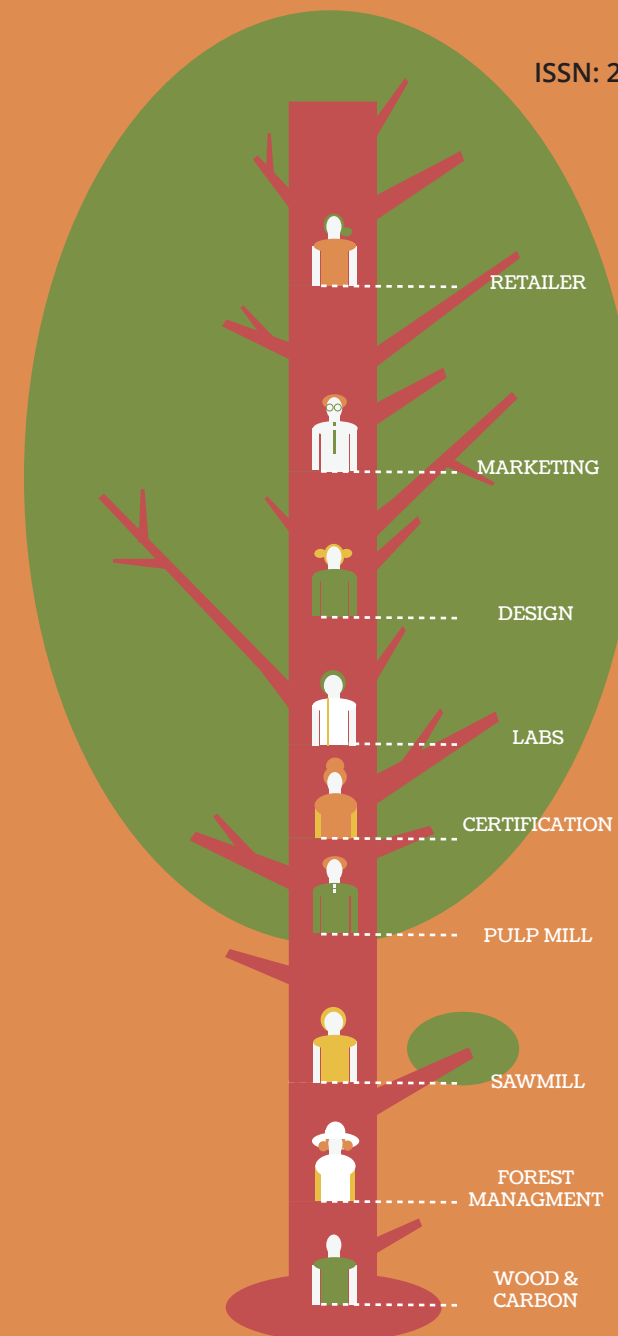


# RICH IN NATURAL RESOURCES, POOR IN JOBS?

Revisiting the evidence linking employment and trade specialisation in South America.



*This is not a tree*  
(it is the forest and timber value chain)

Flagship Report Natural Resources and Development > 2015 / 2016

**Rich in natural resources, poor in jobs?**

***Revisiting the evidence linking employment and trade specialisation in South America***

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The research is coordinated by Ramiro Albrieu (CEDES, Argentina/Red Sur), with the executive direction of Cecilia Alemany (Red Sur-UNOPS) and Andrés López (CENIT, Argentina/Red Sur). Ramiro Albrieu coordinated the process of elaboration of this report throughout all its stages. Section I was written by Ramiro Albrieu and Section II by Ramiro Albrieu with the collaboration of Marcelo Perera (CINVE, Uruguay/Red Sur), while quantitative sections were prepared by the CEDES team.

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- Integración financiera y cooperación regional en América del Sur después de la bonanza de los recursos naturales. Balance y perspectivas

**ACRONYMS >****AP** Agricultural GVC in Paraguay

bps Basis points

**CEDLAS** Centro de Estudios Distributivos Laborales y Sociales**CIAT** Inter American Center of Tax Administrations**DA** Dollar appreciation**DLD** Domestic liability dollarization**ECLAC** Economic Commission for Latin America and the Caribbean**ERJ** State of Rio de Janeiro**FD** First dividend**FDI** Foreign direct investment**FF** Federal funds**FU** Forest and timber GVC in Uruguay**GDP** Gross domestic product**GTAP** Global trade analysis project**GVCS** Global value chains**ICT** Information and communication technologies**IFIP** International financial investment position**IFP** Net international financial investment position over GDP**ILO** International Labour Organization**IMF** International Monetary Fund**I-O** Input-output**ISI** Import substitution industrialization**KIMS** Knowledge-intensive suppliers**LA** The livestock sector in Argentina**LDCS** Less developed countries**MC** Mining in Chile**NIFP** Net international financial position**NPV** Net present value**O&G** Oil and gas**OECD** Organization for Economic Cooperation and Development**PPP** Purchasing power parity**PSM** Propensity score matching**QS** Quantitative easing**R&D** Research & development**REER** Real effective exchange rate**SD** Second dividend**T&P** Timber and pulp**TIVA** Trade in value added**UNCTAD** United Nation Conference on Trade and Development**UNDP** United Nations Development Programme**UNESCO** United Nations Educational, Scientific and Cultural Organization**US** United States**WB** World Bank**WIOD** World Input-Output Database**WTO** World Trade Organization

# INTRODUCTION

The second edition of the Natural Resources and Development Flagship Report, produced by the South American Network on Applied Economics/Red Sur, addresses two key concerns for the world as a whole and for the South American region in particular.

The first has to do with a new scenario in the global economy. At the beginning of the new millennium South America benefited strongly from a period of high commodity prices and low interest rates, mainly driven by Chinese demand and a “weak” dollar. As we discussed in the first edition of the Natural Resources and Development Report, the region as a whole, and some countries in particular, wasted the opportunities created by the commodities boom. In particular, in many cases governments failed to make significant improvements in areas such as productive diversification, innovation capabilities or infrastructure, even in a context of fiscal bonanza. However, growth rates were high and there was progress towards resolving long-standing social problems, especially in the field of poverty.

But as history shows us, if anything characterises the prices of natural resource-based goods it is their volatility and the existence of pronounced booms and busts cycles. As we know, we have now entered a downward phase, as a

consequence of the Chinese slowdown and a “strong” dollar, and the prices of the region’s most relevant commodities have fallen significantly, which is especially striking in the case of oil.

While concerns about the future of the global economy are not exclusive for South America, the fact is that, according to the latest forecasts, the region faces the worst growth prospects in 2016 vis-à-vis the rest of the world, somewhat predictable considering its continual dependence on natural resources exports.

Some countries are better prepared than others to face the turbulences of the new scenario; particularly those who made a more prudent management of the revenues generated during the boom and kept more sound macroeconomic policies. But even they will need to adjust to the new global conditions and this will involve pressures in both economic and social terms. And in this context, the need to address the “hard” development agenda, as well as to deepen the improvements in macroeconomic management and governance rules, are revitalized. These issues are discussed in Chapter 1 of this report.

At the same time, the transition to the “new normality” of China and the apparent end of the near-zero interest rates policy in the US are not the only factors behind the adjustment that the global economy is facing. These issues coexist with others that generate warning signals, including the still unresolved legacy of the systemic crisis of 2008 and other longer-term processes such as population aging and climate change.

One of these long-term processes that has recently generated much attention in intellectual and political circles has to do with the effects of technological change on the quantity and quality of future jobs. Here the concerns are not

so much macroeconomic, but rather social: how will economies, governments and societies as a whole adapt to a world in which many of the tasks performed today by humans could be automated?

A debate between more or less “pessimistic” and “optimistic” views on the long-term consequences of this process has been taking place in the last years (the latter views being mainly based on the fact that ever since the first Industrial Revolution, mankind has been inventing labour saving techniques). But in any case a somehow long and painful adjustment process is inevitable, in which many skills will become obsolete, and new opportunities will emerge which will require of systematic efforts not only from the educational system, but also from governments, firms and the civil society.

This key debate for our future has a link with an older one, very well known in our region, that is, the extent to which sectors based on natural resources have the ability to create jobs in sufficient quantity and quality to contribute to the generation of societies with full employment and low levels of income distribution inequalities.

It is clear that, under the conditions described above, the answer to this question cannot be based merely on the extrapolation of the past, given that the process of jobs automation may have very heterogeneous impacts on different types of industries and activities. In turn, the dynamics of the process will also be affected by the asymmetries in population structures across countries and the divergent speeds of evolution in the demographic transition.

Notwithstanding the uncertainty surrounding the future evolution of this process, there is a need to rethink the traditional framework on which the debate on the relation between natural resource-based activities and employment has been based so far. We need to move on from a sectoral approach towards a value chain approach. This means not only taking into account the indirect jobs created by/associated to agriculture and extractive industries, but also pay a close attention to the characteristics of these jobs and what kind of activities are performed by the workers in the different stages of the value chain. In particular, a central issue is whether workers perform manual and/or routine tasks or, on the contrary, they perform intellectual and/or non-routine tasks. The consequences derived from an integration in value chains based on the former or the latter type of jobs are completely different, both from the point of view of the dynamics of income distribution and real wages, and have as well a strong impact on productivity. They also affect the future ability of each country to generate full employment for its population.

The results of quantitative and qualitative analysis presented in Chapter 2 of the report show that there is nothing deterministic in the relationship between a country’s pattern of specialisation at the sectoral level and the quantity and quality of the jobs it generates. The central issue involves understanding the role that the economies play in the different value chains and the ability of their education and training systems to generate the talents and skills required to take advantage of opportunities for “climbing” within those chains. This report aims at shedding light on the challenges emerging in this new scenario and the alternatives that South American countries have to face.