

STI POLICY IN A CONTEXT OF INEQUALITY: THE DILEMMA BETWEEN COMPETITIVENESS AND NATIONAL PROBLEMS

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The context for STI policies in LAC

- **We are concerned with TCA at the firm and micro level, and we believe that productive development and STI policies should stimulate this process**
- **We usually look at these policies as an autonomous entity, and we relate them to the NSI and mostly with the techno-economic sphere (TES)**
- **However, the socio-political sphere (SPS) must be taken into account**
- **In fact, TCA coevolve with both the TES and the SPS, particularly in those countries where the SPS is below reasonable levels of development**

Features of TES and SPS in LAC

TES-Economic performance

- Volatility in GDP growth rates with alternating periods of ups and downs
- Low gross fixed investment of companies
- Different economic structures that emerge from the added value of agriculture, industry and services
- Low labour productivity without significant improvement

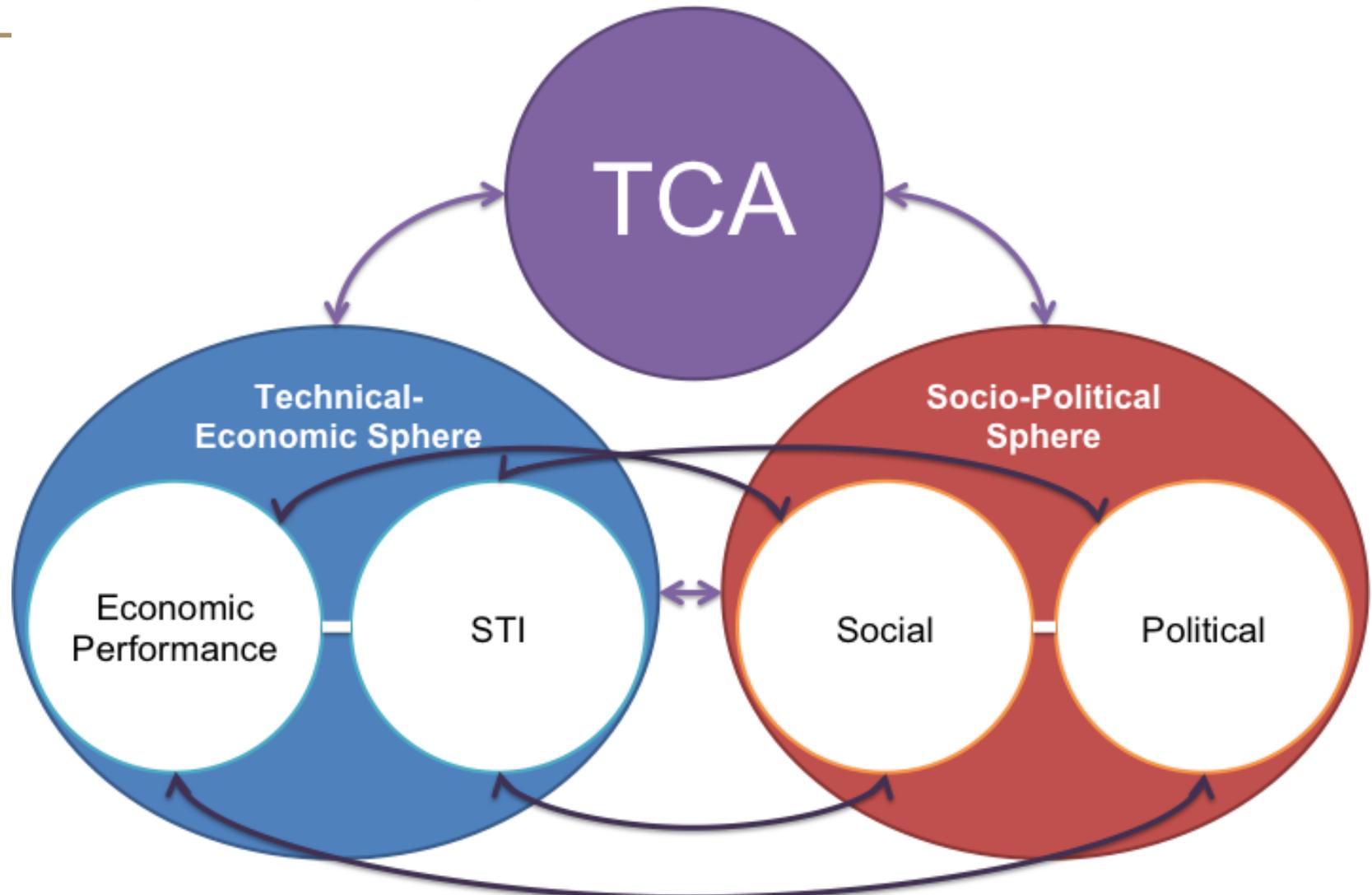
TES-STI performance

- Low scientific production
- Low investment in STI
- Persistent technological dependence
- Different shares of high technology exports

SPS- Quality of life

- Bridging the gap in terms of life expectancy and schooling
- High and irreducible levels of inequality
- High levels of corruption

The context to analyse industrial and STI policies in LAC



Three stages of experimentation in the design and implementation of STI policy

1. *The supply side approach (1950s-1980s)*
 - top-down
 - with weak vertical and horizontal coordination
 - with relatively low degree of public-private interaction
2. *Pushing the system towards a demand approach (1980s – 2000s)*
 - trying to induce bottom-up
 - with weak vertical and horizontal coordination
 - With increasing experimentation of forms of public-private interaction
3. *The systemic approach (since 2000s)*
 - *double-direction model - top-down and bottom-up*
 - *search for vertical and horizontal coordination*
 - *greater public-private interaction*

In parallel, a process of institutionalization based on the approval of laws of STI, but:

- STI policy did not become independent of the cycle of politics
- Agency problems persist within the system
- High risk of capture by stakeholders

The lack of an appropriate analytical framework for these conditions

- We have followed the international trends
- Countries have focused on different goals of the policy:
 - Competitiveness (mostly those closer to OECD, IDB, etc.)
 - National problems (mostly left governments)
- The tool set of policies does not differ radically, some new local tools
- Trade off between competitiveness & national problems



Results: LAC is an heterogeneous region

- Three profiles of countries
 - **Profile I:** countries with strong TES but a weak SPS (Brazil, Chile and Mexico)
 - **Profile II:** countries with weak TES and stronger SPS (Guatemala, Ecuador, Paraguay and Peru)
 - **Profile III:** countries with a more balanced TES and SPS, but with low levels of performance in both spheres (Uruguay, Costa Rica, Argentina, Colombia and Panamá)
- High heterogeneity of firms' stages of TCA inside each country, but also between the countries.

Some local experiences of mission oriented programs (innovation and productive development)

- Brazil: aeronautic, agriculture, oil, poverty reduction
- CUBA: biotechnology
- Some more localised in other countries
 - Mexico: Mexican Food System, software
 - Chile: salmon, copper
 - Argentine: Soja
 - Uruguay: traceability of meat

Reflecting on the results based on the SPS and TES

- 2 different types of outcomes:
 - Improvement of SPS, contribution to the solution of national problems (e.g. reduction of poverty)
 - Improvement of TES (e.g. catching up in one sector –salmon, Soja)
- But still institutional rigidities to ensure the persistence of the success, and ensure the connection and coevolution of TES and SPS
- Difficulties to solve a sort of trade-off between STS and TES to stimulate TCA
- We don't have the appropriate tools and framework to articulate STS, TES and TCA

Final reflections

- If we articulate productive development policy and STI policy with TCA, and we connect them with the SPS and TES, the recommendations that emerge differ from those associated with the common analytical framework on STI policy
- STI policy oriented to strengthen TCA processes has to take into account:
 - (i) the stage of the TCA
 - (ii) the co-evolution:
 - of TES and SPS and,
 - of the TCA process

→ “One does not fit all”

Some policy implications

Evidence	Implications for policy recommendations
Weak balance between the TES and STS	<ul style="list-style-type: none">· TCA may be oriented to solve these national problems, and them to reinforce TES and STS
The TCA of the firms and the development profiles of the countries are interconnected	<ul style="list-style-type: none">· LA confront with different degrees a set of traits that undermine the processes of capacity building:<ul style="list-style-type: none">○ problems of demand,○ supply problems,○ low private sector investment,○ shortage of private and public venture capital,○ rupture of domestic productive chains.· Development profiles differ →the focus of STI to stimulate TCA must differ

Data → Data → Data

Even though we need a fresh approach to STI policy design, we lack appropriate data to inform STI policy and development policy

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