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ENABLING ENVIRONMENTS FOR SUSTAINABLE ENTERPRISES

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One of the main conclusions of the 96th Session of the International Labour Organization (ILO), held in June 2007, was that the creation and development of sustainable enterprises should be based on the monitoring of progress of 17 strategic pillars, encompassing different dimensions of sustainable development such as: social, economic and environmental; as well as an important policy/institutional component.

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Table 1. Pillars grouped by the four components

Economic Context	Policy / institutional Context	Social Context	Environmental Context
Sound and stable macroeconomic policy and good management of the economy	Peace and political stability	Entrepreneurial culture	Responsible stewardship of the environment
Trade and sustainable economic integration	Good governance	Education, training and lifelong learning	
Enabling legal and regulatory environment	Social dialogue	Social justice and social inclusion	
Rule of law and secure property rights	Respect for universal human rights and international labour standards	Adequate social protection	
Fair competition			
Access to financial services			
Physical infrastructure			
Information and communication technologies			

Source: CIDAC, based on ILO, 2012.

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This classification is mutually exclusive, in other words, the same pillar does not appear under more than one component. Nevertheless, it could be argued that some of the pillars may influence more than one of the components of sustainable enterprise development given that they complement others. For example, economic growth has a positive impact on the social aspect of sustainable development, by increasing the available income of agents, which enables them to increase their social capital in terms of education, health and other services. Each pillar has several variables associated with its functioning and current state. Thus hindering the interpretation of results and likelihood to send clear messages to decision-makers.

In an effort to reduce the number of variables, the Center of Research for Development (CIDAC), with support from the ILO, performed a research to identify the key variables in each one of these pillars. CIDAC worked with a database provided by the ACT/EMP from Lima, which included more than 400 different indicators. Furthermore, a qualitative filter was implemented, which consisted of a set of necessary conditions for every indicator.

According to the qualitative filter, a key indicator must fulfill all of the following necessary conditions:

a) Representativeness: Intuitive causal relationships with the corresponding pillar, as well as with the United Nations/ILO conceptual framework for sustainable development. The most representative variables of the current state of each pillar will be selected, as well as of the dimensions of sustainable development.

b) Availability: Accessible information for the different countries in the sample from highly reliable sources. This has the objective of ensuring continuously reporting the progress in the indicators.

c) Intuitive explanation: To avoid an ambiguous reading of the change in values. For example, variables such as the interest rate established by the Central Bank would not be included.

d) Relativity: Variables will be presented in relation to the size of the economy, the population or territory of the country, if necessary. For example, the government debt would not be expressed in absolute terms, but rather in relation to national GDP.

e) Endogenous variation: Indicators highly dependent on exogenous changes, such as fluctuations in the global economy or weather phenomena, would not be included. This has the objective of reflecting true improvements in the economy of each country. For example, an indicator such as the average cost of exporting would be preferable to the indicator of total exports value, given that the latter could be highly dependent on the global economy.

f) Causality: Indicators that are equally representative of multiple pillars or that are developed based on weighting of other multiple indicators will not be selected as key variables. This is because of the difficulty in identifying the causality that leads to their variations. For example, the economic growth indicator can be directly influenced by the rule of law, macroeconomic policy, peace and political stability, good governance, etc.

A subgroup of variables was selected through this qualitative methodology. However, a quantitative filter was also performed, using a principal component analysis. This allowed eliminating redundancy, arising as a consequence of the statistical phenomenon known as collinearity 1, in the variables and establishing a final set of key indicators.

The added value of principal component analysis can be considered from different perspectives. First, it is a relevant methodology to identify the most important variables of each of the 17 pillars; in other words, it helps to identify the set of variables within each pillar that explain the largest amount of information. Selecting the most representative variables eliminates redundant indicators, which may provide information about the state of a pillar; however, this may already be represented by other variables. This makes it easier to determine the current state of each pillar in a given country, without the need to compile, present and analyze all information contained in the hundreds of existing variables.

It is important to mention that principal component method is only and exclusively a quantitative analysis. It does not provide evidence about the information availability of the different indicators or about the source reliability. For this reason, an initial qualitative filter was established to enable the selection of key variables, based on the fulfillment of certain "necessary conditions."

The selected key variables are helpful to evaluate the state of the 17 strategic pillars, which encompass the necessary conditions for the creation and development of sustainable enterprises. The selected group of indicators is presented in the following section.

[1] Collinearity occurs when an X variable is a linear combination of other variables, W and V, for example. The implication here is that it is not possible to interpret the impact that W and V have on X.

Economic Component							
Sound and stable macroeconomic policy and good management of the economy	Trade and sustainable economic integration	Enabling legal and regulatory environment	Rule of law and secure property rights	Fair com-petition	Access to financial services	Physical infra-structure	Information and communication technologies
Inflation	Availability and quality of transport infrastructure	Ease of compliance with government regulations	Protection of intellectual property	Intensity of local competition	Ease of credit access	Access to potable water	Mobile telephone rates, adjusted for PPP
Balance of government budget/GDP	Efficiency and transparency of border administration	Effectiveness of legislative entities	Cost of crime and violence/ GDP	Effectiveness of anti-monopoly policy	Rate of recovery of insolvency (cents per dollar)	Quality of electricity service	Index of competitiveness of internet and telephone services
Government debt/ GDP	Export tariffs	Judicial efficiency and impartiality in trade conflicts	Number of days to fulfill a contract	Software piracy rate	Trust in banks	Time needed to obtain electricity for a business	Broadband internet rates, adjusted for PPP

Policy/institutional Component			
Peace and political stability	Good governance	Social dialogue	Respect for universal human rights and international labour standards
Perception of political stability and absence of violence or terrorism	Embezzlement of public funds	Trust in trade unions	% of child labour with respect to the total labour force
Perception of country progress	Trust in public officials	Cooperation between workers and employers	% of workers with social security access
Satisfaction with democracy	Favouritism in decisions of public servants	Efficiency of the legal framework to resolve disputes	Average hours worked per worker

Environmental Component			
Responsible stewardship of the environment			
Critical habitat (% of critical habitat in protected areas)	Forests (change in forest cover)	Climate and energy (CO2 emissions per kwh)	Wastewater treatment

Social Component			
Education, training and lifelong learning	Social justice and social inclusion	Adequate social protection	Entrepreneurial culture
Secondary education enrolment rate	Gini coefficient	Satisfaction with the quality of healthcare services	% of business research and development spending
Tertiary education enrolment rate	Gender inequality index	Life expectancy	Quality of local suppliers
On-the-job training	% of the population living in poverty	Child mortality	Economic development of business clusters

Once the key variables were selected, results standardization was performed. In an effort to homogenize the analysis and establish a didactic way to communicate the results to policy makers, the information was transformed to indexes for each of the key indicators. Presenting the information in indexes is a clear way to communicate the strengths and weaknesses regarding the creation and development of sustainable enterprises in a given country.

The final subset of key indicators and their results, presented as indexes, can and should be used to identify the country's priorities. The pillars or key variables with poorest results should be recognized, as well as those that have experienced a decline since the last available measurement. This will indicate the different economic, institutional and regulatory challenges in a country or region.

In the case of economic challenges, different market failures as well as cases of imperfect competition can be identified. For example, these may include the existence of monopolies or monopsonies, the presence of externalities in certain markets, the existence of public goods, markets with asymmetrical information for consumers and/or producers, or any market conditions that require government intervention through different public policies. With these principal challenges being identified, it is easier to make sound public policy proposals directed to resolve the main challenges for sustainability in a given country.

References

Cumming, J. and Wooff, D., 2007. Dimension reduction via principal variables. *Computational Statistics and Data Analysis*, *52*, 550-565.

ILO 2007a. *Conclusions Concerning the Promotion of Sustainable Enterprises*. International Labour Conference, June 2007. International Labour Organization. 2007.

ILO 2007b. 96th Session of the International Labour Conference, 2007. Report VI: *The Promotion of Sustainable Enterprises*. International Labour Organization, 2007.

United Nations, 1987. World Commission on the Environment and Development. *Our Common Future*. United Nations. 1987.

United Nations, 1992. Rio Declaration on Environment and Development, United Nations. 1992.

Van Burren, S., Brand, J., Groothuis-Oudshoorn, C. and Rubin, D., 2006. Fully conditional specification in multivariate imputation. *Journal of Statistical Computation and Simulation*, 76(12), 1049-1064.

ILO, 2012. *The Challenge of Promoting Sustainable Enterprises in Latin America and the Caribbean: a Regional Comparative Analysis*. International Labour Organization, 2012.