

MEASURING PRODUCTIVE EMPLOYMENT: A 'HOW TO' NOTE

By Matt Ripley & Steve Hartrich, July 2017



WHAT IS PRODUCTIVE EMPLOYMENT?

Productive employment is considered by the ILO as employment yielding sufficient returns to labour to permit a worker and his/her dependents a level of consumption above the poverty line. For projects, measuring productive employment can help understand how significant absolute income increases are relative to the target group's poverty situation.

This is particularly important for market systems projects. The net attributable income change (NAIC) figure, common for projects reporting in line with the DCED Standard, tends to smooth aggregate income changes and hide the diversity in the range of people who access market-based product/service innovations being stimulated by a project. If the average NAIC is \$50, then so what? Whether this figure makes a large or small difference to target groups will depend on their existing levels of consumption and expenditure; in other words, whether they are in poverty or have already 'graduated' above a given poverty line.



WHAT IS THE PRODUCTIVE EMPLOYMENT INDICATOR?

The productive employment indicator tells us about changes in earnings relative to a starting situation, rather than a specific monetary value. It is particularly useful to gauge job improvements in rural contexts, where self-employed producers are often working more than full-time¹.

¹ A productive employment measure is useful when target groups are already working full-time, e.g. a farmer, or when moving from one full-time job to another. The measure is not about working more hours to generate more income, but increasing returns (labour/land) from same level of effort. Income accrued through additional working hours, rather than more productive work, is better captured through a full-time equivalent (FTE) measure.

This short note summarises learning generated by the Lab (ilo.org/thelab; @theLabILO). The Lab is an ILO global initiative that tests, scales and shares strategies to maximize the impact of market systems development interventions on decent work.

WHO THIS DOCUMENT IS FOR:

Market systems practitioners looking to measure changes in productive employment.

PURPOSE OF DOCUMENT:

Outline a methodology that can be used to estimate how many project beneficiaries have significantly improved the productivity of their employment.

It is a composite indicator, derived from:

- **Net attributable income change (NAIC):** This isolates the precise income change resulting from a given intervention-supported practice change. It is collected by projects, usually through primary data (before/after surveys, often comparing treatment and control groups).
- **Progress out of Poverty Index (PPI) score:** This is usually collected by projects in the same survey as the NAIC².
- **Secondary sources:** Data on median household incomes (broken down by percentile) and the national poverty gap. These are frequently collected in National Living Standards Surveys³.

Simply put, it involves calculating an ‘income increase threshold’ and then using that to determine whether or not a beneficiary’s NAIC has increased above that threshold. If it has, then their employment is considered to have become more productive - if not, then it is still an income change, but it is not significant enough to close the productivity gap⁴. The end goal is to arrive at a headcount of how many jobs have been made more productive.

HOW TO CALCULATE THE PRODUCTIVE EMPLOYMENT INDICATOR?

The 5 steps below take you through a worked example from Timor-Leste.

1. Surveys capture the overall income accruing to a producer or worker as a result of an intervention-stimulated change. For example, after subtracting costs, Joao now receives an additional \$10 extra income per month by growing horticulture products and making regular sales through a distributor, instead of selling locally and sporadically as he did before.
2. As this net income needs to be shared with – and support – four other members of his family (the number of dependents is also captured in the PPI survey), Joao’s per capita income increase is \$2 per month.

2 PPI does not (yet) exist for every country. In absence of PPI, productive employment can still be measured but will become cost-ineffective for most projects.

3 If there is a total absence of any relevant secondary data, measuring this productive employment indicator will likely not be possible.

4 Note this is different than a headcount of the working poor or of those who have moved from ‘poor’ to ‘non-poor’ as a result of the project. Productive employment recognises that poverty lines are fluid: people move into and out of them, especially in agricultural contexts where income streams are not stable. The productive employment measure (increases above a threshold percentage) better captures reality than a single ‘jump’ over a poverty line (for those very close to the poverty line, a tiny increase in net income will be enough to push them over).

3. We then construct a lookup table (example in table 1, below) based on Joao’s Progress out of Poverty (PPI) score (column A). The PPI score is captured through the survey. The PPI poverty likelihood bracket (column B in table 1) is then matched with median incomes per percentile from the latest National Living Standards Survey (column C) to give an estimate of Joao’s likely overall monthly per capita income (column D).
4. Multiplying the poverty gap (the example is based on Timor-Leste, where the poverty gap is 14.2%) by the likely per capita income will give the ‘income increase threshold’ (column E).
5. Reading across the table, we can then find out - based on an individual’s PPI score - what their estimated per capita income is, and whether the per capita NAIC reaches the income increase threshold. If per capita NAIC is less than the increase threshold it would not make a significant contribution towards overall income, and would therefore not be counted as more productive employment. Any NAIC that is more than the threshold can be considered to have improved the productivity of their employment.

So, if Joao has a PPI score of 4, meaning his poverty likelihood was in the 90-100% range (his family is extremely likely to live under the poverty line), then a positive NAIC of US\$2 from horticulture farming would make a significant contribution to household income (NAIC would represent an approximate 20% increase in overall income). But if Joao’s PPI score was 31, so his poverty likelihood was 40-50% (it is almost equally likely he is or is not poor), then the \$2 would not make a significant enough contribution to overall finances to count as having significantly ‘improved’ the productivity of his employment (since it would be just a 4% increase in overall income). An increase of US\$23, however – as shown in table 1, below – would be significant enough to count as a more productive job (since it would increase his income by almost half).

Table 1: Productive employment lookup table from Timor-Leste

A	B	C	D	E
PPI SCORE	PPI POVERTY LIKELIHOOD	INCOME PERCENTILE	ESTIMATED MONTHLY PER CAPITA INCOME	INCOME INCREASE THRESHOLD (PER MONTH)
0 - 9	90 - 100	10	\$9.63	\$1.35
10 - 14	80 - 90	20	\$16.67	\$2.33
15 - 19	70 - 80	30	\$23.33	\$3.26
20 - 24	60 - 70	40	\$30.77	\$4.3
25 - 29	50 - 60	50	\$40.00	\$5.6
30 - 34	40 - 50	60	\$51.67	\$7.23
35 - 39	30 - 40	70	\$65.00	\$9.1
40 - 44	20 - 30	80	\$84.67	\$11.85
45 - 69	10 - 20	90	\$131.67	\$18.43
70 - 100	0 likelihood of being poor, not counted			

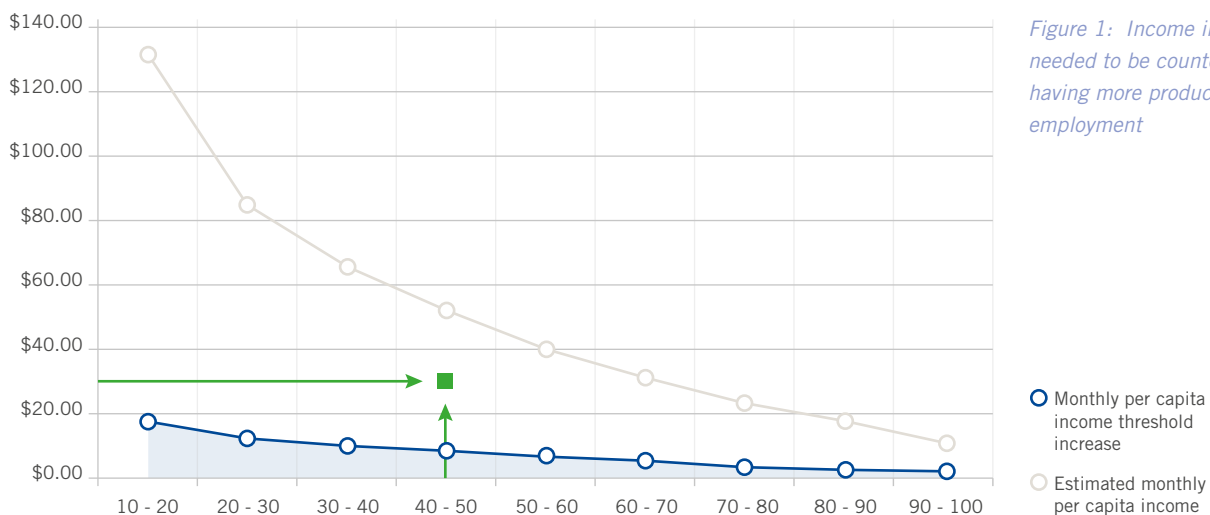


Figure 1: Income increase needed to be counted as having more productive employment

WHERE DOES THE INCOME INCREASE THRESHOLD COME FROM?

Since even approximating household expenditure/consumption is difficult (and often impossible) for projects, a proxy is used to set a percentage above which a per capita NAIC figure can be said to have made a real difference on overall income.

There are various ways to arrive at this proxy threshold. In Timor-Leste, the ILO's Business Opportunities and Support Services (BOSS) project based it on the poverty gap, which measures the average consumption shortfall relative to the poverty line. In rural Timor-Leste, it is 14.2 per cent⁵.

This threshold percentage does not guarantee someone's income has been raised to a level above the poverty line. It is, like every aspect of practical rigour in line with the DCED Standard, believed to be an acceptable estimate, given available time/cost. In fact, if a project is already capturing income change (NAIC) and using the Progress Out of Poverty Index (PPI), the productive employment headcount is a low-cost but insightful additional metric to use to understand changes being stimulated in target group employment.

⁵ See Timor-Leste, Poverty in A Young Nation: figures from Living Standards Survey, 2007.

TECHNICAL NOTE

- 1 The ability to earn is relative to a person's starting wealth. In absolute terms, a monetary increase for those with higher existing incomes will involve greater income gains than those with lower incomes (12% of 100 is greater than 12% of 10).
- 2 It is important to calculate per capita NAIC and reference this against estimated per capita income. NAIC, as routinely captured by projects, is extra income accruing to a producer (or worker). But this often needs to support large families, who may or may not be also earning income (or contributing to maximising returns from the same plot of land). NAIC therefore needs to be divided by the number of dependents to be able to compare with median per capita income per Monthly per capita income threshold increase (column E in table 1). So for a family of 6 with a sole income-earner (as a wage labourer), or for the family farm, a total NAIC of \$18 will need to be divided by 6 to arrive at the per capita NAIC of \$3. It is this \$3 that is compared with the income increase threshold.