Economics of Development
Final Examination

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1. (Even though I doubt I can do a better job than the UN at this) I propose the Arora-Wessel Development Index (AWDI), an index that measures true development in a country by factoring in timely yet relative "environmental factors" and one that adopts variables from the popular "capabilities" approach. While learning many lessons from GDP and HDI, the index builds upon the UNDP's recommendation for the New Human Development Index (NHDI) in 2010 (and thus continues to benefit from the changes made such as use of geometric mean and the new education indicators).

   Here are the new various indicators I propose need to be a part of this new index:

   (1) **Political and institutional stability** (PIs): The relative political and institutional stability of countries should serve as a proxy to the near future government and financial maturity and stability, and may predict the economic performance of the countries irrespective of income or inequality variables today. This may be measured by capturing the relative institutional factors as financial health indicators, economic performance, the frequency of change of power and national or state programs, etc. (Weightage on 10: **3**)

   (2) **Sen factor** (Sf): Rather than depending separately on the *Multidimensional Poverty Index* (MPI) for capturing the elements of Amartya Sen's "capabilities" approach, the Sen factor introduces the dual cutoff measure to this development index and captures the several indicators of health, education and standard of living as proposed by MPI into this single indicator. (Weightage on 10: **6**)

   (3) **Foregone opportunity** (Fo) set size: Economic well-being of individuals may be measured by considering the set of economic opportunities they can forgo in order to undertake their current daily "tasks". The lack of choices or opportunities is indicative of lack of competitiveness in labor markets, and hence, lack of a fast evolving industry or primary sector. Fo is an aggregate measure of the sets of foregone opportunity across income distributions with a minimum factor of return per opportunity as a basis for building these sets. (Weightage on 10: **4**)

   (4) **Roots value** (Rv): With increasingly large number of developing countries exporting labor and consequent import of labor by prosperous developed countries or other developing countries for temporary work periods, there is a need to account for the satisfaction and affection of the temporary residents to their country of current residence. The rationale behind include this is that the essence of true human development should include strong ties of the citizens to their national and cultural roots. (Weightage on 10: **2**)

   (5) **Happiness index** (Hi): We have seen from our empirical observations that happiness index has been a somewhat reasonable predictor of human development and self-sufficiency. Sen includes happiness as an essential part of human well-being. However philosophical this may seem, one of the core goals of development should always be the happiness and satisfaction of the citizens, as this is the penultimate purpose of life, even though this may not adequately reflect people's income strength. (Weightage on 10: **5**)

Here are the proposed changes to the NHDI in this index:

(1) Instead of using Gross National Income (GNI) that merely factors in what people do in their country with their income, we use Sustainable Net National Income (NNI*), that reflects the total annual income that can be consumed without diminishing the overall capital assets of a nation. It is increasingly necessary to judge the wealth of nations by their natural capacities, even though this may be seem unfair to introduce into the development index.

(2) Instead of depending on life expectancy to serve as an adequately sufficient indicator of well-being of citizens, a new indicator will capture the average or deviation in distances to access to healthcare facilities for a predefined set of health emergencies and basic diseases for all people. This will serve as a genuine measure of the expected everyday health, and not just life and death, irrespective of the affordability for the same.

Advantages of AWDI

(1) Previous development indices have done a very good job capturing the current developmental health of countries, with no ability to describe this in perspective of future growth and development. By including the new and modified indicators proposed in AWDI, the current developmental health of the country in respect to its to near future health and growth. This is a much more useful index to policy makers than HDI or NHDI.

(2) With the introduction of NNI into the index, the factors of environmental capacities of nations are financial accounted for in measuring human development. This may not seem necessary today because of the situation for fight for resources not being extreme today, but is going to exceedingly become necessary as prices of scare natural commodities rise and cap-and-trade is fully implemented.

(3) Healthcare is more appropriately captured as it does not average out based on the birth and death rates, but focuses on the life quality of current generations and accounts for minor illnesses (which seems critical to day-to-day human capacities).

Disadvantages of AWDI

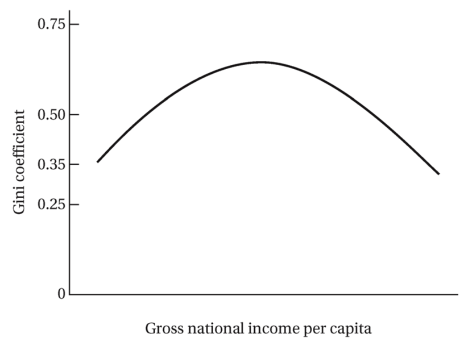
(1) The indicators *Political and institutional stability* and *Roots value* are very fuzzy as defined above, and require deep amount of consensus building, analysis and negotiation to agree upon. In general, this index over stresses on fuzzy “human” variables that are hard to measure.

(2) The Sen Factor may seem to double count factors of educational attainment already accounted for in the NHDI.

(3) These indicators represent a shift from the classical views on the relationship between human development and economic well being. There is a further reducing emphasis on income and GDP, which may be unneeded as the role of capital and financial security remain undeterred in the growth of sustainable economies.

3. As indirectly stated by Todaro and Smith, income inequality is not necessarily an outcome of the development process that should be tolerated for some period to achieve higher growth rates. Whether or not income inequality becomes an outcome of the development process depends on the nature and characteristics of the development process, and the character of economic growth. While the nature and characteristics of the development process may refer more towards a broad range of policies and executions in human development over time, the character of economic growth refers to things like "how growth is achieved, who participates, which sectors are given priority, what institutional arrangements are designed and emphasized, etc."

   To further expand on this part of the response, it is necessary to consider the inverted Kuznets's hypothesis and it's potential shortcomings. Here is a what a Kuznets's Inverted-U curve looks like:



   The central hypothesis behind this curve is that "in early stages of economic growth, the distribution of income will tend to worsen; only at later stages it will improve". This holds true in the case of the modern-sector enlargement growth typology, but is questionable in the case of traditional- and modern-sector enrichment growth typologies as these tend to pull inequality in opposing directions.

   Additionally, there are several case studies and examples of countries such as "Taiwan, South Korea, Costa Rica, and Sri Lanka that demonstrate that higher income levels can be accompanied by falling and not rising inequality".

   And thus, based on whatever definition of "growth of societies" we refer to, it is necessary to reduce income inequality in order for societies to grow and is not something that should be tolerated. There are three primary reasons for the same:

   a) Extreme income inequality leads to economic inefficiency
   b) Extreme income disparities undermine social stability
   c) Extreme inequality is generally viewed as unfair

   That said, of even higher importance than income equality, are inequalities of power, prestige, status, gender, job satisfactions, conditions of work, degree participation, freedom of choice, and many other dimensions of the problem that relate to our second and third components of the meaning of development, self-esteem and freedom to choose (as defined by Sen in the capabilities framework).

Policies to reduce inequality

In a developing society, I would pursue the following policies in reducing income inequality:

(1) Altering the Functional Distribution of Income through Relative Factor Prices
(2) Modifying the size distribution through increasing assets of the poor
(3) Reducing the size distribution at the upper levels through progressive taxation of personal income and wealth
(4) Increasing the size distribution at the lower levels through public expenditures of tax revenues to raise the incomes of the poor either directly or indirectly

Inequality and poverty

There certainly is a connection between inequality and poverty. Inequality breeds poverty in some of the following ways:

(1) Inequality has the capability to foster or deteriorate levels of poverty. Todaro and Smith provide two opposite examples of the impact of economic shocks on poverty: "If, for example, the price of rice rises, as it did in 1998 in Indonesia, low-income rice producers, who sell a little of their rice on local markets and whose incomes are slightly below the poverty line, may find that this price rise increases their incomes to bring them out of absolute poverty. On the other hand, for those with too little land to be able to sell any of the rice they grow and who are net buyers of rice on markets, this price can greatly worsen their poverty."

(2) Also, the higher the inequality, the smaller the fraction of population that qualifies for a loan. Poor individuals lack collateral to borrow money to start or expand businesses. Some of the immediate beneficiaries of these businesses may be consumers below the poverty line.

Policies designed to reduce the incidence of poverty may differ from those designed to reduce inequality in the following ways:

(1) For individuals above the poverty line where relative inequality is a concern, policies need to be focused on even and equal functional distribution of factors by corrective pricing mechanisms. On the other hand, the focus of policies aimed at lowering or eradicating poverty need to be by ensuring substantive productive asset distribution and access using measures like land reform to the margins of the society classified as poor.

(2) While policy designed for reducing income inequality may address size distribution issues by imposing progressive taxation, the focus of policy designed to reduce poverty ought to focus on reducing financial strains per household by the provision of publicly provided consumption goods and services, including workfare programs, so as to increase the range/possibilities of things individuals in poverty can do.

(3) Policy on qualification for loan may become for more rigid to reduce inequality, as long as this does not adversely affect the likelihood of poor individuals involved in basic sales/services to get access to small loans. Microfinance and financial institutional access to credit scores of individuals may both be reasonable ways to address this.

5. In my opinion, the three most important sources of divergence between socially optimality and “market” outcomes for developing countries are as follows:

I. Industrialization of farming

Agriculture is the life and breath of most developing countries, and despite the emphasis and energy around moving to “industrial” economies, it continues to remain the largest employing sector in most of these countries. However, this has had relatively poor performance, has been the neglect of this sector due to “misplaced emphasis on rapid industrialization via import substitution and exchange rate overvaluation that permeated development thinking and strategy during the postwar decades.”

Put in the most simplest words, the need for government intervention is very high because of the need to protect farmers, who also constitute some of the poorest people in th world. Market failures are very common in agriculture and predominantly include “environmental externalities, the public good character of agricultural research and development and extension services, economies of scale in marketing, information asymmetries in product quality, and monopoly power in input supply, etc.” Their lack of exposure to innovation and best practices in farming make them all the more vulnerable. Additionally, opening doors to international trade by deregulation without subsidizing local produce or imposing necessary tariffs on imported goods may cripple farmers in rural regions.

If not aided and supported by government actions, under market conditions, the farmers may not get access to credit and/or lack of adequate market and weather information to have a chance to sell in distant markets efficiently. Lastly, as in the case of India and Pakistan, farmers may be under enormous production pressure by landlords under the *Zamindari* system to produce certain quantities of certain crops despite natural conditions.

I have chosen this because farming still employs more than half of the work force in countries like India, and despite heavy regulations and subsidies by the governments today, a significant number of individuals close to the poverty line are seriously affected (unlike oil price hikes affecting the well off classes). This ties into the need for adequate protection for low income individuals, whether it be farmers or consumers, for sustained and balanced growth according to a modern-sector enrichment growth typology. Additionally, I have been a very sincere follower of *DigitalGreen*, an organization/project aiming to disseminate agriculture practices using low-cost ICTs to increase the capacity of local farmers, and have deep appreciate for the need to empower subsistence farmers with better information.

II. Financing elementary education

Low-income households in developing societies lack immediate incentives or private returns on investments on children's education. At the same time, there are no market mechanisms to provide access to elementary education and associated facilities as there realization that the direct returns are only accrued after higher education when the individual is in an earning capacity to join the workforce. Due to the nature of modern-sector employment gaps, support for educational certification "pulls scarce public resources away from the limited and often low-quality basic education available for the many and toward more advanced education for the few."

Public education in several developing countries has been inadequate, inefficient and criticized for being ignored in key budgeting decisions. Among all these concerns, public education systems are criticized for being unable to train and hold adequate number of motivated teaching professionals.

Despite shortcomings of public education, its role in providing access cannot be undermined. For example, without public intervention and policy reform, there is disincentive in providing educational facilities in remote regions where the costs outweigh not just prospective household contributions but also social benefits in some cases.

I have chosen this source of divergence to be one of the three most important sources as building a strong human capital foundation is the basis for and repeatedly proven to be highly correlated to the development of nations. As Todaro and Smith write, "an analogous is made to conventional investments in physical capital: After the initial investment is made, a stream of higher future income can be generated" from expansion of education.

III. Unpriced productivity effects

The private sector, for most part today, is unchecked with the amount of environmental degradation they do by releasing pollutants in the atmosphere and exploiting the natural resources of the earth without paying a premium price for them. The market failure here is that there is the decision of one agent generates costs to other agents in the ecosystem, without explicit competitive activities being undertaken on the part of any agent.

Productivity effects are not "priced" by the markets. Consequences include "loss of agricultural productivity, prevalence of unsanitary conditions by lack of clean water and sanitation, dependence on biomass fuels and pollution, and airborne pollutants. The marginal private costs incurred to firms is far lesser than the social costs and there are no scarcity rents charged for using these resources.

I have chosen this to be once of the three most important sources of divergence because much of production and manufacturing of goods is taking place and is going to continue that way in the developing countries of the world in the coming decade. In case these countries fail to adopt regulatory measures and comply with agreements such as the Kyoto protocol, the consequences can reach extreme points when even more drastic decisions would need to be made at a time in future when the technologies and consumer markets are not ready for the shift.

Early stages of development and market-based economies

There indeed is enough reason to argue that at early stages of development market-based economies are not the most effective way of producing economic and social development. In fact, at no stage of development are purely market-based economies the most effective.

Some of the areas of government regulation and policy making in early stages of development include, but are not limited to:

(1) Reduction in inequality by taxation and size distribution of public assets
(2) Protection of local manufacturers/producers from large scale exporters from other countries
(3) Effective land allocation for farming
(4) Fiscal policy for balanced capital expenditure