jobs created for target beneficiaries and jobs created for others, to the extent that the selected methodology allows?⁷²
- Is the reporting period over which the jobs were created specified?

⁷¹ [Key resources on measuring attributable change](#)

⁷² If using income elasticity estimates to calculate job creation, it is not possible to determine the recipients of the jobs that are generated.

- Have any existing jobs that have been saved because of programme interventions been reported separately?
- Are the types of jobs that are included in the programme's definition of jobs specified?

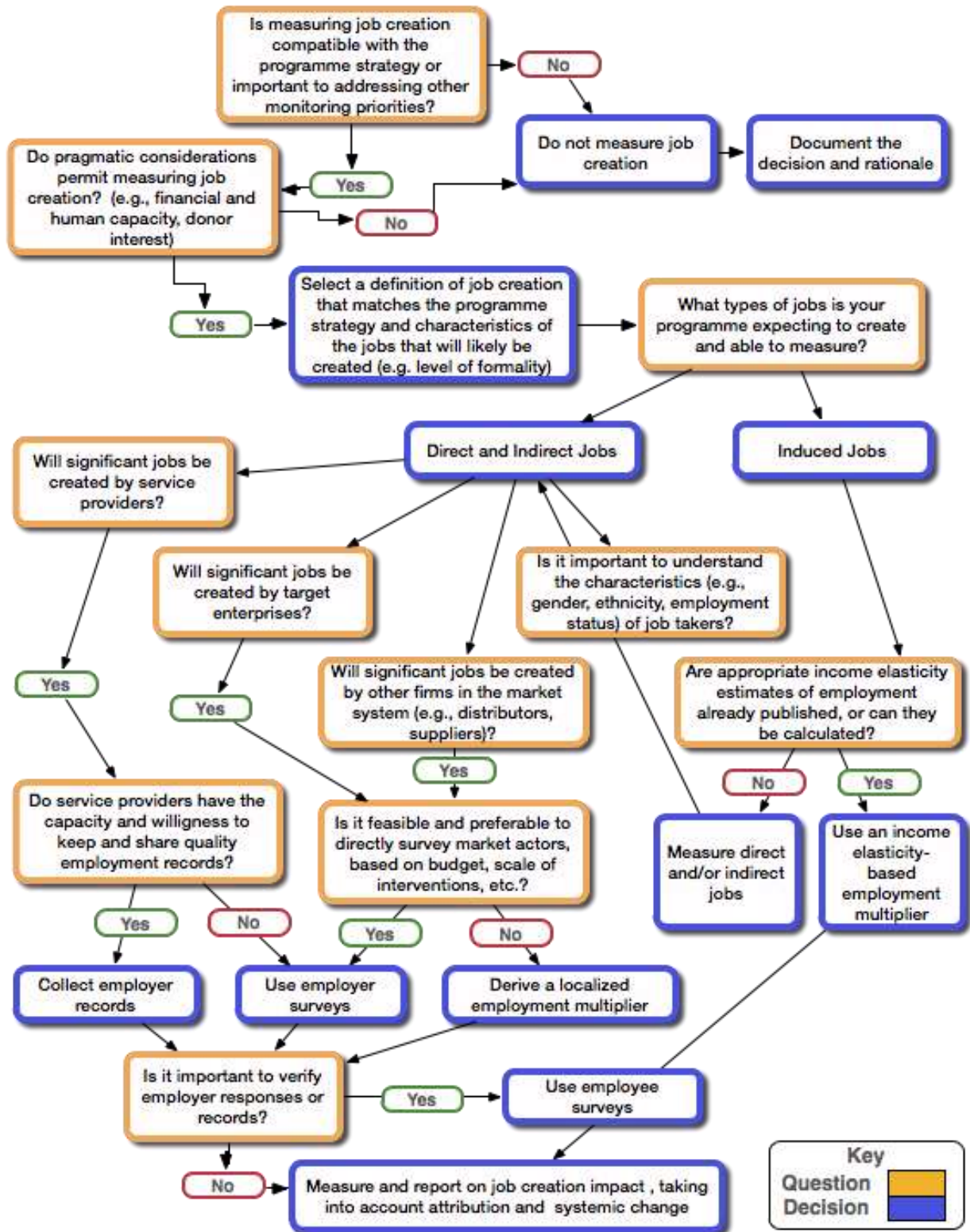
IX. Summary

In summary, this working paper outlines important issues to consider in measuring job creation. It also includes a set of steps to follow, including:

1. Determine Whether to Measure Job Creation
2. Define a Job in your Context
3. Determine what Types of Jobs are Likely to be Created
4. Select the Appropriate Measurement Method(s)
5. Incorporate Job Creation into your Results Chain
6. Define Job Creation Indicators
7. Measure your Impact on Job Creation
8. Report Results

To close, the following decision tree provides a practical tool for determining whether and how to incorporate job creation into your results measurement system.

Figure 3: Job Creation Measurement Decision Tree



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Annex B: Aspects of Job Quality

Although the focus of governments and donors is typically on the quantity of jobs that are generated, their quality is also important to many. The ILO has issued many conventions outlining aspects of quality work.⁷³ Some of the most important aspects include:

- **Job formality and duration:** The status of jobs (e.g. full-time, part-time, seasonal, informal) has significant impact on their quality. While flexibility may be one advantage of part-time work, disadvantages may exist in comparison to those employed full-time. These disadvantages may include a lack of an employment guarantee, lower hourly wages, ineligibility for certain social benefits and few professional training or career promotion opportunities. In many countries, women are more likely to hold part-time employment.⁷⁴ It is therefore helpful to understand the disparities between women and men's employment and analyse the amount of part-time work versus full time work. This can be done using firm-level surveys.
- **Profile of job recipients:** Disaggregating all collected data by sex, level of education and age is a basic requirement necessary to detect how your intervention is affecting men and women and other vulnerable groups such as young people, the elderly and under-educated populations. Depending on your project's target group, you may need to disaggregate your data to distinguish them as well. For example, if a project targets physically disabled people, surveys or interviews will need to include demographic questions pertaining to people's physical abilities in order to capture your intervention's impact on the targeted population.
- **Vertical/hierarchical segregation:** In addition to disaggregation of data, women and other vulnerable groups tend to be concentrated into certain types of jobs (e.g. vertical occupational segregation between production level jobs rather than management positions).⁷⁵ Considering the distribution of job level by type of employee can indicate whether these barriers are being removed or continuing to exist.
- **Workplace safety:** The issue of workplace safety can clearly affect a person's experience at work. Aspects of workplace safety include on-the-job injuries or deaths, child labour, unfair treatment or harassment.⁷⁶

⁷³ These include: Freedom of Association and Protection of the Right to Organise Convention, 1948 (No. 87); Right to Organise and Collective Bargaining Convention, 1949 (No. 98); Forced Labour Convention, 1930 (No. 29) Abolition of Forced Labour Convention, 1957 (No. 105); Minimum Age Convention, 1973 (No. 138); Worst Forms of Child Labour Convention, 1999 (No. 182); Equal Remuneration Convention, 1951 (No. 100), and Discrimination (Employment and Occupation) Convention, 1958 (No. 111).

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⁷⁵ European Commission. 2009. Gender Segregation in the Labor Market. Root Causes, policy responses and implications in the EU.

⁷⁶ United Nations Economic Commission for Europe. Measuring Gender Equality in the Economy. Research Report. 2009.

- **Job hours:** Long hours worked, especially during social hours, can be very demanding for workers. On the other hand, involuntarily short hours of work can also significantly impact a worker's well-being. This measure is important to track if you want to better understand the time burden of work and underemployment.⁷⁷

⁷⁷ Ibid.

Annex C: IFI Harmonized Employment Definitions⁷⁸

Type of Employment	Definition
Direct Employment – Operations and Maintenance	<p>Number of full-time equivalent employees as per local definition working for the client company or project at the end of the reporting period. This includes directly hired individuals and individuals hired through third party agencies as long as those individuals provide on-site services related to the operations of the client company. Also, this includes full-time equivalent worked by seasonal, contractual and part time employees. Part-time jobs are converted to full-time equivalent jobs on a pro rata basis, based on local definition (e.g., if working week equals 40 hours, a 24 hr/week job would be equal to 0.6 FTE job). Seasonal or short-term jobs are prorated on the basis of the portion of the reported period that was worked (e.g., a full-time position for three months would be equal to a 0.25 FTE if the reporting period is one year). If the information is not available, the rule-of-thumb is two part-time jobs equal a full-time job.</p> <p><i>Note: employment for the purpose of the construction of the client company’s hard assets is not to be included in this indicator. For such jobs, please use the indicator Direct Employment – Construction Phase.</i></p>
Direct Employment – Construction Phase	<p>Number of full-time equivalent construction workers employed for the construction of the investor’s client company or project’s hard assets during the reporting period. Part-time jobs for construction are converted to full-time equivalent jobs on a pro rata basis, based on local definition (e.g., if working week equals 40 hours, a 24 hr/week job would be equal to 0.6 FTE job). Seasonal or short-term jobs are prorated on the basis of the portion of the reported period that was worked (e.g., a full-time position for three months would be equal to a 0.25 FTE if the reporting period is one year). If the information is not available, the rule-of-thumb is two part-time jobs equal a full-time job.</p> <p><i>Note: employment for the purpose of the construction of the client company’s hard assets is not to be included in this indicator. For such jobs, please use the indicator Direct Employment – Operations and Maintenance.</i></p>
Investee Direct Employment – Operations and Maintenance	<p>Number of full-time equivalent employees as per local definition working for the company or project’s hard assets at the end of the reporting period. This includes directly hired individuals and individuals hired through third party agencies as long as those individuals provide on-site services related to the operations of the client company. Also, this includes full-time equivalent worked by seasonal, contractual and part time employees. Part-time jobs are converted to full-time equivalent jobs on a pro rata basis, based on local definition (e.g., if working week equals 40 hours, a 24 hr/week job would be equal to 0.6 FTE job). Seasonal or short-term jobs are prorated on the basis of the portion of the reported period that was worked (e.g., a full-time position for three months would be equal to a 0.25 FTE if the reporting period is one year). If the information is not available, the rule-of-thumb is two part-time jobs equal a full-time job.</p> <p><i>Note: employment for the purpose of the construction of the hard assets of an</i></p>

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	<i>investor's client company is not to be included in this indicator. For such jobs, please use the indicator Investee Direct Employment – Construction Phase.</i>
Investee Direct Employment – Construction Phase	<p>Number of full-time equivalent construction workers employed for the construction of the investor's client company or project's hard assets during the reporting period. Part-time jobs for construction are converted to full-time equivalent jobs on a pro rata basis, based on local definition (e.g., if working week equals 40 hours, a 24 hr/week job would be equal to 0.6 FTE job). Seasonal or short-term jobs are prorated on the basis of the portion of the reported period that was worked (e.g., a full-time position for three months would be equal to a 0.25 FTE if the reporting period is one year). If the information is not available, the rule-of-thumb is two part-time jobs equal a full-time job.</p> <p><i>Note: employment for the purpose of the operations and maintenance of an investor's client company is not to be included in this indicator. For such jobs, please use the indicator Investee Direct Employment – Operations and Maintenance.</i></p>

Annex D: Incorporating Job Creation into Results Chains and Indicators

Programs that decide to measure job creation should reflect it into their interventions' results chains. Articulating a results chain for each intervention is the foundation of the DCED Standard. A results chain is a visual “hypothesis about how the activities of the programme are expected to lead to outputs, outcomes, and eventually development impact.”⁷⁹

Job creation is typically reflected at the highest levels of the results chain, as for many programmes it is one of their overall results. In developing a results chain, it is important to reflect the causal pathway through which jobs will be created. The method for doing so will vary for direct, indirect and induced jobs. For direct jobs, job creation can be directly inserted in the results chain as a result of changes made by specific enterprises, such as ECF did in the results chain presented earlier. In cases where jobs are expected to be created indirectly within the target market system or via induced effects from consumer spending, these can also be reflected in the results chain by linking the appropriate boxes to the job creation result box. For example, if induced jobs will be generated by new consumer spending, then a linkage between net attributable income change and job creation can be articulated.

Tip!

Involving targeted businesses in the development and revision of results chains can help confirm the justification for measuring job creation, ensure buy-in and increase the accuracy of data collection. This process typically includes the intervention manager, key stakeholders from the business and other relevant staff. Businesses typically enjoy discussing the logic of the project and thinking through whether or not job creation is an appropriate result of their initiative. Target enterprises are good sources of insight about the pathways through which interventions lead to job creation. However, it is important to also maintain a critical perspective. Businesses may have their own agendas, may overstate or understate numbers, or may simply be wrong.

To effectively measure job creation, indicators should be defined for the job creation boxes in the results chain. For measuring the quantity of FTE jobs created, many programmes use a simple indicator such as “Number of FTE jobs created”. This allows programmes to aggregate the jobs that are created by different enterprises in the market system and combine direct, indirect and induced jobs into a single indicator. Programmes wishing to monitor job quality, underemployment and other qualitative aspects may wish to consult specialized guidelines. Comprehensive examples of job quality indicators can be found in the ILO’s Decent Work Indices and in a review of job quality indicators produced by the European Union.⁸⁰ Further advice on measuring aspects of job quality is available in ILO’s Decent Work Agenda⁸¹ and the United Nations Economic Commission for Europe’s document on measuring gender equality.⁸²

⁷⁹ www.enterprise-development.org/wp-content/uploads/1_Implementation_Guidelines_Results_Chains.pdf

⁸⁰ Indicators of Job Quality in the European Union. European Parliament. Economic and Scientific Policy. 2009.

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