



Initiative for Policy Dialogue



El Consenso de Buenos Aires

*Una Nueva Agenda para America Latina
Quince Años Después del Consenso de Washington*

Buenos Aires, 23 de Agosto de 2005

Technology and Development: The Role for Government

Joseph E. Stiglitz

The Initiative for Policy Dialogue
Columbia University, New York

Development entails ...

... not only closing the gap in resources between developed and less developed countries, but closing the gap in technology

- Asia has been most successful
- Result of explicit efforts on the part of government

Why there is a need for government: Market Failure (I)

- Market failures in the market for knowledge
 - Knowledge is a classic example of a public good
 - There are also large externalities
 - Need for government to protect intellectual property rights
 - But most knowledge is neither generated by or protected by intellectual property rights – role greatly exaggerated
 - Excessively strong (broad) intellectual property rights may impede growth
 - Intellectual property rights cause static inefficiency-- monopolization
 - Much of intellectual property involves enclosure of commons
 - Problems of patent thickens
 - Distorted research—inventing around patent
 - Need for government to support research and development, including product development

Why there is a need for government: Market Failure (II)

- **Market failure in finance**
- **R&D cannot be collateralized**
- **Problems of information asymmetries particularly severe**
- **Resulting in financial problems for R&D**
- **In a few countries, venture capital firms partially fill gap**

Have technology policies worked?

- Remarkable record of success, in US, Asia, and Brazil
 - Agriculture
 - Telecom, including internet
 - Successes in research, development and diffusion

- 
- In spite of this, industrial policies have taken on a bad name
 - Free market ideology—failing to understand appropriate role of government
 - Risky Investments –expect some failures
 - But there have been problems
 - Difficulty of cutting off bad projects
 - Corruption, political influence
 - Response
 - Change the name (technology promotion, export development...)
 - Understand source of problems, improve institutions

Strategies for improving technology policies

- **Broad based strategies better than narrowly focused**
- **Support of intellectual infrastructure**
 - **Key role of education, especially advanced education**
 - **Also of research institutions**
- **Competitive selection (peer review)**
- **Focus on extent of externalities, public good properties**
 - **Not a question of just picking winners**
 - **Put identifying projects with large spillovers**
- **Joint ventures –equity commitments**

Well-designed globalization can promote technology and development

- **Trade linkages and fdi often bring access to markets and technology**
- **Training requirements may facilitate the transfer of knowledge**
- **Joint ventures may combine local and global knowledge: taking advantage of local knowledge of local markets, resources, global knowledge of technology, global markets--facilitating the adaptation of technology**

But poorly designed globalization can inhibit development

- **Capital market liberalization and policies focusing excessively on inflation can lead to instability in the real economy, lower growth, making real investment in both physical and human capital less attractive/possible**
- **Excessive reliance on foreign banks may inhibit the supply of finance to small and medium size enterprises, which have traditionally played a key role in technology development**

- 
- **Unbalanced intellectual property agreements (Uruguay Round) may inhibit access to new technology**
 - **Developing countries need to work together to**
 - **Establisher better, fairer, more pro-development agreements**
 - **To develop standards and technology appropriate for their stage of development**
 - **To development open-source standards (linux) and open-source approach to innovation**

Conclusions

- The countries that have been most successful have had a comprehensive technology policy, including education, research and finance
- Because of globalization, challenges and opportunities today greater than ever before