

# Inclusive Growth Diagnostics: A Response

Sayantana Ghosal

University of Glasgow

# Inclusive Growth Diagnostic: Analytics I

- Let  $\mathbf{X} = (\mathbf{X}_{i,h,t}: i \in I, h \in H, t \geq 0)$  be a complete (intertemporal) description of the economy along a given growth path characterized by the system of equations:

$$S_i(\mathbf{X}) - P_{h,i,t}(\mathbf{X}) - d_{h,i,t} = 0, \quad i, h, t \quad (1)$$

where  $S_i$  is the marginal (or incremental) social valuation of activity  $i$ ,  $P_{h,i,t}$  the marginal (or incremental) private valuation by agent  $h$  (indexed by relevant social marker (class, place, ethnicity, gender, status, religion) and  $d_{h,i,t}$  the distortion of activity  $i$  by agent  $h$  at time  $t$ .

- Sources of distortion: market imperfections, externalities, increasing returns, fairness/ equity considerations, position in a social network, behavioral biases etc.
- Extension of Hausmann, Rodrik, Velasco 2005.

# Inclusive Growth Diagnostic: Analytics II

- Treat (1) as a system of constraints in the underlying intertemporal social welfare maximization problem.

- Social Planner solution satisfies the FOC (by duality

$$\frac{\partial W(\mathbf{X})}{\partial d_{h',j,t'}} = -\mu_{h',j,t'} + \sum_{h,i,t} \mu_{h,i,t} \frac{\partial [S_{i,t}(\mathbf{X}) - P_{h,i,t}(\mathbf{X})]}{\partial d_{h',j,t'}} \text{ for all } h', j, t'.$$

where  $W$  is the intertemporal social welfare function and  $\mu_{h,i,t}$  is the marginal (incremental) social value of reducing the distortion of activity  $i$  by agent  $h$  at time  $t$ .

- First term: direct effect at a given point of time due to small reduction in distortion
- Second term: indirect effect both within a time period and over time due to a small reduction in distortion.
- Underlying Constraints: intertemporal budget (resource) and technological constraints, intertemporal political constraints.

# Inclusive Growth Diagnostics and Traverse

- Both distribution and sequencing matters for policy formulation in relation to inclusive growth.
- Policy is context-specific, history dependent, sensitive to political and institutional considerations and behavioural biases.
- If a policy recommended: what is the presumed binding constraint(s), what are the (“local” economic, spatial, social, political, behavioural, intertemporal) spillovers , what is the supporting evidence (administrative data, longitudinal studies, policy experiments, RCTs, market data (prices), survey data), what are the (second-best) trade-offs with limited fiscal resources?
- E.g. Education, health, finance, public physical and digital infrastructure, strengthen “social connections”, participation, mitigate behavioural biases (“sin taxes”, nudge, empower).
- Link to older literature on “traverse”: Adolph Lowe (1976), Hicks (1965, 1969,1973) and before that, Kaldor, Robinson, Marx, Ricardo.

# A Research/Policy Agenda

- Both new theory and empirical work to underpin a second-best, inclusive growth analysis appropriate for Scotland (and potentially set the template for other countries (OECD, emerging market economies));
- Reformulation for the case where the economy is viewed as a complex, adaptive system.
- Two way flows of problems/ideas/empirical research between policy-makers and academics.