SOCIAL TECHNOLOGIES: A COMPARATIVE ANALYSES OF STRATEGIES FOR POVERTY AND INEQUALITY REDUCTION IN BRICS COUNTRIES AND ITS POLICY IMPLICATIONS

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A summary of the presentation.

At first we should explore a question at the bases of our enquiry: why countries need to eliminate poverty and inequality? Our answer to this question characterizes our attitudes to development and underdevelopment, where poverty and inequality are the major characteristics of an underdevelopment as a social phenomenon. The ‘amount’ of poverty can also be a cause of divergence in development, though inequality damages social cohesion and may in fact hinder development. Simultaneously there are less traditional connotations between inequality and different aspects of social engineering: inequality influences innovation, maybe a result of an economic growth but not development, maybe a complex problem which is difficult to illuminate. In addition innovation may enhance inequality or may help fight inequality if it is understood as inclusive innovation. So from these examples we can see that our understanding of poverty and inequality may influence our choice between different models of development.

There is a correlation between development and innovation. This is a point of interest for all BRICS countries: both derive from confluence of economic, social, political, institutional, cultural factors; are dependent on learning habits and linkage formation; both are important in terms of regional sub-systems formation and comprise of national specifics and national frameworks. It is also important to understand that in development as well as innovation positive and
negative feedbacks have cumulative effects. The reduction of poverty and development which is congruent to strategies of regional innovation may lead to the emergence of the new differentiated trans-regional / regional strategy to strengthen domestic technological capabilities and may also influence the configuration of global power and the global economy.

Each country of the BRICS block has its own specifics in elaborating the strategy for poverty and inequality reduction, each of them has regional specifics that influence the elaboration of this strategy. For example, Brazil has regional disparities, strong territorial inequality and regional concentration of industries, high concentration of employment in southeast and south that creates additional cyclical inequality, regional socio-economic inequality, uneven distribution of industrial chains, uneven distribution of educational institutions, innovations that are restricted to the richest part of the country. Russia has deep historical roots of inequality, shocks of the 1990-ies, historically floating Gini Coefficient depending on the historical type of political regime; regional variation by gross regional production and regional per capita income; high proportion of the shadow economy, moderate income level, hidden unemployment; high differentiation in inter-sectoral wages, regional inequality in regional per capita, business activity and economic productivity, overall regional disproportions etc. India has multiple dimensions of inequality (income, wealth, capabilities, choices), rising regional disparity of agricultural growth till mid-1980, growth in information technology, trade, transportation, business services, construction in the south from 1980-ies. India also has Scheduled Castes and Scheduled Tribes that have variations in regional distribution, capacity building, gender-based discrimination, regional disparities in competence building institutions etc.

China has history of successful development but rising interpersonal inequalities, income difference & consumption difference, regional interpersonal inequality, inter-regional inequalities, regional inequality in a quality of
education, regional inequality in an access to health and education, dual economic structure: the modern industrial sector and the traditional agricultural sector etc.

South Africa has historical patterns of inequality, inter-regional inequality, inter-provincial inequality, high income inequality, inter-racial inequality, class and gender inequality, low participation rate in high education (15%) etc.

Questions that must be discussed in this connection are: is the strategy for a complementary transregional-regional model development possible? Can BRICS countries to help each other to reduce poverty and inequality in a different (traditional and non-traditional) way. If the answer is ‘yes’ than what could be such a strategy? Could other BRICS countries use the most successful Chinese / Indian experience to eliminate poverty and inequality? If there is a possibility for the cooperation and development in educational sphere and R&D, for the cooperation in commercializing intra-regional innovation to fight poverty and inequality?
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Social Technologies: A Comparative Analyses of Strategies for Poverty and Inequality Reduction in BRICS Countries and its Policy Implications.
I. Poverty, Inequality, Development in Global Perspective
<table>
<thead>
<tr>
<th>Inequality is one characteristic of underdevelopment</th>
<th>Inequality influences innovation</th>
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</thead>
<tbody>
<tr>
<td>Inequality is a cause of divergence in the development</td>
<td>Inequality maybe a result of an economic growth</td>
</tr>
<tr>
<td>Inequality damages social cohesion</td>
<td>Inequalities in a quality of life is a complex problem</td>
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<tr>
<td>Poverty and inequality may hinder development</td>
<td>Innovation may enhance inequality</td>
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<td></td>
<td>Innovation may fight inequality if it is understood as inclusive innovation</td>
</tr>
</tbody>
</table>
Trends in Disposable Income Inequality, 1980-2010
Source: Bastagli, Coady, Gupta (IMF: 2012)
## Changes in Disposable Income Inequality Across Regions, 1990-2005

**Source:** Bastagli, Coady, Gupta (IMF: 2012)

<table>
<thead>
<tr>
<th>Region</th>
<th>Change</th>
<th>Large Increase (Change ≥ 5)</th>
<th>Medium Increase (3 ≥ Change &lt; 5)</th>
<th>Small Increase (0 ≥ Change &lt; 3)</th>
<th>Small Decrease (-3 ≤ Change &lt; -1)</th>
<th>Medium Decrease (-5 &lt; Change ≤ -3)</th>
<th>Large Decrease (Change ≤ -5)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Latin America and Caribbean</strong></td>
<td>1990-2005</td>
<td>Colombia, Paraguay, Venezuela</td>
<td>Dominican Republic, Costa Rica, Honduras</td>
<td>Argentina, Bolivia, Jamaica, Uruguay</td>
<td>Panama, Peru, El Salvador</td>
<td>Brazil, Chile, Nicaragua</td>
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<tr>
<td><strong>Sub-Saharan Africa</strong></td>
<td>1990-2005</td>
<td>Niger, Rwanda, Ghana, Côte d'Ivoire</td>
<td>Madagascar</td>
<td>Mozambique, Nigeria, Tanzania, Madagascar, Mali</td>
<td>Cameroon, Gambia, Uganda, Botswana</td>
<td>Guinea</td>
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<tr>
<td><strong>Asia and Pacific</strong></td>
<td>1990-2005</td>
<td>China, Nepal, Sri Lanka, India, Indonesia, Taiwan</td>
<td>Philippines, Vietnam, Bangladesh, Cambodia</td>
<td>Thailand, Lao PDR</td>
<td>Malaysia, Mongolia</td>
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<tr>
<td><strong>Middle East and North Africa</strong></td>
<td>1990-2005</td>
<td>Uzbekistan, Israel</td>
<td>Egypt, Morocco</td>
<td>Mauritania, Pakistan, Yemen</td>
<td>Mauritania, Pakistan, Yemen</td>
<td>Iran, Jordan, Kyrgyz Republic</td>
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</tr>
<tr>
<td><strong>Emerging Europe</strong></td>
<td>1990-2005</td>
<td>Bulgaria, Croatia, Czech Republic, Kazakhstan, Latvia, Lithuania, Moldova, Poland, Belarus</td>
<td>Georgia, Russian Federation, Ukraine, Albania</td>
<td>Hungary, Slovenia, Turkey</td>
<td>Armenia, Azerbaijan</td>
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<tr>
<td><strong>Advanced</strong></td>
<td>1983-2005</td>
<td>New Zealand, Norway, United Kingdom, United States</td>
<td>Austria, Belgium, Canada, Finland, Germany, Luxembourg, Portugal, Sweden</td>
<td>Australia, Italy, Japan, Netherlands, Spain</td>
<td>Denmark, France, Greece, Ireland</td>
<td>Switzerland</td>
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<tr>
<td>1990-2005</td>
<td>Germany</td>
<td>Canada, Finland, Italy, Luxembourg, Portugal, United States</td>
<td>Austria, Belgium, Denmark, Japan, Norway, New Zealand, Norway, Spain, Sweden</td>
<td>Australia, France, Greece, Ireland, United Kingdom</td>
<td>Switzerland</td>
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<tr>
<td>Brazil</td>
<td>2.8</td>
<td>2.9</td>
<td>2.8</td>
<td>3.7</td>
<td>5.7</td>
<td>5.1</td>
<td>-0.2</td>
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<tr>
<td>Russia</td>
<td>-</td>
<td>-4.7</td>
<td>6.2</td>
<td>7.4</td>
<td>8.1</td>
<td>5.6</td>
<td>-7.9</td>
</tr>
<tr>
<td>India</td>
<td>5.8</td>
<td>6.0</td>
<td>6.9</td>
<td>9.8</td>
<td>9.3</td>
<td>7.3</td>
<td>6.5</td>
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<tr>
<td>China</td>
<td>10.3</td>
<td>10.4</td>
<td>9.6</td>
<td>11.6</td>
<td>13.0</td>
<td>9.0</td>
<td>8.7</td>
</tr>
<tr>
<td>South Africa</td>
<td>1.6</td>
<td>2.1</td>
<td>4.0</td>
<td>5.4</td>
<td>5.1</td>
<td>3.1</td>
<td>-1.8</td>
</tr>
<tr>
<td>Developed Countries</td>
<td>3.1</td>
<td>2.8</td>
<td>1.9</td>
<td>2.8</td>
<td>2.5</td>
<td>0.8</td>
<td>-3.2</td>
</tr>
</tbody>
</table>

Change in Inequality Levels, 1990-2010
(Gini Coefficient of Household Level)
Source: Soares, Sceri, Maharagh (2014)
Development and Innovation: main findings in the literature
Soares, Scerri, Mahatajh (2014); Myrdal (1968); Hirschman (1958)

- Derives from confluence of economic, social, political, institutional, cultural factors
- Dependent on learning habits and linkage formation
- Elements of knowledge are embedded in routine relationships between agents
- Acquisition of institutions and technologies is not a substitute for local efforts
- Developments trajectories shape regional sub-systems
- National specifics and national frameworks matters
- Growth of the economy is based on the accumulation of knowledge
- Context and institutions matter
- Positive and negative feedbacks have cumulative effects
- Historical cycles may be virtuous and vicious
- Interdependencies between different activities matter
Distribution of GC and GDP per capita (PPP) by country (2009)
Soares, Scerri, Mahatajh (2014)

Poverty

Young boy in Guatemala cited by McIlwaine (Perspectives on poverty…, 2002, p. 82
“For me being poor, is having to wear trousers that are too big for me”.

Poverty in relations to income and consumption (poverty lines measured by statistics).
Subjective interpretations of poverty (what people themselves regard as poverty)

Development

“It is about making sure that the most basic things that we take for granted can also be taken for granted by everyone else in the world”

Development is a systemic process which is characterized by deep changes in the economic and social structure taking place from discontinuities that cause and are caused by the productive, social, political, and institutional structure of each nation. The recognition of national specifics of these processes is also fundamental.
Regional level: BRICS countries

Have an important role to play in shaping world economy notwithstanding their current economic situation.

China particularly has an important role in this process.

Elimination of poverty and inequality is a base for development.

Harmonious growth and indigenous innovations are key factors in development.

Harmonious growth is about reducing the growing social and environmental imbalances, rural-urban social gaps.

Indigenous innovations are making a country less dependent on foreign technology.

that helps to build new relationship between domestic and foreign players.
Key Concepts

- Poverty and inequality hinders development
- Indigenous innovation
- Harmonious growth
Consequences to a global level

- May lead to the emergence of the new differentiated trans-regional / regional strategy to strengthen domestic technological capabilities.
- May influence the configuration of global power and the global economy.
- Notwithstanding which countries will be growing in 2014: Nigeria, Mexico, Poland; Mexico, Indonesia, Nigeria, Turkey.
II. Poverty, Inequality, Development: the BRICS Perspective.

1. Brazil
2. Russia
3. India
4. China
5. South Africa
Regional disparities

Strong territorial inequality and regional concentration of industries

High concentration of employment in southeast and south creates additional cyclical inequality

Regional socio-economic inequality

Uneven distribution of industrial chains

Uneven distribution of educational institutions

50% of innovative enterprises are in southeast

Innovations restricted to richest part of the country
Establishments (firms, enterprises etc.)

- High number of small enterprises
- Formal employments accounts for 22% of total wages
- Low technological complexity
- Wealth and quality are concentrated in larger enterprises
- Innovations are concentrated in large firms
- Competition diminish heterogeneity
Labor market and wages

- High degree of informality
- Regional disparities in informal practices (more too the north)
- The rise in formal work (more than 50%)
- Reduction in unemployment (from 18% to 10%)
- Labor income represents 40% of national income but is rising by 9.5% in the last decade
Access to knowledge

- 14.1 million of people are illiterate (the greatest rates in Latin America)
- Regional disparities in illiteracy (more in northeast)
- 25% of rural population is illiterate
- Elementary education is predominantly public
- Decrease in quality of the basic public education
- Inequality in an access to educational system
- There is no life-long public learning system
- Higher education is inaccessible (14.4% of the population aged 18 to 24)
- Disparity in regional distribution of higher education (50% of the universities are in the southeast)
- Research institutions are concentrated in the most developed regions
Access to Financial Infrastructure

- Financial system is delinked from development (Studart)
- Very complex financial system (strong feature) with regional concentration (weak feature)
- 56% of credit institutions are in the south
Conclusions for Brazil

Inequality influences innovation and progress are unfairly distributed. That leads to new cycles of poverty and inequality.
Historical roots of inequality (several evolutionary stages for the transformation of inequality: Tsarist Russia & Soviet Union)


Historically floating Gini Coefficient depending on the historical type of political regime

Regional variation by gross regional production and regional per capita income

The main share of regions do not show successful economic development

Gini C calculated for households and corrected by the regional purchasing power is lower by 15-17%

High proportion of the shadow economy (three segments: GDP, the second GDP/the shadow economy - corruption)
Moderate income level (70% of spending is allocated for basic current needs) that hinder income base expansion
- Income level affects aggregate demands
- Insufficient access to skills advancement
- Hidden unemployment
- High differentiation in inter-sectoral wages
- 44% of consumer goods are imported
- A bias towards hydrocarbon trade (weak economic diversification, strong state participation, high monopolization, low high-tech manufacturing)
- Regional inequality in regional per capita, business activity and economic productivity
- Overall regional disproportions (Moscow has ¼ of all enterprises)
- Misbalance in male/female life expectancy
Access to health, education, knowledge

- Shrinking state support
- Decrease of the quality of free health and free education
- Lack of qualified personnel in rural areas
- Half of the population does not have an access to health services
- One-quarter of the population cannot afford the education they need
- High level of regional disparities for the Internet access
- Life learning system is relatively weak
Access to Financial Infrastructure

- Financial infrastructure for R&D is generally open for different actors
- Capacities for funding innovations are not high
- Access for credits and loans for innovations is complicated
Gini Coefficient Dynamics in Russia (1990-2009)
Real Income, Real Wages, Real Pensions in Russia (1994-2004)
Russia and BRICS

- Lowering Gini C will not improve an access to innovation and education
- Russia fits into BRICS not Europe by inequality and poverty
- Russia adapted to survival not for development
- Russians are ready for innovations but cannot afford it (GDP per capita is low)
- Russia still possesses enough resources and infrastructure to provide access for innovation
Conclusions for Russia

- The major source of inequality is an abrupt breakthrough from command system
- The resources-based economy eliminates demand for innovation
- Income redistribution does not provide enough motivation for independent growth, hence the appearance of regional economy stagnation
- Growing inter-regional inequality, by social groups and the overall income
What Russia need

- To revise strategic priorities
- To create integrated system of strategies and instruments
- To diversify economy
- To create multiple growth points
Multiple dimensions of inequality (income, wealth, capabilities, choices)
Rising regional disparity of agricultural growth (green revolution in the north) till mid-1980
Growth in information technology, trade, transportation, business services, construction in the south from 1980-ies
Scheduled Castes (16.2% = 166 mln) and Scheduled Tribes (8.2% = 84 mln) enjoy preferential political representation, access to public education and employment
SC and ST have variations in regional distribution, capacity building
Gender-based discrimination (literacy is 79% that of the male, 50% for the enrollment of girls at the upper primary level schools, 62% of male wages)
2 stages of innovation and development (state-driven and market-driven)
Regional disparities in competence building institutions
Conclusions for India

- At the second stage of market-driven innovations there was a growth at the cost of equity
- 12th five years plan (2012-2017) is oriented to inclusive growth
- Massive social disparities (76% of the population are poor (per capita consumption is less than US$ 1.8 in PPP; 40% of children are suffering from malnutrition, 46% are unvaccinated, 52% dropped from primary education system; forth largest number of billionaires after US, Germany, Japan
History of successful development (1978-2014)
Rising interpersonal inequalities (urban level; urban/rural level): income difference & consumption difference
Regional interpersonal inequality
Inter-regional inequalities (56 high-tech parks of which 10 in the west; industrializing mega-cities in the east, substantial shift of floaters = future regional inequality is difficult to predict)
Regional inequality in a quality of education
Regional inequality in an access to health and education
Quickly improving access to financial infrastructure
Dual economic structure: the modern industrial sector and the traditional agricultural sector
Critical stage of reform: high economic growth rate and high inequality
The share of informal employment is growing
Improved social protection system
Regional strategy against inequality (Great Western Development; Revitalization of Northeast China; Rise of Central China)
Conclusions for China

- Inequality is growing
- Absolute poverty is diminishing
- Interregional, urban and rural, between industries, interpersonal, in access to education, healthcare, access to infrastructure
- There is a concept of building a harmonious society and accomplish a China dream (xiaokang)
- Indigenous innovation system is oriented to development
- The government has special programs to control inequality and they are successful
- Quickly rising government support for the medical system and healthcare (49.5% increase in 2009-2010)
- In a large country with huge population reducing inequality is a difficult task
Historical patterns of inequality: economic production is concentrated in six urban centers (Johannesburg, Pretoria, Ekurhuleni, Cape Town, Durban, Port Elizabeth)

- Inter-regional inequality (economy is dominated by Gauteng province)
- Inter-provincial inequality (of 9 provinces only 3 contribute more than 10% of GDP)
- 65% of the population lives outside six urban centers
- Income inequality is extremely high (the richest 20% earned 70% of total per capita income, the poorest 20% earn 1.6% of total per capita income (2008))
- Increase of inter-racial inequality
- Increase in intra-racial inequality (for all: African, Indian, Colored, White)
- Increase of class and gender inequality
- Informal sector of employment is 17% of total employment and its output is 5.4% of GDP
- Medical aid varies considerably across racial groups
- Low participation rate in high education (15%)
- Large proportion of the population live in relatively undeveloped conditions with respect to basic infrastructure
- Most of the funding to the public science system is going to six universities and 2 science councils
- The phenomenon of unemployed high education graduate
Conclusions for South Africa

- Inequalities in the past still greatly influence the present
- A need for sustained efforts to shift structural inequality as the only means of increasing income for the lowest quintile of the population
- Need major shifts in economic policy in the direction towards medium-high technology production
- Need an increase in sustainable subsistence agriculture
- Potential for structural change exists for each province
- There is a challenge to the educational system to create a larger human resource base
III. Overall Conclusions

- A need for technological learning
- Innovations must be disseminated in the economy
- Technological disparity explain productivity differences
- Development strategy should be oriented to qualitative changes
- To achieve this institutional structures must be changed to escape structural polarity
- A need for social-equality positive correlated innovation exists
- State should counteract the concentrative and excluding trends
- State should dismantle the archaic structures that cement underdevelopment
- Recipe: Technological autonomy + social inclusion
- It should be an incentive for national social innovation: generation and diffusions of solutions, problem-solving inventiveness
- Promotion of the accumulation of knowledge
- National policies should be articulated together with local policies
- To create incentives for local actors to find solutions to problems that directly affect them
Questions for Discussion

- Is the strategy for a complementary transregional-regional model development possible?
- If ‘yes’ than what it could be?
- Could other BRICS countries use the most successful Chinese / Indian experience?
- If there is a possibility for the cooperation and development in educational sphere and R&D?
- If there is a possibility for the cooperation in commercializing intra-regional innovation?
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