

Commentary on Justin Yifu Lin, 'A Framework for Rethinking Development'¹

Michael Lipton, Research Professor of Economics, Sussex University, Brighton, England

It's splendid that the World Bank's Research Director is taking this large view, trying to re-integrate development theory by "restructuring structuralism" and basing it on micro-behaviour. Much macro/trade/growth economics has degenerated into point-scoring polemic, turning non-economists off economics, not helping to solve crucial current problems (e.g. how to cut deficits while stimulating growth), and ignoring contributions from empirical micro-economics. Lin's paper is a shining exception.

My comments are in hope of encouraging further advance, and wider integration. I shall

(a) sketch Lin's view of old and new structuralism, as they bear on appropriate state action in the *cross-sector transition* from agriculture to industry and services (first analyzed quantitatively by Lin's predecessor as Research Director [Chenery et al. 1975, 1986]);

(b) support Lin's grounding of new structuralism in household/firm behaviour, but argue that 'new classical economics' is *not* grounded in a credible modern view of such behaviour, its underlying economics, or its outcomes;

(c) ask Lin to incorporate *within-sector transitions* into new structuralism. Radical structural transition *within* agriculture, population, finance, and poverty/inequality are as central to modern development as is the sector transition. These five transitions interact, but are separate and partly exogenous, and not best treated in a single, price-driven model.

Lin's view of old and new structuralism

Old structuralists argued that market responses did not suffice for rapid cross-sector transition, nor, therefore, for modern economic growth. That was due to externalities and consequent possible economies of scale and scope, making a case for 'balanced growth' [Rosenstein-Rodan 1943, Nurkse 1953, Lipton 1962, Temple 2005], and to private market failure, power and abuse. As Lin says, this motivated old structuralists to seek State action to accelerate and guide sector transitions.² Preferred old-structuralist State actions typically included industrial protection, promotion and subsidy; currency overvaluation; widespread regulation; highly progressive (if seldom collected) taxes; and sometimes nationalisation. As Lin reminds us, this package often induced huge, cumulating inefficiencies, rent-seeking, and corruption; overstretched weak and cash-strapped States, diverting them from their central developmental roles - law and order, provision of genuine public goods, key transport and road infrastructures, health and education; and transferred resources, and rewards, from entrepreneurs to States.

Most developing countries in 1950-80 improved on earlier economic growth, despite old-structuralism. Several "developmental States" - not just the gang of four - grew rapidly, selectively making *some* aspects of old structuralism work, and successfully promoting industrialization [Wade 1990]. Others, such as Sri Lanka, used old-structuralist State action to lay social-democratic infrastructures for subsequent market-friendly sector transition. Yet Lin is right that normally the old-structuralist recipes had "miserable results", setting back the sectoral transition they were meant to encourage. India's pre-1990 "licence raj" and "Hindu rate

¹Dr Lin's paper and this commentary were presented on 8 September 2011 at the London School of Economics, during the Department of International Development's 20th Anniversary Conference, 'Responding to the Crisis in Development'.

²I would add that this was also advocated by old structuralists - notably in India - on the grounds that market-led sector transition would sharply worsen a colonial legacy of severe inequality. That view gained support from a non-structuralist source: Kuznets's hypothesis of more or less arithmetically rising inequality in non-managed early sector transition [Kuznets 1955; see, however, Fields 2001].

of growth" were no triumphs for old structuralism as a source of growth or sector transition; even reduction of poverty and inequality would benefit if old-structuralist interests and privileges in India were unwound more swiftly [Sen 1997].

From the late 1970s much development theory reacted sharply against the excesses of old structuralism, towards "State minimalism" and the sufficiency of "getting the prices right". Lin rightly rejects this over-reaction. Instead, he develops a "new structuralist" case for State interventions to accelerate sector transition. The new interventions are very different from those of old structuralism. The new interventions minimize market "distortion". Instead, they aim to provide - or incentivize - new infrastructure, institutions, and human capital for fast transition to industry and modern services, and especially for associated comparative-advantage-compatible transformation of technical, scientific and human capital - the keys to long-term growth and sector transition.

Which micro-economic base for new structuralism: new-classical or credible?

Both classical economists such as Adam Smith, and eclectic neo-classical economists such as Alfred Marshall, anticipated many of the concerns of modern development economists and some of their policy proposals. However, the leading edge of that tradition, new classical economics, has hardened into a closed, dogmatic system. As a predictor of macro-economic events and as a guide to policy, new classical economics seems increasingly incredible. This is not because of its laudable attempt to base macro-economic outcomes in individuals' and firms' motives and behaviour. It's because new classical economics gives a too-narrow account of such motives and behaviour, and understates the effect of "adding up" (to the neglect of fallacies of composition), and of macro-structures, on the macro-outcome of individual behaviours. I admire Lin's agenda, but urge him to base it on less shifting sands than new classical economics.

New classical economics extrapolates from strong assumptions - expected lifetime utility maximization by consumers, expected profit maximization by producers - in several troubling ways. First, strict expected utility maximization by workers - *with only income and leisure raising utility* - has led new-classical economics to a model in which rational behaviour leads to equilibrium, not at full employment, but at a natural rate of unemployment, due to the costs of job search. This undermines both fundamental theorems of welfare economics. Underemployment equilibrium, unlike full-employment equilibrium, is neither necessary nor sufficient for maximum welfare,³ because losses *due to unemployment* cannot be shown to exceed losses (e.g. from market distortions) *due to avoiding unemployment*. There is no welfare reason for policy to tolerate a natural rate of unemployment, rather than to reduce the actual rate below the natural rate by massive public works, employment subsidies, or (perhaps - see below) Keynesian expansion. New-classical economics thus prevents a clear policy goal. Further - since in expected-utility theory leisure, even unchosen unemployment, always has positive utility - in new-classical economics poor-relief, including unemployment benefits, raise the natural rate of unemployment: cuts would price people into work. Even reducing such alleged "stabilizers" in bad times would make unemployment worse.

³This also applies to Keynesian underemployment equilibrium. Hence Keynes, coming out of Marshall's eclectic neo-classical tradition, advocated major extensions of State action to raise welfare from 'his' underemployment equilibrium. Yet new-classicals systematically reject such action in theirs - whether due to sympathy for Hayekian anti-Statism (or for libertarianism), or because their theory is rooted not in Marshall, but in the more rigorous, less realistic traditions of J.B.Clark, Walras and Arrow-Debreu. Yet pioneers of general equilibrium saw it as an elegant heuristic, fully compatible with widespread state action (Pigou, Walras), especially where there is uncertainty and/or major information asymmetries, as with health care [Arrow 1963].

New-classical economists argue that market participants form *rational expectations* of price and volume, not by adapting to past trends, but by assuming that forecast outcomes for any asset do not *systematically* differ from perfect-market equilibrium. Asset price is always the best estimate of asset value. Rational expectations are sufficient (perhaps not necessary) for asserting that - since extra public spending, if financed by borrowing, has to be repaid out of later tax revenues - leads private agents to save enough extra to pay that tax later. This claim of Ricardian equivalence revamps the anti-Keynesians' view of the 1930s: for every extra dollar the public sector spends - even if financed by borrowing, not taxation - the private sector spends a dollar less. Some go further, claiming that, when governments spend more, individuals spend *more than* a dollar less (because extra public spending undermines confidence, so individuals reduce spending not only to save for future tax, but also to protect against public default); if so, "expansionary fiscal contraction" is possible! For new-classicals, Ricardian equivalence means that the multiplier is always one (under expansionary fiscal contraction it is less than one) and fiscal expansion is by definition useless in generating income or employment. If financed by bonds, their sale pulls money out of the economy, equal to the extra expenditure; if financed by borrowing, saving against future tax does the same thing. Conversely *cutting* public spending in slump, even on so-called built-in stabilizers like unemployment benefit, won't cut income or employment. One wonders how the apparently successful experience of Keynesian stabilization at near-full employment (c. 1945-75) worked.⁴

Apart from writing off Keynesian *policies* that apparently worked in 1945-75, rational-expectations theory writes off the Keynesian *agenda* for state responses to 'propensities to save' and 'inducements to invest'. There is no developed account of financial institutions and related incentives in any economics [Kindleberger 1978/2005 is a good start] but in new-classical economics persistent bubbles are assumed away. After describing persistently wrong US house price expectations and hence prices, Shiller [2011] writes:

A half-century ago, there was a lively discussion among economists about the dynamics of price expectations. For example, [Enthoven and Arrow] wrote in 1956 that expectations that extrapolate past price increases can produce economic instability. But that thinking was largely cast aside in the 1960s, when my profession embraced the theory that efficient markets formed by people holding rational expectations could explain virtually all economic activity. As a result, economists in recent decades have not developed expectations theory much further.... [This] helps explain why the current crisis was generally unpredicted, and why its future course is so poorly understood.

Not only house prices, but in 1997-2000 dotcom prices, in 2007-11 Eurozone bond prices, and at least throughout 2000-2011 bank share prices, have persistently *not* been set by rational expectations, with only brief and minor mean error.

It is central to new-classical method to test a theory by its conclusions, not its assumptions. If a theory's assumptions conflict with facts, yet the conclusions predict adequately, the theory stands [Friedman 1953]. Hence, despite wrongly assuming that the sun circled the earth, Ptolemy's astronomy passed the predictive test for 1400 years from his Syntaxis (in Arabic Almagest) in 150AD. Even before Copernicus's De revolutionibus orbium coelestium in 1543, but especially afterwards, great astronomer ingenuity - and "conventionalist

⁴New-classicals are not alone in arguing that (1) the 1945-75 experience generated expectations of accelerating inflation, (2) therefore raised the "non-accelerating inflation rate of unemployment" (NAIRU) (3) durably and (4) immunitely to public action. However, none of (1)-(4) carries persuasive theory and evidence. Even if all did, why is NAIRU a better policy target than a non-increasing-unemployment (or a <3%-unemployment) rate of inflation?

stratagems", patching up the old theory while retaining its core [Popper 1963] - dis-guised increasingly dubious new assumptions, thus explaining away divergences between Ptolemy and fact: divergences initially small, but gradually observed and increasing.

New classical economics won't detain us for 1400 years. That its conclusions diverged from apparent fact was soon clear, and the divergences have grown sharply, though accommodated with huge econometric skill. In financial markets, new-classical economists through persuasion - and politicians through legislation - led most OECD countries to scrap most financial regulation (Big Bang 1986, effective repeal of Glass-Steagall 1999, etc). With increasing tremors from 1997, and dramatically since 2007, it has become clear that this hubris is testing the market system to the verge of slump. Outside new-classical theory, large and systemic banks, bankers and banksters, now unregulated, faced asymmetric risk: bailed out if they failed (the ghastly Lehmann exception apart), super-profitable if they succeeded. The ambitious, risk-taking banksters out-competed the boring safe bankers when the going was good, and escaped with public support when the music stopped. Moral condemnation is irrelevant: banksters behaved, not specially wickedly, but incentive-compatibly with new-classical financial deregulation plus asymmetric risk. These developments have exposed the efficient-asset-market model's predictions as far from reality. Accommodative econometric ingenuity in "testing conclusions" is up against financial-system facts; "testing the assumptions" is *needed* when they are bizarre, when they multiply, and when they regularly underestimate frequency of extreme events.

A better set of micro-economic foundations

Keynesian and structuralist macro-economics are only a little better at accommodating real-life financial institutions than new-classical economics, and therefore in little better predictive or theoretical shape. However, they are more open systems - more modest, less hubristic and less prone to self-confirming tests. However, *all* macro-economics is arguably a dogma-ridden mess, while micro-economics (including sector economics) is a near-science. "Old neo-classical" micro-theory is a standard base, widely tested, yet controversial. Challenged by new theories and tests, micro has for decades been moving onto new ground, and suggesting "behavioural foundations" far removed from those assumed by new-classical macro-economics. Most new-classical economists are well fully aware of these areas of work and often contribute to them, yet do macro-economics as if its behavioural foundations could be based on standard (i.e. 1930s) micro-economics.⁵ I just list, with no claim to expertise, eight challenges to these 1930s micro-foundations, which warn against new-classical economics as a basis for new structuralism in development (or other) economics.

- New-classical economics has still to respond to three challenges from the 1950s. Simon [1955, 1956, 1957] showed widespread "satisficing" (rather than maximizing of profit and utility), its equivalence to minimax regret, and its implication of *bounded* rationality. Due to second-bestness [Lipsey and Lancaster 1956], any deviation from neo-classical assumptions cannot be confined to a sub-sector or a period, but changes all the results of a general-equilibrium model. Arrow's impossibility theorem [1950] showed that a cornerstone of standard neo-classical approaches, Pareto efficiency, together with other apparently unobjectionable conditions, makes it impossible to add up individual preferences to a "best" outcome, i.e. to derive an optimum from *any* maximum-utility micro-foundations.

⁵Plus, of course, 21st-century mathematics and econometrics; but Ptolemaic astronomers also doubtless kept up with the latest quantitative methods.

- Experimental economics, since Rapoport and Channah [1965] and Axelrod [1984] showed trends towards co-operative behaviour (and sanctions) in repeated Prisoners' Dilemma games, has shown human *interactions* inconsistent with impersonal markets [Smith 2008].
- Neuro-economics grounds economic behaviour in observed human and animal brain activity; it reaches conclusions inconsistent with rational expectations, and indeed with a standard account of utility maximization: for example, absent a damaged amygdala, humans show *loss aversion* [de Martino et al. 2010].
- Evolutionary economics [Nelson and Winter 1982; Witt 2008] proposes testable, biology-based *macro*-foundations for *micro*-economic theory.
- Agent-based decision analysis [Shoham and Leyton-Brown 2009], not least in financial markets [Mankiel 1996, Preis et al. 2006, and by implication Kahneman and Tversky 1979], suggest risk and learning behaviour at odds with rational-expectations theory and prediction, and perhaps with expected maximum utility.
- Asymmetric information theory [Akerlof 1970] applies where sellers have more, or less, information than buyers, invalidating many 'positive' and almost all welfare findings of standard equilibrium theory; this applies strongly to some important developing-country markets, e.g. for rural credit [Stiglitz and Weiss 1981].
- Studies of instantaneous and lifetime 'happiness' [Oswald 1997, Layard 2005, Graham 2008], confute new-classical micro-foundations: it is linked weakly to levels and changes of own-income, strongly to own-income relative to neighbours, and *negatively* [di Tella et al. 2001] to unchosen leisure (unemployment).

I don't suggest that Lin should base his new macro-structuralism wholly on these approaches. They are not settled. They are often inconsistent with each other. Yet each carries substantial evidence and ongoing research, and *all* are inconsistent with the out-of-date "micro-foundations" of behaviour assumed in new-classical economics: expected lifetime utility maximization; utility functions with large positive first derivatives in own-income, own-leisure and usually almost nothing else; risk "handled" by perfect lifetime (even at times dynamic) consumption smoothing; and impersonal, informed, transparent markets. These assumptions, and the corresponding sidelining of all the above approaches, cannot with any credibility be compared to the assumption of "fictionless motion" in physics. The burgeoning new micro-economics should rule out the use, in macro-economics, of ONE set of motives and behaviours in order to proceed, in essence, from Walras-Arrow-Debreu equilibrium theory.

Within-sector transitions: agriculture, population, finance, poverty/inequality

Structuralisms, old and new, concentrate on the cross-sector, agriculture-industry-services transition. Yet this can't be understood without interacting it with the within-sector transitions, normally analyzed by sector economists. Unlike the macro-economic celebs' mostly angry *Dogmenstreit* - to which Justin Lin's cool paper is a marvellous exception - sector economists' largely micro-economic debates are normally collegial,⁶ exploratory and scientific. Sector economists disagree on much, but most of us are "humble, competent people on a level with dentists" [Keynes 1932], shifting our sub-disciplines forward, though not as fast as dentistry.

⁶This is much less the case for sectors, such as finance and trade, where macro-economics is a major component.

I briefly suggest why four economic-sector specialisms - agriculture, population, finance, and poverty/inequality - should encourage Lin, in building his new structuralism with its new borders and scope for state action, to identify State behaviour helpful to transition *within* sectors, not only transition *among* sectors. Evidence from these sectors will also help Lin to expand his new structuralism, from its present concern with growth, to development as mass poverty reduction, containment of inequality and instability, and sustainable progress.⁷ Treatment of these wider concerns is not consistent with versions of new-classical economics that see, for example, sector shares, inequality, or sustainability as correctly decided in efficient markets. However, the past fifty years of advances in agricultural, demographic, financial, and poverty-inequality theory and empirics provide a keen critique of new-classical economics (e.g. the frequent insistence on endogenizing everything in price space, the treatment of risk, and the account of market structures and interpersonal interactions). Within-sector economics not only necessarily complements cross-sector transition economics, but also offers, for Lin's new-structuralism and its view of the State's role, a far better entry point than new-classical economics.

Lin rightly stresses that the cross-sector transition is continuous and country-specific, not dichotomous between 'developed' and 'developing' countries, and that it is intimately linked to transition in technology and the skilling of human capital. All apply with equal force to the four within-sector transitions. So does Lin's emphasis, in cross-sector transition, on externalities; scale and scope economies, including clustering; and risk and access problems. If there were no transaction cost, including information cost, the efficiency cost of these issues would be zero [Coase 1960].⁸ In practice, especially in low-income countries, they require - in view of huge transaction cost, and policy goals other than efficiency (reduction of poverty and inequality; stability; sustainability) - State provision, and sometimes production, of physical, research, and human-capital infrastructures, and of institutions for information, regulation and market-making. This applies as much to these four within-sector transitions as to the cross-sector transition with which they interlock. Old structuralism responded badly to genuine development problems unaddressed by markets. The neo-liberal response, increasingly based on new-classical ideology begged the question. Can the new structuralism do better?

Agriculture as pre-transition, new structuralism and the State's role

In mass-poverty under-developed, low-income economies (PULEs) smallholder-based transformation of agrotechnology, and in many cases of agrarian structure, normally precedes cross-sector transition, and later supports it. China from about 1977, and India from the 1960s, illustrate this. The *main* harm done by old structuralism was to set back agriculture - and hence the very industrialization that extraction was intended to support - through its biases against and extraction from rural people [Lipton 1977]. Nevertheless, a purely *laissez-faire* alternative cannot support agricultural transformation either.

Old structuralists in some countries did expand (albeit extractively and often inefficiently) useful State action in irrigation, rural road infrastructure, land reform, and to some extent agricultural research and extension. Contemporary liberal economists - as yet unhampered by new-classical dogma - outflanked old-structuralists in calling for more State action to support agricultural research, education, and technology-building [e.g. Schultz 1964]. Asia's experi-

⁷Lin's paper does mention these issues a couple of times, but the substance concerns, almost entirely, the conditions for faster growth.

⁸This brilliant paper - and its over-interpretation - later helped to justify scepticism about the role of the State among new-classical economists.

ence of both green revolution and land reform shows that smallholder-based agro-structural transformation is best achieved through purposive state action, well beyond a merely facilitating State. Can new structuralism help here?

Agriculture, especially food agriculture, is the main income source for 60-80% of people in PULEs, including much of Africa and Central Asia still. A usually neglected lesson from the successful industrializers is that, to achieve cross-sector transition from the PULE status that prevailed almost throughout Asia before the 1960s, prior, State-led structural transformation of farm technology *and* land access was usually conducive, and (though rarely sufficient) often necessary. The agricultural transformation, if concentrated on labour-intensive smallholdings, contributes to later sector transition in two main ways. By raising large numbers of people above the poverty line, it raises the quality and quantity of labour input through better nutrition, reduced risk aversion, more saving (or less dissaving). The transformation also greatly increases agriculture's initially abysmal total factor productivity and output of food and food-exchangeables, thus *later* freeing up labour, skills, food and savings for the sector transition. The beauty of this path is its consistency in PULEs both with poverty reduction and with proper use of factor endowments, rightly emphasized by Lin and by classical and neo-classical economics, but neglected by old-structuralist stimulation of industrializing transition before agricultural transformation. That sequence is normally and inappropriately heavy on capital and hence scarce resources, but light on employment and hence poverty reduction.

Decades of work in agricultural economics has theorized, and shown empirically, that agriculture in developing countries, at the average and at the margin, is normally much more labour-intensive than industry or even modern services; that it saturates each unit of average and marginal capital with more labour; and that it invests in new capital in a more 'labour-*esque*' way, using more slack-season sweat capital and less financed capital [Sen 1968]. Also, in low-income and most middle-income countries and smaller farmers get more annual output-per-hectare, both with traditional technologies and after Green Revolutions. In large part, this is causal [Lipton 2009, ch. 2]. Smaller farms have lower unit transaction costs of labour supervision, favouring higher labour-intensity and land-productivity. In low-income countries, this advantage far outweighs bigger farms' lower unit transaction costs of obtaining and managing capital. Hence almost all repeat agricultural censuses in PULEs, and most in middle-income countries, show rising proportions of land in smaller farm-size units (0-1ha, 1-2ha), and falling sizes both of median farm, and of farm with median hectare. That is not because smaller farms are *needed* to provide livelihoods for higher populations, nor because smallness becomes *feasible* with higher-yield technology; neither makes people 'vote with their feet' to operate smaller farms. They do so because in poor countries such farms yield more per increasingly-scarce unit of land. Small-farm market choices, however, face serious constraints (externalities, infrastructure; but also large-farm and urban power) and so are seldom transformative unless supported by public action (i) for redistributive, equality- and efficiency-enhancing land reform, (ii) to transform the rate of spread of appropriate technology (irrigation, fertilizer markets, locally adapted high-yielding seeds).

There has been far more, and more successful, State-led land reform, distributive rather than collective, with hundreds of millions of beneficiaries, than is widely believed: not only since the late 1970s in China and Vietnam, but since 1950 in India, much of the rest of Asia and Latin America, and since 1990 in Eastern Europe and some of the former USSR [Lipton 2009, ch. 7]. In PULEs where farmland is very unequal, its careful redistribution, mainly into

small, not-too-unequal farms, should be central to new-structuralist agendas for State action, helping to meet conditions for cross-sectoral transition later.

On State action for new agro-technostructures, the green revolution was and remains, for small farmers, necessarily and mainly based on public-sector agricultural research and land-water development. Even in the 1950s and 1960s, developing States - though harming agriculture through extractive efforts at premature industrialization [Lipton 1977] -also led, in much of Asia massively so, the spread of irrigation, the farm research base, and the now grossly undervalued farm extension system,⁹ which all proved essential in subsequent green revolutions. Such state-led base-laying was needed in Asia - and is needed in most of Africa - for agricultural sector transition, paving the way for successful and voluntary cross-sector transitions.

The State's structural role in agricultural acceleration should change during development.

- While farm size and capital-intensity in most of Asia and the former Soviet Union are *not* yet inefficiently low [Lipton 2009], they do, and should, tend to rise with successful development; that changes, and usually shrinks, needed State action for agriculture.
- While small farms long remain better than large ones at getting more crop per hectare, there is not general evidence that they do so more stably or sustainably; nor do incomplete and imperfect capital and insurance markets make this at all likely.
- Developmental States need to act in new ways to develop more sustainable (and more stable) farm water systems - a partly social, partly technology-generative task, going far beyond the mantras of getting water prices right and encouraging user groups.
- Agro-technology generation has changed radically. The green revolution has slowed. Unlike it, the gene revolution's technology is largely owned by private firms, even for poor countries - and thus much less likely to concentrate on crop traits needed mainly by PULEs' mainly poor farmers and consumers: sustainable high yields, high optimal labour/capital ratios, low risks, nutritional gains. The State needs to seek, not counter-productive takeover of private research, nor often-irrelevant chatter about public-private partnership and intellectual property rights, but direct incentives to pro-poor private crop research (e.g. a move from the farmer royalty model to State-to-researcher or State-to-agribusiness contracts or prize competitions). [Lipton 2007]

Due to low-income agriculture's favourable factor endowments - yet huge externalities, missing and failing markets, and large-farm and urban power - *appropriate* State action to generate and improve agro-structures suitable for rapid progress by smallholders, extending well beyond the ring-holding, identifying and facilitating model, is crucial to poverty reduction, sectoral transition *out of* agriculture, and sustainable growth in low-income and some middle-income countries. New structuralism to inform purposive State action is as important for within-agriculture transition as for industrializing transition, and usually (and still in most of sub-Saharan Africa) precedes it.

Structuralism and the population transition

Old structuralists embedded population growth, together with capital/output ratios - both largely assumed exogenous - within models of required publicly-induced investment to maintain desired growth in output-per-person. In 1950-85, however, both old-structuralist and

⁹Pre-green-revolution extension effort and spending were key determinants of district-level progress in India's green revolution [Evenson and Kislev 1975].

contemporary liberal economists largely ignored population as a key component of the development puzzle. Among the exceptions, old structuralists were too prone to assume that State action to spread contraception alone (or else extreme intervention as in China) - rather than action to respond to, and change, the motives for high fertility - was the way to effective population transition. Liberal, and especially new-classical, economists tended to argue that the world is 'as if' all fertility decisions were based on rational expectations, with externalities relatively unimportant and therefore with population growth and structures endogenously determined and, in a sense, optimal, leaving little scope for State action; a reasoned and moderate exposition is [Schultz 1981], while Simon [1981, 1996] seems to argue even that couples' population decisions sum to an environmental optimum.

Neither structuralists nor liberals have sufficiently absorbed demographers' evidence that, alongside cross-sector transition, modern development¹⁰ has involved, not just far faster population growth than earlier development, but tectonic shifts in population *structure*:

- sharply rising child/working-age dependency ratios as child mortality rates (CMR) fell (Asia from c.1920 to peak c.1965, sub-Saharan Africa c.1930 to c.1985);
- next, with peak natural increase and dependency, sharply *falling* ratios as (alongside the surviving children's progress into the workforce) total fertility fell (Asia 1965-2020, somewhat sooner in China; SSA 1985-2045);
- third, sharply rising aged/working-age dependency ratios.

These earthquakes in *age-structure* transform per-person capacity to work and to save, and hence potential economic growth. They also profoundly affect poverty and inequality, and - alongside speeding and then slowing population *growth* - both rates of natural resource depletion and incentives to conserve. New structuralism must incorporate new demographic knowledge, if it is to create a useful account of appropriate State action for the development-population-environment continuum.

In Asia around 1965-2000, population change - mainly via age-structures - accounts for about a third of growth of income-per-head [Kelley and Schmidt 2007] and a fifth of the change in income distribution [Eastwood and Lipton 1999]. The effect on economic growth in SSA is slower, and less than the effects of natural resource dilution (and the gains from slowing this) [Eastwood and Lipton 2011]. Unfortunately all estimates are clouded by mutual causation and time-series problems. This has induced what David Canning has termed "endogeneity paralysis"; however, as Partha Dasgupta has pointed out, the package, 'reduced fertility, demographic dividend, less poverty, faster welfare growth, slower resource depletion', is so joined-up that insistence on precise inter-causal attribution becomes a useless, policy-delaying exercise [Canning, Dasgupta, pers. comms.]/ It is clear to all but 'population denialists' that lowering fertility in early and middle development leads to faster economic growth, mainly but not wholly due to age-structure effects, and accompanied by further poverty-reducing impact via redistribution.

How does structural change in population affect new structuralism? Both the speed and the economic effect of each earthquake varies greatly among developing countries, and over time. This is well illustrated by the differences between East and South Asia in 1965-2020 and sub-Saharan Africa twenty years later. Asia got perhaps a third of its income-per-person growth from the rising ratio of adults to children. The underlying rapid fertility falls were caused only in small (but possibly catalytic) part by modern contraception [Pritchett 1994,

¹⁰Malthus's analysis of population growth says almost nothing about changes in age-structure. This is probably because changes in mortality in 1500-1850 seldom concentrated heavily on any age-group, so that age-structure - despite big fluctuations - did not show the big shifts of c. 1930-2050.

Ozler et al. 2011]; in larger part, to incentives to "substitute child quality for quantity" [Becker and Lewis 1973; Schultz 2007] through better education and prospects, especially for women; but above all to earlier fast falls in child mortality [Conley et al. 2007]. The resulting extra workers-per-person were largely absorbed into productive work, initially via a labour-intensive smallholder green revolution, often linked to earlier land reform. Sub-Saharan Africa - due not to individual motivations different from East and South Asia's, but to differences in policy and State efficacy - has been later and slower *both* in reducing child mortality and hence fertility, *and*, as these fell, in absorbing extra workers-per-adult, initially by labour-intensive technical and land-access advances for small farms [Eastwood and Lipton 2011].

The relevance to new structuralism is that *potential* for large, fast demographic dividend depends on appropriate State interventions (both in enabling infrastructure and in incentives) to cut child mortality; to accelerate fertility-lowering response to this fall (and to better education and women's prospects); and, to a smaller but catalytic extent, to spread modern contraception. *Realizing* any demographic dividend as economic growth - once population growth is slowing, and the worker/child ratio rising - also depends on State-led infrastructure, institutions and incentives for productive and labour-intensive absorption of the higher workers-per-person. In PULEs that initially means mainly agro-technical development on smallish, not-very-unequal, and often land-reformed farms.

Financial structure and long-term development

State intervention in financial markets of developing countries from 1950 was not a success for old structuralism. Government and private institutions were abused to redirect finance from entrepreneurs to governments, and among entrepreneurs to individuals preferred by governments. The moderate-liberal critique of "financial repression" [McKinnon 1973, Shaw 1973] was shared by many disillusioned old-structuralists, who saw how such policies steered resources away from the poor and the progressive, towards to the rich and the corrupt [Lipton 1976, Sen 1997]. That is one reason why, by the 1970s, directed finance was being supplemented or even replaced by micro-finance as a means to poverty reduction, farm credit and small-industry development. However, from the mid-1980s, new-classical development approaches (and IMF conditionalities) seemed to export, to developing countries, the extreme-liberal form of structural transition sweeping the developed world: financial liberalization, involving free flows of almost all financial instruments internationally, and State financial deregulation and withdrawal domestically, to be replaced by competition among institutions and customer vigilance. In developing countries, that tide turned with the Asian crises of 1997. These inoculated most of the developing world against the financial deregulatory fever which gripped the developed world, with, since 2007, grave consequences. Crude transfer of financial liberalization has been refuted by experience and largely abandoned by IMF advisers.

However, given the failures of both old-structuralist and neo-liberal paths to financial development, new structuralism needs to provide a view of the correct transitions from local and trade credit to some form of modern finance for farming, industry, services and housing, and of the State's evolving role in such finance. After the crises of 2007-11, however, a new-structuralist role for the State will far exceed re-regulation in rich countries and non-deregulation in poor ones. History is often path-dependent; once deregulated, systemic banks

can become too strong to re-regulate.¹¹ So it is doubtful whether market-friendly development, whether in low/middle-income countries or in the rich world, is any longer compatible with large, systemic private banks. Having deregulated the post-Bagehot concordat away, we cannot now job backwards and restore it.

Banking history can be divided, very crudely, into five phases.

- 1 Western early development involved centuries of periodic bank failures, sometimes idiosyncratic, but - according to Malthus, Hobson and Keynes - sometime covariate in periods of "general glut" or recession, which such failures helped to cause and to deepen.
2. Initially in the UK after the Overend and Gurney collapse (1866), Western States/central banks, following Bagehot [1873], became prepared *in principle* to provide unlimited crisis liquidity (at above-market interest rates) to illiquid but solvent banks.
3. To cut the moral hazard of such lender-of-last-resort facilities there came a post-Bagehot concordat: central banks stood ready to support a bank in crisis (nominally of liquidity, in practice sometimes of solvency), but conditional on tight controls on cash and liquidity ratios, capital structure, and risk.
4. Financial deregulation, such as the UK Big Bang in 1985 and the repeal of Glass-Steagall in the USA in 1999, scrapped most such controls, relying instead on inter-bank competition, but with the central bank (and ultimately the taxpayer) retaining the lender-of-last-resort function. This induced substantial expansion of the large systemic banks into new forms of asset, liability and activity; entry of even less regulated non-bank financial institutions; and hence financial growth, "innovation" and instability. 2007 saw the first run on a British bank since Overend and Gurney in 1866. The global banking system, so profitable in bad times, was barely rescued by the global taxpayer, at great cost. In effect, banks stood to be nationalized when they failed and privatized when they recovered. Profit was private; risk was exogenized; loss was public.
5. What's next? To answer, we need to know why financial deregulation failed.

Competitive incentives after deregulation favoured high degrees of bank risk-taking with savers' money. This was rewarded if things went well, and guaranteed by taxpayers' money if things went badly.¹² Sound, normal-profit classical bankers had supervised their borrowers' business or mortgage to safeguard their depositors' loans, ensuring safety by retaining prudent proportions of their assets in cash or readily encashable form. In the brave new world, such bankers are largely outcompeted by superprofit "banksters". Even if they take billions of dollars in deposits - and enjoy lender-of-last-resort facilities going far beyond small-depositor guarantees - banksters need not supervise, or even know, what assets correspond to their business and mortgage loans, let alone to sliced-and-diced CDOs and CDO-squareds representing loans to who-knows, or to net assets due to currency speculation.¹³ With successive crises in rich countries, financial deregulation has ceased to be a credible strategy, let alone a framework for financial development. Indeed, it is thanks to their Statist, or at least highly regulated, banking systems that the BRICS and many other developing countries owe to their success (so far) in maintaining growth despite the West's bank-led near-recession.

¹¹The success of systemic banks in diluting and postponing the Basle 3 proposals - weakened by absence of conditions on banks' cash and liquidity ratios (as opposed to equity proportions) - illustrates this. So does the banks' lobbying success in "persuading" the UK Government to delay the excellent, though cautious, proposals of the 2011 Vickers Report until 2019 - after, perhaps, one or two more cycles of bank profits followed by socialized losses.

¹²The refusal of the US Treasury to prevent the default of Lehmann Brothers in 2008 was a striking exception. The systemic effects almost ensure that this will not be repeated, even with an investment bank such as Lehmanns, let alone with a bank relying significantly on private deposits.

¹³On 15 September 2011, yet another huge dealer fraud (over \$2bn) hit a systemic deposit bank, UBS. In banking too, "speculators may do no harm as bubbles on a steady stream of enterprise. But the position is serious when enterprise becomes the bubble on a whirlpool of speculation" [Keynes 1936:150-1].

So what is phase 5 of financial restructuring? The West is trying laboriously negotiated re-regulation, but this won't work. In a classic example of path-dependence, because deregulated banksters out-compete dull but safe bankers, they become not only too big to fail but too strong to re-regulate. Political-economy features allow, and asymmetric risk stimulates, large systemic banks (and even more their mobile and bonus-driven top staff) to avoid and resist effective regulation, including ring-fences between routine banking business and the whirlpool of speculation - all of which *has* to be covered by central-bank/taxpayer bailouts on pain of a Lehmann debacle. The genie cannot be got back into the bottle. Big, systemic banks have been made so powerful that they can prevent or avoid rules that threaten to curtail their normal, personally (and to a lesser extent corporately) super-profitable, course of externalising risk onto the taxpayer. The banksters are nerds, not herds;¹⁴ each knows it *pays* to generate and exploit swings between "irrational exuberance" (for them) and debt deflation (for us), despite crises in the real economy.

If the big systemic banks can successfully stop re-regulation (and enjoy lender-of-last-resort protection anyway), what remains for phase 5? Thriving market-based capitalism requires that banks and bank-like institutions - if, *and only if*, so large or systemic that their failure would have such serious consequences that the State will stop it - are **either** split up so that even the failure of the two or three most powerful would present no systemic risk, **or** de facto offered lender-of-last-resort facilities only if under State ownership or control. (This already prevails, in effect, in much of Asia.). Either glass(-Steagall) walls or Statist banks mean big efficiency losses. There *are* economies of scope in unifying, and extending the range of, conventional and merchant banking. State banks *are* prone to arbitrary interventions, politicking, corruption, and technical and other conservatism, and are seldom accountable to transparent open-government institutions (but nor are private banks, to shareholders. But the price of bankster 'efficiencies' is forbidding: threatened bank runs avoided by bailouts, followed by recessions and crises at taxpayer expense. Asian experience shows that stable, rapid private-sector growth is consistent with State ownership or control of large or systemic banks. Western experience suggests that - once such banks have been deregulated and have established consequent positions of power - their non-regulable excesses under private control are *inconsistent* with tolerably stable market-led growth in the real economy.

Poverty, inequality, fiscal stability, sustainability, and the new-structuralist State

Lin's discussion of old and new structuralism, and of new-classical approaches, is couched largely in terms of growth and development as the goals for transitions. Though old-structuralists saw inequality as a big problem in 1950-70, it was largely measured by the Gini coefficient, which was believed to change little during economic growth. The Kuznets conjecture (now refuted) suggested that these slow changes were systematic with development, and hence not much affected by State action [Kuznets 1955; Moran 2005]. On plausible conditions, this implies that¹⁵ successful sector transition, and resulting faster growth, should benefit the poor roughly proportionately. Meanwhile, environmental sustainability was not salient and was believed to be positively growth-elastic. So old-structuralists (and their opponents) concentrated almost exclusively on growth, despite rare dissenters such as Seers [1967].

¹⁴Nor turds; moral outrage at natural responses to absurd rules and incentives is just silly.

¹⁵Strictly, this holds only if the Gini coefficient is linearly related to the relevant poverty measure, and therefore (usually) to *minus* the density of persons or households just below the poverty line. This is normally not so. Indeed, the Gini is most strongly influenced by distribution among the middle 3-5 deciles.

In building a new structuralism, this approach is no longer tenable. Water (and in SSA soil-nutrient) depletion and climate change mean that natural-resource sustainability must be central to State involvement in both cross-sector and - at least as important but neglected - within-sector transitions. Further, new knowledge and new realities have enormously increased the salience of poverty and inequality for State involvement, and hence for new structuralism. Since the mid-1980s, sector specialists have transformed our knowledge of levels, trends, and to some extent causes and effects of absolute food poverty. Also, after decades of sluggishness, within-country income distribution has become highly volatile, but with a clear general tendency. Since about 1985 - as in the USA and Europe - Gini and, even more, income shares of the top 1-2% of households have risen sharply, in the five BRICS (especially in Russia, China and South Africa), and in most of the rest of Asia and Latin America [Cornia (ed.) 2004; World Bank 2005; UNDP 2010]. Further, with better real-income data, estimates of inequality have been substantially revised upwards [Milanovic 2009]. It is much less plausible than in old-structuralist times to anticipate fairly automatic "translation" of growth - due to cross-sector and within-sector transitions - into poverty reduction. Hence the developmental state has a task that was less salient in the old-structuralist period: reducing extreme inequality and accelerating the conversion of growth into poverty reduction. Some of the facilitative and market-improving State tasks that Lin suggests will help, but not all, and perhaps not very much.

A further agenda is needed for three reasons. First, remaining mass absolute poverty is evil in itself. Second, poverty threatens national coherence. Ravallion and others have shown that the poorest are increasingly concentrated in *regional poverty traps*, kept poor by the interlock between characteristics of their households, and of their regions: weak schools and health, poor transport, retarded agriculture, higher mortality and fertility, often minority language or ethnic group. Such traps impede the poor both in advancing in place, and in migrating elsewhere [Bird et al. 2010; Perry et al. 2006: 114-5]. Also, since population normally grows faster in poverty-trapped regions, they contain rising shares of the nation's population, and especially of its poor population [Lipton 2005, reviewing Cassen and Dyson (eds.), 2004].

Third, over and above the poverty effects, extreme and growing inequality makes it much harder for policy to respond sensibly to development needs. The explosion in the income of the top 1% has given them the political power to retain that income in tax havens [Shaxson 2010]. Such tax crime, usually implicating political and administrative elites, increases the disincentives and tax burdens facing entrepreneurs and workers, and makes it progressively harder to finance, without large and growing deficits, even the basic State activities on which the public (including the business elite) insist.

In one highly topical area, exploding top-end inequality especially undermines policymaking. India, the USA, Southern Europe and the UK are struggling to do two things at once: to maintain or restart economic growth, and to remedy huge fiscal deficits. The trade-off is made immensely worse by burgeoning inequality. First, it means lower aggregate demand, if one accepts (as new-classical economists, being true believers in the permanent income hypothesis, usually do not) that the rich save higher proportions of income. Hence governments in recession *start* with even more deficient demand, and thus even more hostility to cutting it further by (necessary) deficit reduction. Second, a natural way to cut deficits while expanding the economy is to tax rich savers and raising payments to poor spenders (unless one assumes, as some new-classical economists perhaps may, that Ricardian equivalence applies equally to rich and poor). However, deficits have been built up by (among other things) the

exploding share of income received by people able to place it offshore in ways that render it effectively untaxable. Therefore, most deficit reduction has to be achieved either by spending cuts, or by taxing income that would otherwise have contributed to domestic demand. Conclusion: exploding top-end inequality and associated tax crime increase deficits, reduce aggregate demand, and worsen the trade-off between necessary deficit reduction and necessary growth stimulation.

Happily, poverty and inequality are well addressed by an agenda for purposive but incentive-compatible State actions, as Lin proposes for the cross-sector transition, within the three sector transitions too. Agriculture, especially smallholding, engages more of the poor than other sectors.

(1) There is abundant evidence that agricultural growth is normally more pro-poor than growth in other sectors, presumably in large part because of its employment-intensity. Smallholder-based growth scores especially well in these respects. Consistent with Lin's correct emphasis on technology and human-capital transformation, it is vital that State policy for smallholder agriculture should be science-led, and not muddled with pseudo-green, but in fact environmentally unsustainable though socially conservative, emphasis on traditional techniques and approaches.

(2) In the present phase of demographic transition, the poor in Asia and Africa have (and are concentrated in regions that have) higher, and slower-falling, mortality - and, even more so, fertility. The poor hence suffer population growth that is faster, and declines less, than for the non-poor, together with higher and later-declining dependency ratios. As time passes, poverty reduction *increasingly* [Lipton 2005] requires focusing measures to address child mortality (and otherwise to enable, incentivise and accelerate fertility reduction) on groups with faster, and less-declining, population growth. That almost always means rural and remote regions, as well as poor people within regions.

(3) Financial reform - but emphatically not of the type recommended by old anti-structuralists in the 1990s - is essential to reverse the prolonged, economically functionless agglomeration of income and power in the hands of the top 1 per cent of persons. That will revive the struggle against extreme inequality as well as poverty.

In all these tasks, Justin Lin's paper is an excellent beginning, but it is only a beginning.

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