

Measurement of Social Progress

By

Erik Thorbecke

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Content of Presentation

- I. Social Progress: Definition, Measurement and Mechanisms
- II. Mexican Social Indicators with Emphasis on CONEVAL's Multidimensional Poverty Measurement
- III. Recommendations to INEGI on Future Development of Social Indicators including Individual and Collective (e.g. Municipal) Well-being Profiles

I. What is Social Progress?

- Improvement in Well-being over Time that is Sustainable (See Stiglitz-Sen-Fitoussi Report)
- What is Well-being? Consists of Economic and Social (non-Economic) Wellbeing
- What is **Economic Well-being**? Extent of Satisfaction of Basic Needs and Wants
- What is **Social Well-being**? Extent of Satisfaction of various Domains of Quality of Life including Social Rights, Justice and Cohesion.

I. What is Social Progress?

- What is **Sustainable Development**?
Current level of Well-being can be maintained for Future Periods and Generations
- Hence *Social Progress is Defined as a Sustainable Improvement in Economic and non-Economic Well-being over Time*

I. Measurement of Social Progress

- Three Key Components Need to be Measured:
 1. Economic Well-being
 2. Social (Quality of Life) Well-being
 3. Sustainability

I.1. Measurement of Economic Well-being

- Conventional GDP has Flaws (e.g. Household activities, Leisure and non-market Transactions)
- Consider Using Adjusted Disposable Income (includes Imputed Value of Benefits Received by Households from Government Subsidized or Free Services (e.g. Education, Health, Nutrition, Social Protection))

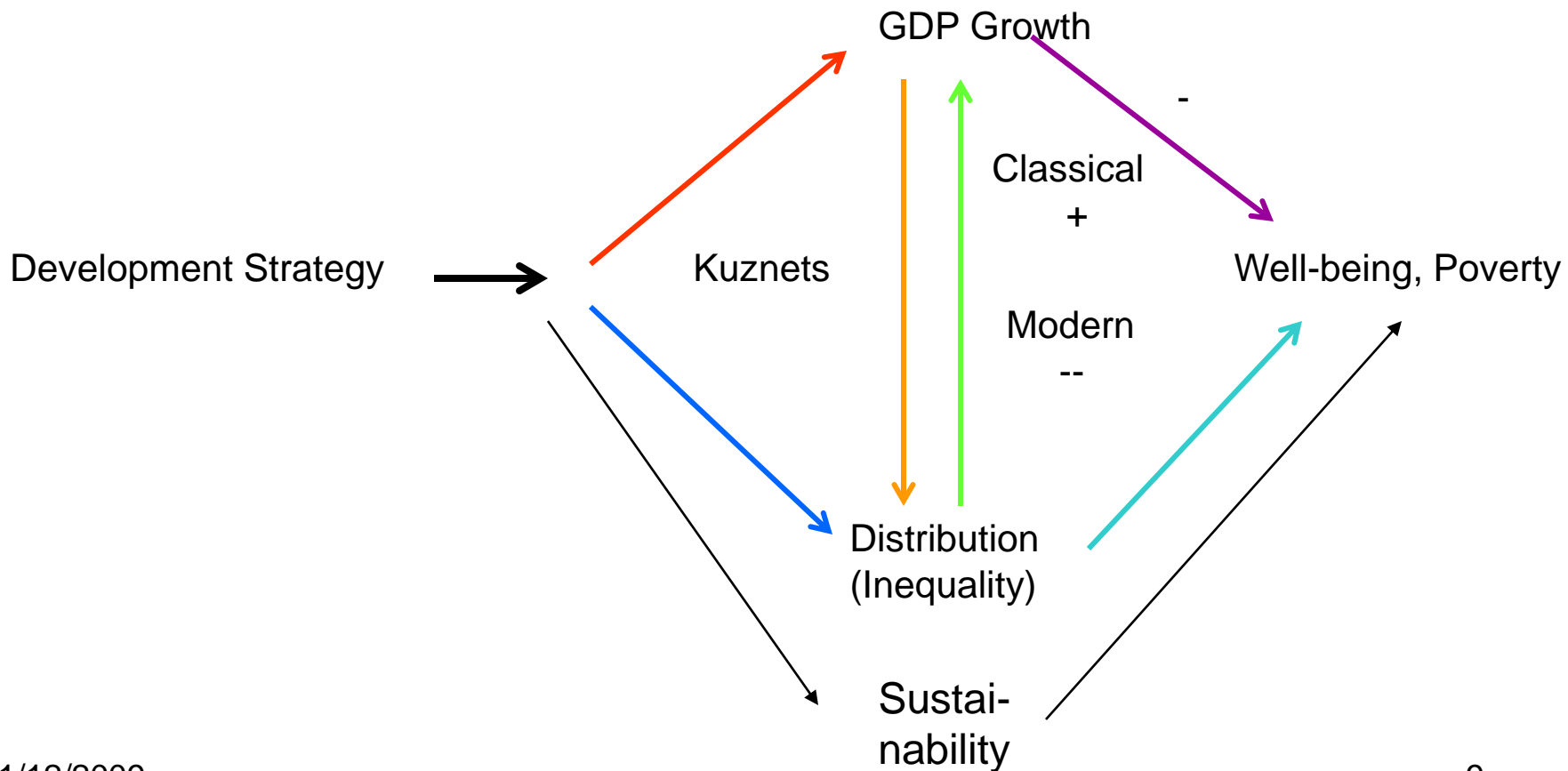
I.2. Measurement of Non-Economic Well-being

- Use Quality of Life Indicators (S-S-F Report):
 - Health
 - Education
 - Personal Activities
 - Social Connection and Capital
 - Environmental Conditions bearing on
- Current State of Well-being
 - Personal Insecurity
 - Economic Insecurity

I.3. Measurement of Sustainability

- Deserves Separate Type of Measurement Based on **Stock** of Wealth or Resources.
- Depletion and Degradation of Natural Resources is Inter-temporal Redistribution (Extreme Form is Looting as in Congo, Eq. Guinea, Nigeria)
- Measurement of Household Consumption (e. g. through AGDP) and Quality of Life Indicators is Typically based on **Flows**.
- It Might be Possible to Aggregate Consumption and QoL Indicators and Identify a Separate Sustainability Dashboard

Inter-relationship and Mechanisms among Growth, Inequality, Sustainability and Well-being: Process of Socio-economic Development



I. Inter-relationship among Growth, Inequality, Sustainability, Well-being and Poverty

- **The Income Distribution (Inequality)-Growth Link** has 2 Conflicting Theoretical Strands: **Neo-Classical** (Kaldor: Inequality is Good for Growth) and the **New Political Economy of Development** (Inequality Dampens Future Growth).
- Inequality Acts as a **Filter** between Growth and Poverty Reduction (Well-being ?).
- Fosu (2008) concludes that a more Equitable Income Distribution would Enhance the Rate at which Growth is Transformed into Poverty Reduction in Sub-Saharan African Countries.

II. Mexican Social Progress Indicators

- Mexican Government Emphasized Poverty Reduction as Main Goal of Development.
- Ley General de Desarrollo Social (LGDS, 2004) has as first Objective: “..assuring access to Social Development for the **Whole** of the Population”.
- Law Mandates that CONEVAL in Measuring Poverty must Use Information Generated by INEGI on at least following Indicators:

II. Mexican Social Progress Indicators

- Current per capita Income
- Average Educational Gap in Hhlds
- Access to Health Services
- Access to Social Security
- Housing Quality and Space
- Access to Basic Housing Services
- Access to Food
- Level of Social Cohesion

II. Mexican Multidimensional Poverty Methodology

- CONEVAL in the Last Few Years has Developed a Methodology to Measure Multidimensional Poverty (MDP) using the 8 Dimensions above.
- Basically, the first 7 Dimensions (indicators) can be Aggregated into a MDP Measure (possibly distinguishing between Income Poverty and Other Deprivations due to Deprivations of Rights) while Social Cohesion is Treated as a Separate Dimension.

II. Mexican Multidimensional Poverty Methodology

For Each of the k Dimensions a Poverty Threshold (Line) was Determined (see CONEVAL Methodology paper 5/9/2008) and the following expression reached:

$$IP_i^* = \sum_k w_k C_{i,k}.$$

II. Mexican Multidimensional Poverty Methodology

- In this formula, IP_i is the MD Poverty Measure for individual i , w_k represents the weight assigned to dimension k , and C_{ik} is the deprivation index of dimension k for individual (household) i
- Five Groups of Experts Contributed Variants of MDP Measures that Fell within the Expression Above. (e.g. Alkire and Foster proposed MDP FGT Measure)

II. Aggregation Issues in MDP Measurement

- If cardinal values exist for all 7 indicators the normalized deprivation levels ($d_{ij}=(z_j- y_{ij})/z_j$), assuming equal weights, can be aggregated to yield total deprivation for individual i

$$D_i = \sum_{j=1}^k d_{ij}$$

- Total deprivation for population would be obtained by aggregating across individuals.

$$D_T = \sum_{i=1}^n D_i$$

II. Aggregation Issues in MDP Measurement

- Main problem is that some indicators are categorical (e.g. access to health services, social security) and that trade-offs are likely to exist between dimensions. A surplus in one could substitute for a shortfall in another (no access to social security but income above threshold).
- For those, and more generally for, reasons of **simplicity in the CONEVAL methodology** each individual is evaluated in a binary sense as either deprived (below z_j) or not deprived (above z_j) in each of the 7 dimensions.

II. CONEVAL Multidimensional Poverty Measure

- CONEVAL definition of poverty:
“A person is found to be poor either when her income is insufficient to acquire the goods and services required for the satisfaction of her basic needs, or when her deprivation by social rights is greater than the established social standard.” (Coneval, 2008, p. 30)

II. CONEVAL Multidimensional Poverty Measure

- Hence a person is poor if her **income is below the income poverty** line and/or **she is deprived in some (at least 2?)** of the six dimensions of her social rights (educational gap, access to food, access to health services, access to social security, quality and space of dwelling, access to basic services in the dwelling). I believe that at last year's expert meeting CONEVAL felt that deprivation in at least 2 categories qualified as rights' poverty.

II. CONEVAL Multidimensional Poverty Measure

- Hence the 3 Separate Components of Poverty are: Income, Other Well-being Indicators Reflecting Constitutional Social Rights, and Social Cohesion.
- Social Cohesion is very Difficult to Grasp and measure. Tentatively it could be Approximated by the Gini Income Inequality Coefficient at the Regional (Municipal) Level.

II. CONEVAL Multidimensional Poverty Measure

- Coming up with Scalar Poverty Indicator Embracing 3 Components above is most complex. At the limit a Scalar MDP Measure Could be Derived which Includes Income and QoL Indicators.
- What Weight Should be Used: $1/7$ for each dimension or $1/2$ for Income and $1/12$ each for the 6 QoL Indicators?
- Better Look at 3 Components Separately.
- Remaining Issue is Measurement of Social Cohesion

III. Recommendations for INEGI

- The Strong Methodological Foundations Developed by CONEVAL and INEGI related to the Measurement of MDP Should Greatly Help Transition to Measurement of Well-being and Social Progress.
- 1. **First Recommendation**; INEGI Can Focus on Measurement of Social Progress and Well-being by Producing **Individual and Collective (e.g. Municipal) Well-being Profiles**

III. Examples of Well-being Profiles

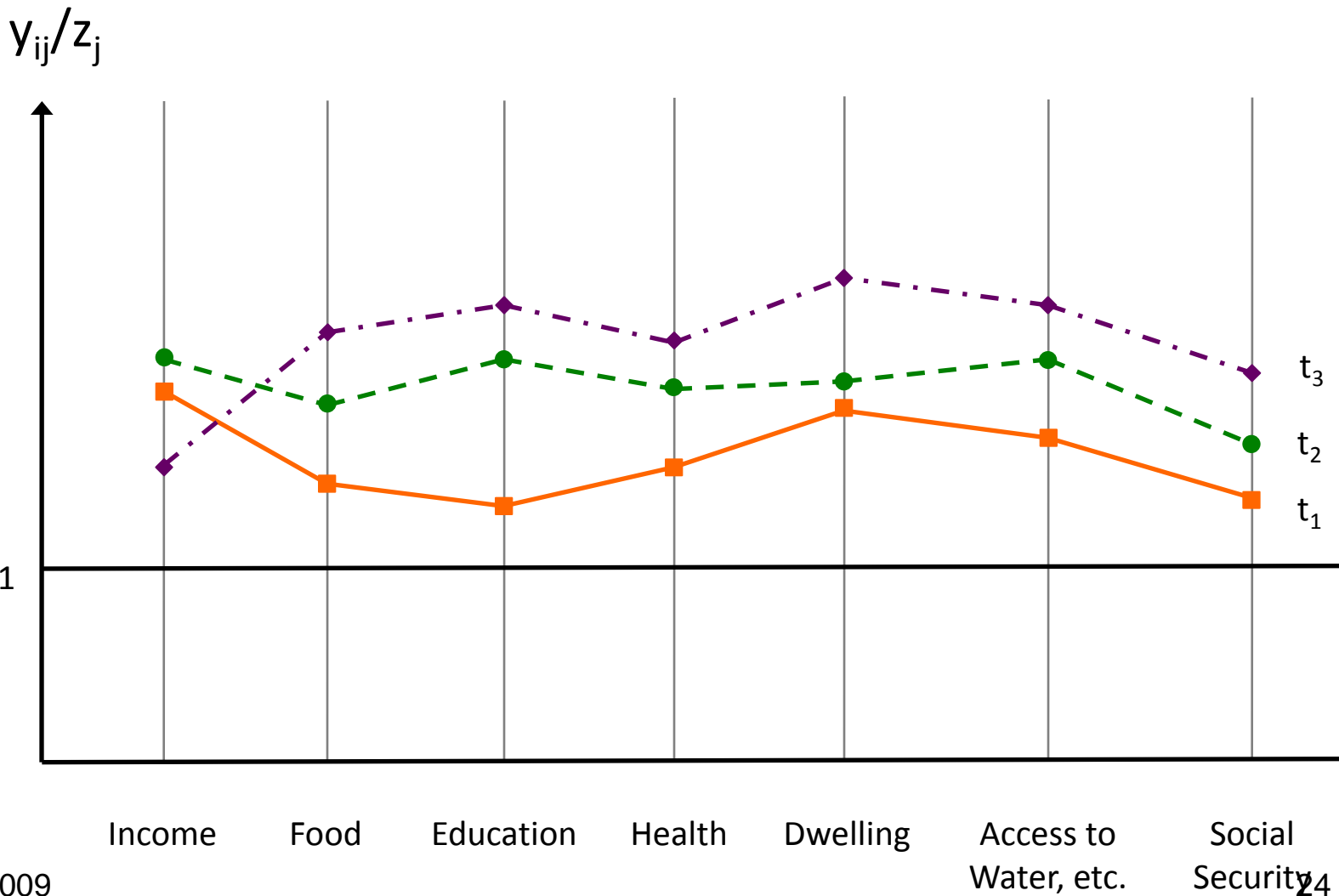
- For Each of the Dimensions of Well-being Determine the Level of Welfare Compared to Deprivation Level, y_{ij}/z_j for individual i

$$d_{ij} = (z_j - y_{ij}) / z_j = 1 - y_{ij} / z_j$$

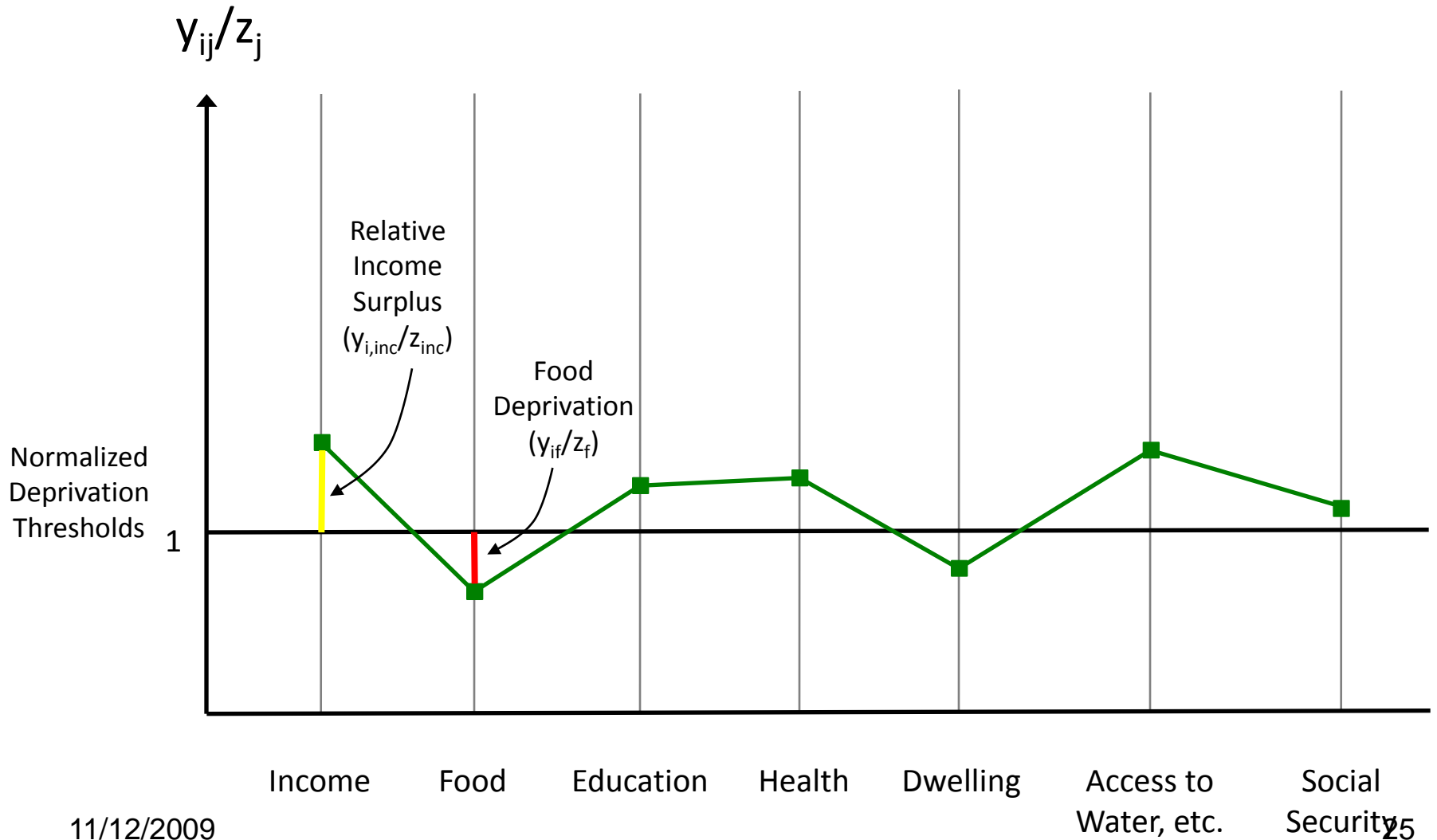
d_{ij} is the **relative (normalized) deprivation** when $z_j > y_{ij}$.

Alternatively when y_{ij} is above z_j individual i has a **relative surplus** of j (e.g. income)

Individual Well-being Profile for a Non-Poor

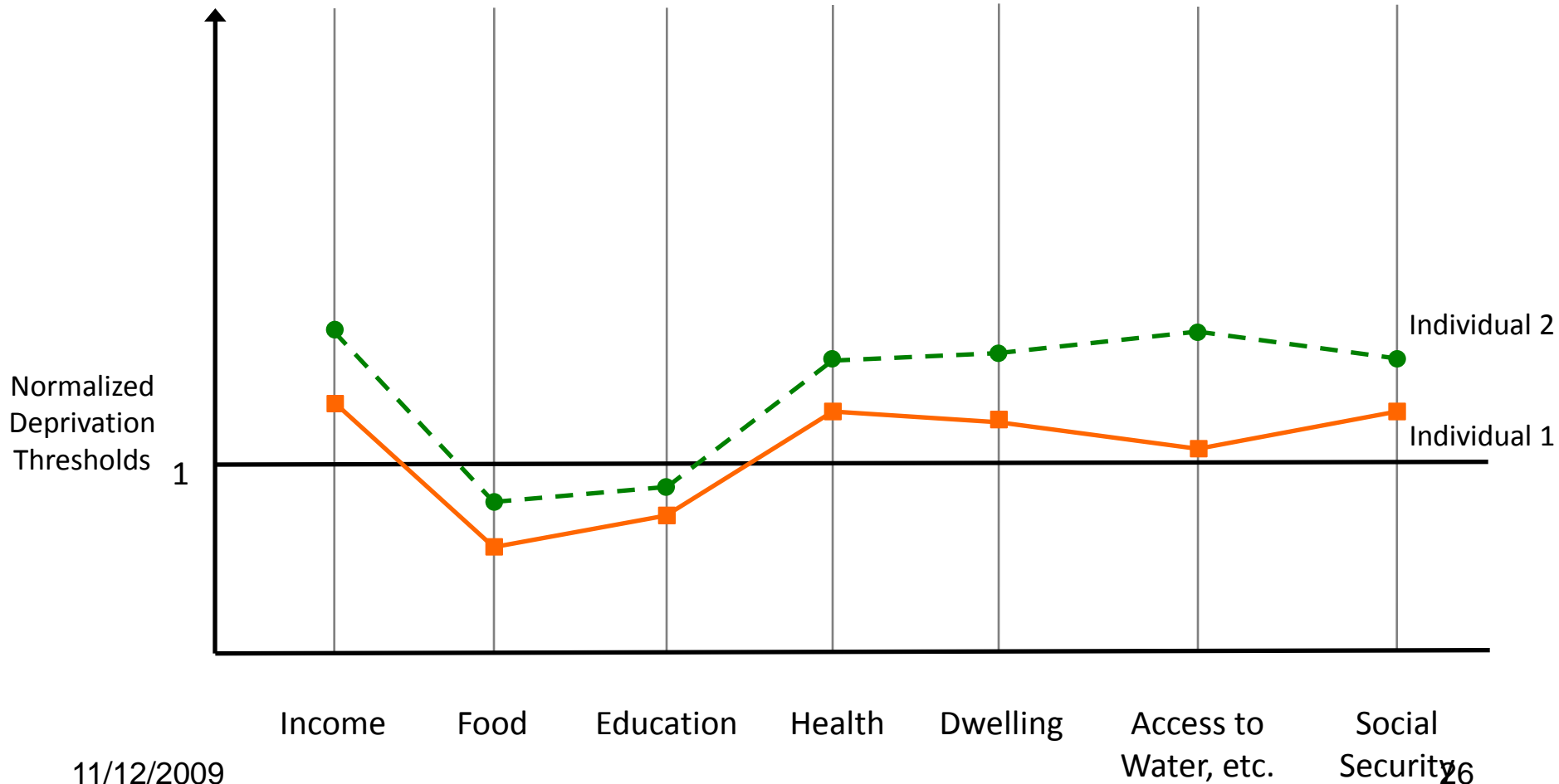


Individual Well-being Profile for a Poor



Well-being Profiles of Two Poor Individuals: Who is Poorer?

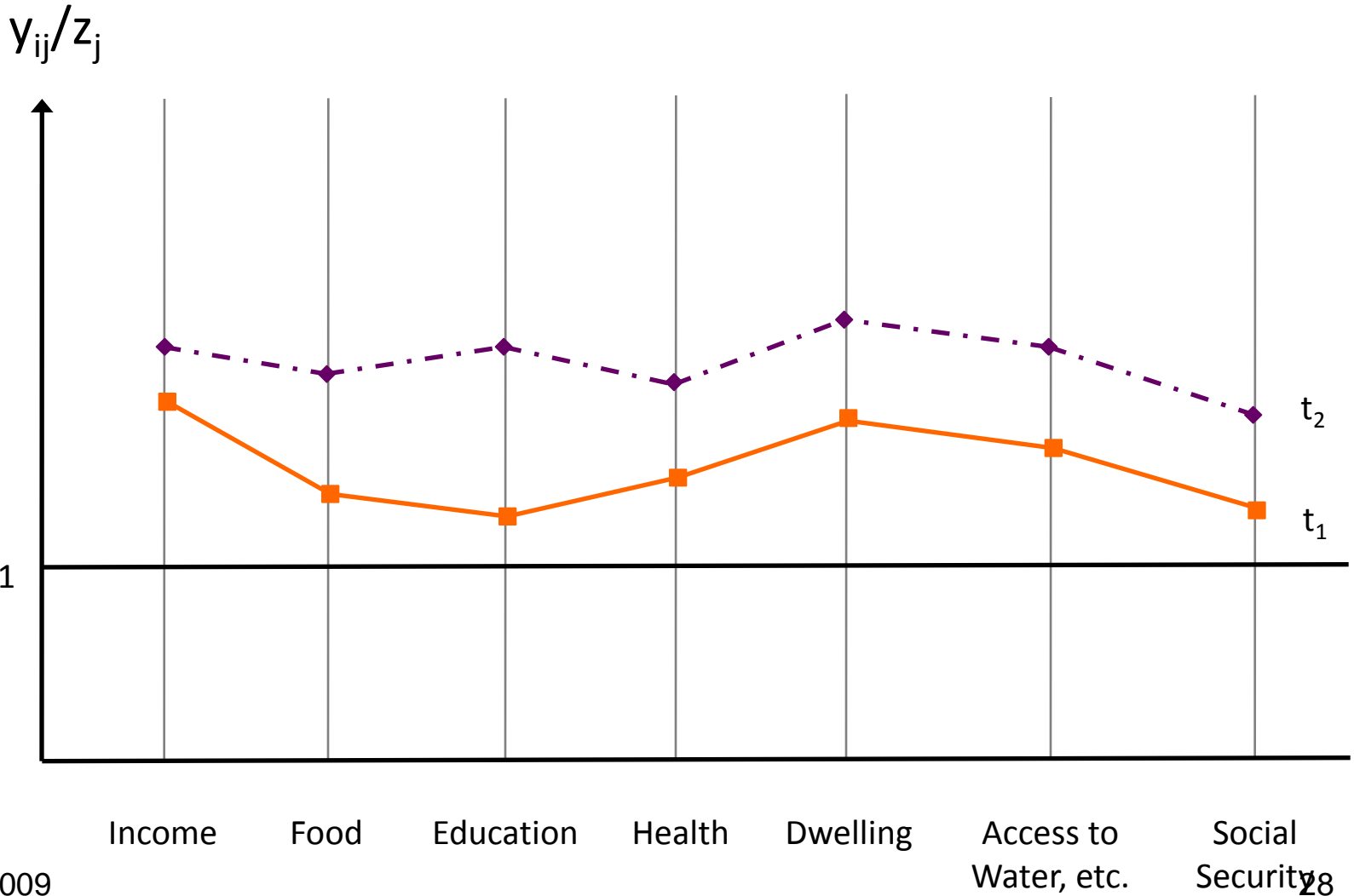
$$y_{ij}/z_j$$



III. Recommendations for INEGI

- 2. Attempt to Convert Binary and Categorical Indicators into **Cardinal Indicators** (e.g. Health Status or Number of Hhld members who belong to System of Social protection of Health, ditto for Social Security).
- 3. Compute and Report at Municipal, District, National levels, Well-being Profile of **Median Individual** for Each of 7 Indicators at Regular Intervals to Determine Extent of Social Progress (possibly also Standard Deviations).

Well-being Profile of Median Household



Possible Measure of Social Progress

- Given the median normalized scores for each of the dimensions (y_{jmed}/z_j), a scalar Social Progress Indicator (SPI) could be:

$$SPI_T = k^{-1} \sum_{j=1}^k w_j (y_{jmed} / z_j)$$

Possible Measure of Social Progress

- Each normalized score for dimension j shows the median household score relative to the deprivation threshold (e.g. 55% above income poverty line, 20% above food poverty line).
- SPI is average median normalized score across the k dimensions of well-being
- Depends on weights and deprivation cut-offs.

III. Recommendations for INEGI

- 4. Report Shares of Individuals Deprived in Each of the 7 Dimensions at M, D and N Levels over Time.
- 5. Report Shares of Individuals Deprived in, respectively, 1, 2, 3,...Dimensions over Time Reflecting Severity of Poverty
- 6. Explore Improvements in Indicators of Income (Consumption), QoL, Social Cohesion and Sustainability.

III. Recommendations for INEGI

- Examples:
- Adjusted Disposable Income to Include **Imputed Value of Subsidized and Free Services** (Benefits) Received by Hhlds from Government (Education, Health, Social Protection....). Approach from Benefit Incidence Side – not Cost. Requires Adding Questions to Surveys on Contingent Valuation, Willingness to Pay,...
- Major Decline in Inequality in Mexico with Gini Falling from .54 to .47 between 1995 and 2004. Clearly Progresa Contributed. (Thorbecke and Nissanke, 2008)

III. Recommendations for INEGI

- Examples (cont.):

Explore **Scalar Well-being** Measure for 6 QoL Indicators, including Sensitivity to Relative Weights.

Explore **Dashboard** of Indicators for **Social Cohesion and Sustainability**

III. Recommendations for INEGI

- 7. Consider Developing **System of Economic and Social Accounting Matrices and Extensions (SESAME)** (see Keuning, 1997). Keuning was Director-General of the Dutch Central Bureau for Statistics and is now the the Chief Statistician for the European Central Bank.

SESAME is a Statistical Information System in Matrix Format, from which a set of core Economic, Environmental and Social Indicators is Derived.

III. Recommendations for INEGI

- SESAME goes beyond **Social Accounting Matrix (SAM)** (Stone, Pyatt, Thorbecke, Round..) by Providing Conceptual and Numerical Linkage of Related Monetary and non-monetary Phenomena.
- It also Yields Indicators such as Daily Calorie Intake of the Poorest subgroup and average number of years of Schooling. (See Indonesia Application)

III. Recommendations for INEGI

- Allows for Integration of Social Progress Objectives into Traditional Macroeconomic (Fiscal, Monetary) Policy Preparation.
- Integrated Statistical Framework (Sesame) Provides better Basis for Analysis and Modeling,

III. Recommendations for INEGI

- Great Advantage of SESAME is **Internal Consistency** of Macro, Meso and Micro Data Sources and it Answers the Key Question “**Who Gets What from Where?**”
- **Mexico** with its Commitment to Measuring and Implementing Policies Conducive to Social Progress Appears **ideally Suited** to Develop and Implement **SESAME**.

- Thank you very much!