

The rediscovery of the concept of 'structural change' in developing economies: transitions, cumulative causation and institutions

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ABSTRACT.

The paper elaborates a critical analysis of the increasing attention given to the concept of 'structural change' in low-income countries within international financial institutions. It shows the relevance of the concepts built by regulation theory for such a critical assessment of 'structural change', in particular accumulation regimes, transitions and institutional forms. It also enriches this critique in proposing a conceptualisation of institutions, which is centred on cumulative causation and the stability of some beliefs, norms and institutions, and on the latter's effects on regime transitions – or, on the contrary, on the absence of transition and stabilisation in given regimes, as is the case in most commodity-dependent low-income countries.

Keywords: structural change; regime transition; institutions; cumulative causation; low-income countries

A. INTRODUCTION¹

Since the beginning of the 2010s, the concept of ‘structural change’ has become central in the policy literature of the international financial institutions (IFIs, the IMF and the World Bank), the United Nations and aid agencies. It is presented as a ‘new’ paradigm as these agencies have, up to now, accorded little attention to the concept, even though it had been central for the early theoreticians of development economics (Arthur Lewis in particular). ‘Structural change’ is posited as the principal means by which low-income countries may leave this category. Accompanied by renewed interest within academic publications, this literature defines structural change as the capacity for an economy to diversify from traditional, low-productivity products to non-traditional, high-productivity ones (indicators of structural change being, e.g., total factor productivity or export sophistication). It gives different responses to the question of why some economies have this capacity (in particular the capacity to implement industrial policies), and acknowledges the relevance of institutions for the success of industrial policies.

The paper offers a critical analysis of this increasing attention to the notion of ‘structural change’ within the IFIs and academic research. It highlights the relevance of the concepts of regulation theory for a critical assessment of this revisited concept of ‘structural change’ and the causalities associated with it. It also proposes, however, an original conceptualisation of institutions and of the many modalities of their effects on regime formation and transitions, which enriches this critique grounded on the regulationist framework and the latter’s capacity to be an alternative to mainstream theories – in particular regarding the absence of transition, i.e. the stabilisation in a given regime, as is the case in most commodity-dependent low-income countries.

Firstly, the paper argues that this renewed focus on structural change, with indicators mainly centred on productivity or export sophistication, underestimates a key obstacle to it: the fact that typically poorer economies can be caught in processes of cumulative causation and self-reinforcing mechanisms that stabilise ‘traps’ and ‘low equilibria’. The paper argues that the above mentioned studies under-address the pervasiveness of such trapping dynamics in poorer economies. Secondly, the paper argues that the above constraints to structural transformation are compounded by a fact that is also under-addressed in the mainstream literature on structural change, but is central to other conceptual frameworks (e.g., economic psychology, evolutionary economics): that ‘structures’, institutions, and these cumulative causation processes also involve individual beliefs, which coevolve with institutions and are also endogenous to levels of development. A key point is here underscored: regulation theory has shown that politics shape institutions and regime transitions: there is a sub-set of beliefs and associated institutions, however, which are more stable and less transformable by politics and policies, i.e., particularly in low-income countries, the beliefs and institutions creating group memberships: these beliefs constitute important constraints on regime change and must be integrated in the conceptualisation of transition processes.

The methodology is firstly epistemological: the paper is primarily an analysis of concepts (structural change, cumulative causation, institutions, among others). As they illustrate the weaknesses of the conceptualisation of structural change by development agencies, the two-step argument, i.e. cumulative causation as a constraint to or a vector of structural change, and the crucial role of institutions (notably those governing memberships), is demonstrated via facts from commodity-dependent low-income countries caught in trapping processes (typically in Sub-Saharan Africa).

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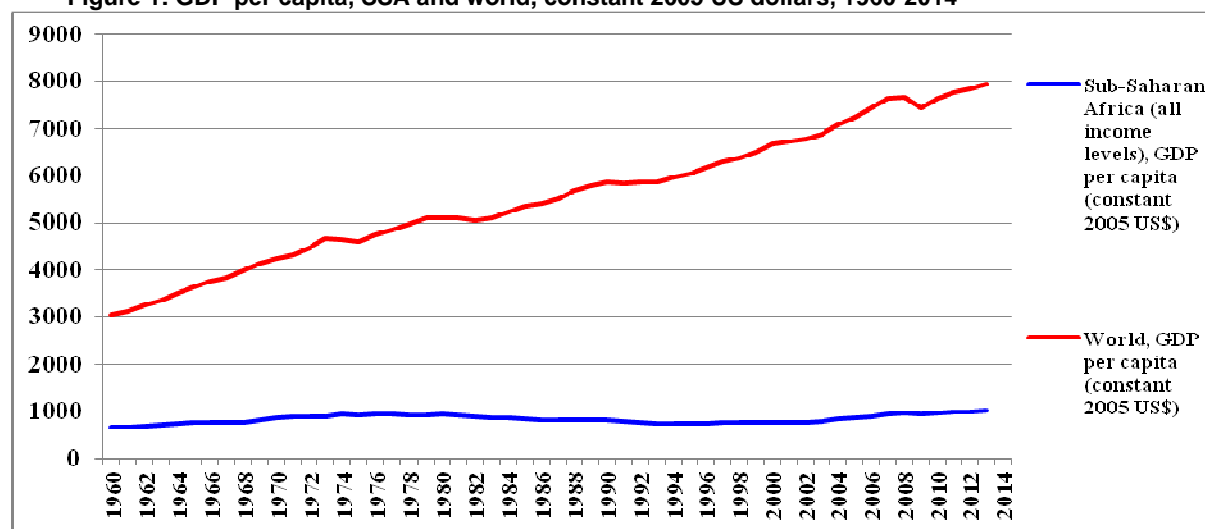
The paper is structured as follows. Firstly, it critically assesses the concept of ‘structural change’ as elaborated from 2010 onwards by international agencies and research focused on development; it shows the latter’s limitations and, in contrast, the conceptual power of regulation theory in the understanding of the phenomena subsumed under ‘structural change’. Secondly, while regulation theory has been most accurate in explaining the dynamics of capitalist (developed) economies, it shows that the conceptual framework of cumulative causation and trapping processes constitutes a pertinent account of the trajectories of low-income countries, which should be integrated to the regulation theory framework; finally, it shows that due to the specificities of social, political and economic relationships characterising poorer countries, regulation theory could be improved by a more refined theory of institutions, the causalities they involve, their contribution to economic and social change – ‘transitions’ –, as institutions are composite entities, and in particular include mental representations.

B. ASSESSING THE CONCEPT OF STRUCTURAL CHANGE’ IN INTERNATIONAL AGENCIES: THE RELEVANCE OF THE REGULATION THEORY

B.1. AN ABSENCE OF TRANSITION? THE CASE OF SUB-SAHARAN AFRICA

Some regions of the world seem to exhibit an economic ‘regime’ that does not change and stay in the same economic condition over a long period of time. This is typically the case of Sub-Saharan Africa (SSA), which is the part of the world that contains the highest number of low-income countries². Over the past 50 years, the GDP per capita of SSA has been remarkably stable – and at a low level. Moreover it has appeared to diverge from that of the rest of the world – this divergence (or ‘convergence gap’) being the subject of several studies, which underscore that the difference in the productivity levels of developed and developing countries remain very large (Rodrik, 2011). An entire continent seems to display a lack of transition, a stability in the same regime, in contrast with the rest of the world – more a ‘falling behind’ than a ‘catching up’ (Verspagen, 1991).

Figure 1: GDP per capita, SSA and world, constant 2005 US dollars, 1960-2014



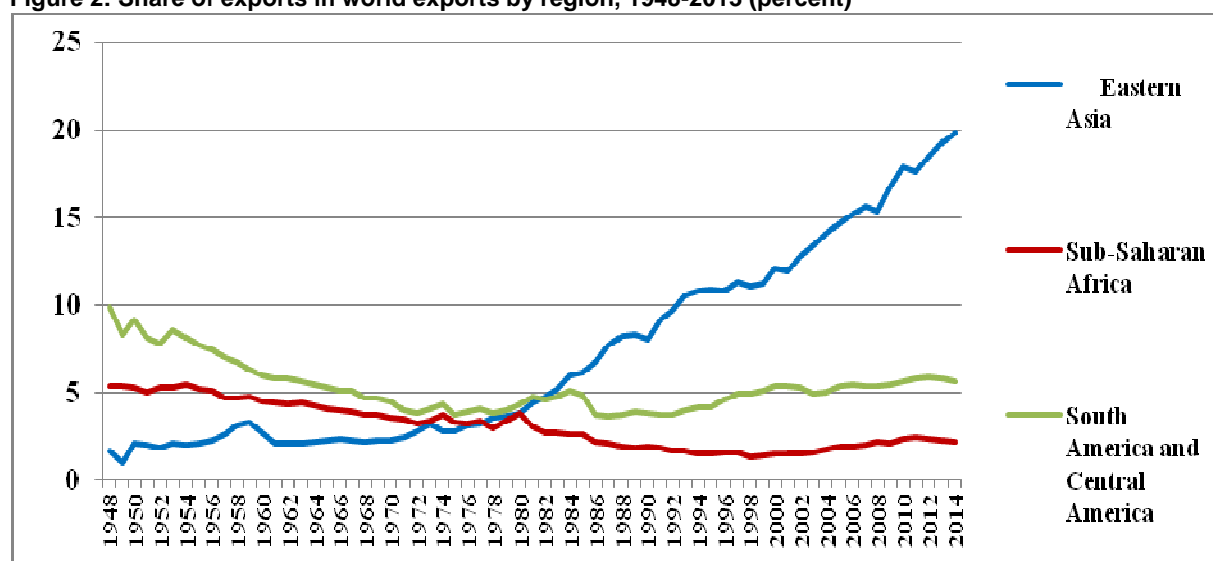
Source: World Bank World Development Indicators, March 2015.

² Except for South Africa and six other upper-middle- and high-income countries, 26 SSA countries are classified as low-income countries, according to the World Bank, low-income countries being defined by a GNI per capita of 1045\$ or less in 2013, and high-income economies by a GNI per capita of 12746\$ or more. <http://data.worldbank.org/about/country-and-lending-groups>.

Sub-Saharan Africa can be viewed as a region and analysed as a whole, despite the diversity of its economies, as the latter share a series of crucial traits. Above all, SSA economies display a similar export pattern, where exports are dominated by primary commodities. Dependence is the highest for oil countries (e.g., Nigeria, Angola), where exports can represent more than 90% of exports, and has been in some cases aggravated by Dutch disease effects. Such a commodity-based export structure has been remarkably resilient over the 20th century. According to the World Bank World Development Indicators 2014³, in 2013, the structure of SSA exports was the following: food represented 13% of total merchandise exports (14% in 2000); agricultural raw materials, 3% (5% in 2000); fuels, 41% (44% in 2000); ores and metals, 15% (7% in 2000); and manufactures, 27% (27% in 2000).

This must be compared to the composition of exports for the East Asia and Pacific region, with 83% in manufactures in 2013 (82% in 2000). East Asian ‘developmental states’ (Japan, South Korea, Taiwan, and today China) could achieve this export performance because at the beginning of their catch-up these economies were able to successfully implement industrial policies (Johnson, 1982; Amsden, 1989; Wade, 1990), in addition to high rates of literacy and low inequality, and a low endowments in natural resources – the fact that this endowment enabled to enter in a trajectory of labour-intensive industrialisation being a matter of debate. East Asian developmental states have been able to achieve transition out of the category of ‘developing countries’, in contrast with SSA. The divergence between SSA and the rest of the world has been deepened by East Asia’s growth.

Figure 2: Share of exports in world exports by region, 1948-2013 (percent)

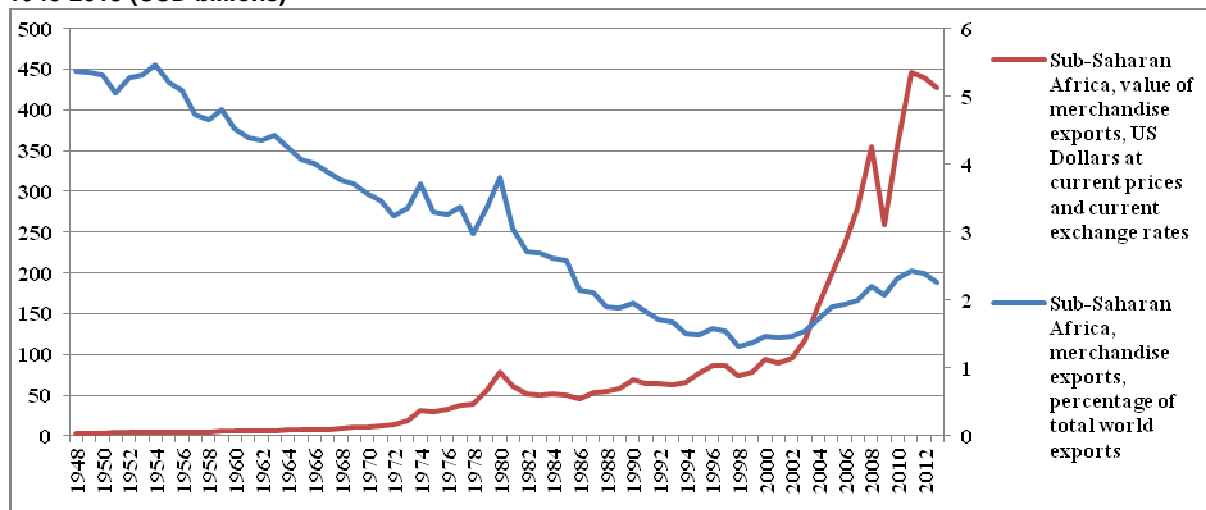


Source: UNCTAD Statistics: <http://unctadstat.unctad.org>, April 2015.

Consequently, industrial sectors in SSA are narrow, and moreover, are based on natural resources: in SSA (including South Africa), 49% of the manufacturing value-added in 2011 was resource-based, 24.9% was low-tech, 26.1% was medium and high-tech (UNIDO, 2013). This shows the difficulty of SSA in shifting towards a non-resource-based industrialisation. High commodity prices (and emerging countries’ demand) in the 2000s have been an incentive to remain in this export pattern and a disincentive to diversify towards manufactures. This has contributed to a decline in the share of SSA in global trade, due the low value added of SSA exports.

³Table 4.4: <http://wdi.worldbank.org/table/4.4>

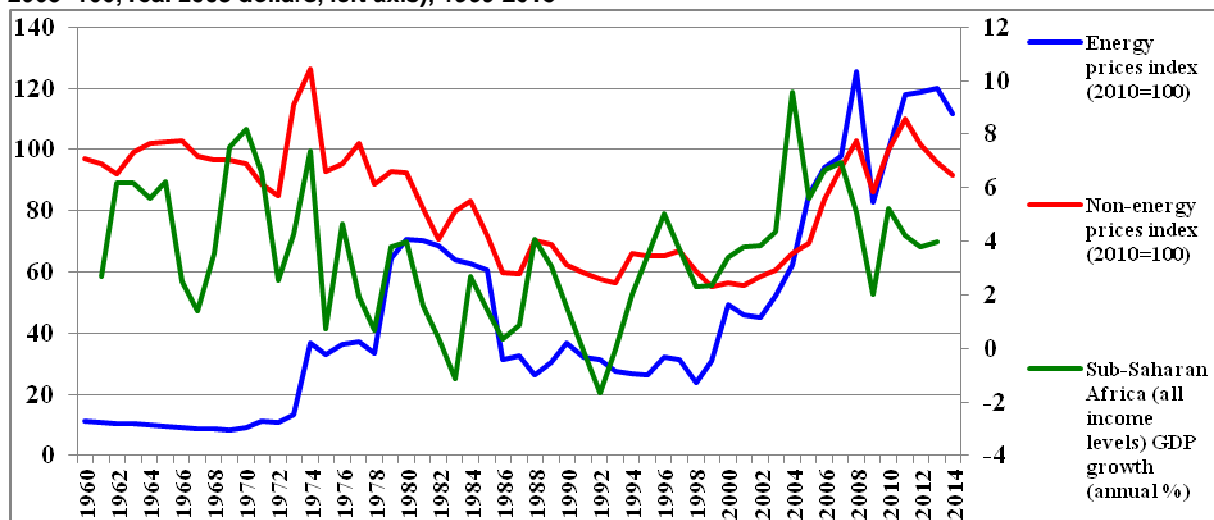
Figure 3: Sub-Saharan Africa's exports: percentage of world exports (right axis) and value (left axis), 1948-2013 (USD billions)



Source: UNCTAD Statistics: <http://unctadstat.unctad.org>, March 2015.

Growth rates in SSA are therefore driven by determinants characterised by volatility and uncertainty (international commodity prices) and forces on which governments have no power (global imbalances and global demand, e.g., from China). Growth rates follow the fluctuation of international commodity prices – this is typically the case of oil countries but also countries based on the export of copper (such as Zambia) or diamonds (such as Botswana).

Figure 4: Sub-Saharan Africa: growth rate (right axis) and commodity prices (annual price index, 2005=100, real 2005 dollars, left axis), 1960-2013



Source: World Bank World Development Indicators, and World Bank Commodity Price Data ('pink sheet', Prospects website): <http://go.worldbank.org/4ROCCIEQ50>, March 2015.

Taxes typically belong to the 'easy to collect' category (Aizenman and Jinjark, 2006), following the post-colonial scheme of taxes based on trade. In 2011, more than 60% of public revenues originated from natural resources in oil countries (World Bank, 2012). Being based on primary commodities with volatile prices, fiscal revenues are thus themselves volatile, with the associated detrimental impact on public investment, and therefore growth.

Sub-Saharan African countries also share other commonalities, i.e. a specific nexus of economic, social and political relationships. SSA is the part of the world exhibiting the highest inequality (along with some countries in Latin America); interestingly, South Africa, the most industrialised country in SSA, is the most unequal country in the world (a Gini index of 65 in

2011⁴). Levels of health of education are also very low and, in some countries, are deteriorating (SSA displays the lowest male literacy rate in the world, 68% of age 15 and older on the averaged period 2005-13⁵). Since independence in the late 1950s-early 1960s, many SSA states remain plagued by political instability and civil wars. Formal democracies spread from the 1990s onwards and political coups diminished (Posner and Young, 2007). Authoritarian governments (and even predatory personal rule) and absence of rule of law (and pervasive corruption) remain widespread, however – the ‘predatory’ character of rulers having been analysed by Evans (1989) as the exact opposite of the ‘developmental’ character of East Asian states and their capacity to implement successfully industrial policies. SSA also exhibits the highest rate of capital flight in the world, moreover increasing since the 1970s, with SSA oil countries displaying a much higher rate than non-oil countries (Ndikumana et al., 2014).

The institution of the state is affected in SSA countries by a number of issues, which have contributed to its limited capacity to intervene in the economy, due to a combination of recent creation, low income (poverty) and a very low tax ratio, around 15% in low-income countries (Le et al., 2012). Public investment is therefore achieved by foreign aid. Due to the large number of low-income countries in SSA, the continent is the most aided in the world (outside the Pacific islands), with, in 2012, an aid/GNI ratio of 3.1% (official development assistance representing 14.9% of capital formation and 8.3% of imports of goods and services⁶). This generates the vicious circle of weak legitimacy of governments and their public policies due to their dependence on foreign aid (governments being more accountable to foreign donors than their citizens, Kaldor, 1963; Moss et al., 2006), externalisation of policies as IFIs aid comes with policy conditionalities (those of adjustment and stabilisation programmes, and now ‘good governance’ conditionalities), limited redistributive capacity and ability to provide public goods (infrastructure, education, health), which in turn feed tax evasion and further weaken state capacity.

B.2. ‘STRUCTURAL CHANGE’ AS A LEITMOTIV WITHIN DEVELOPMENT AGENCIES SINCE THE EARLY 2010S

In view of these facts, assessments have differed. The conceptual difficulty here is to analyse the causes of events that did not happen, notably the constraints that prevent an event from happening: the constraints resulting in lack of change, i.e. those generating stability, similarity, and the perpetual reproduction of a regime.

Interestingly, the IFIs also view the commodity-based export pattern, and taxation based on commodities, as a key cause of vulnerability to shocks. The World Bank acknowledges that with such an export pattern, fiscal revenues are very vulnerable to commodity price volatility and terms of trade shocks, and that it hinders public investment, notably in infrastructure (World Bank, 2014), infrastructure being indeed very poor in SSA. The IFIs – both the World Bank (e.g., Loayza et al., 2007) and the IMF (Spatafora and Tytell, 2009) – consider the recurrence of shocks as a cause of low growth. The IMF also underscores that a commodity such as oil typically destabilises states and fosters corruption (Arezki and Brückner, 2009).

Other studies make different assessments. Among the most well-known of them, it has been argued that one should, in fact, not see any stagnation or divergence, and that SSA has exhibited a steady growth since the mid-20th century, even if the growth has been slow (Easterly, 2005). It has also been argued that low growth actually expresses a succession of growth accelerations and decelerations (Hausmann et al., 2005). Other studies, in contrast, view an export pattern where primary commodities dominate as a root cause of what UNCTAD has

⁴ World Bank World Development Indicators, table 2.9: <http://wdi.worldbank.org/table/2.9>

⁵ World Bank World Development Indicators, table 2.13: <http://wdi.worldbank.org/table/2.13>

⁶ See OECD-DAC statistics: <http://www.oecd.org/dac/stats/data.htm>; also World Bank World Development Indicators, table 6.11: <http://wdi.worldbank.org/table/6.11>

coined the ‘international poverty trap’ (UNCTAD, 2002), and of stagnation of SSA economies (Nissanke, 2011; Sindzingre, 2010).

In view of SSA evolutions since the period of independence, international agencies centred on development elaborated in the early-2010s a conceptual framework that underscored ‘the need for’, the ‘necessity of’ ‘structural change’, the latter being viewed as ‘both the cause and the effect of economic growth’ (Timmer et al., 2012), after, for the IFIs, three decades of focus on growth and fiscal adjustment as the main route to it. This concept of ‘structural change’ relies on a simplified view of the Lewis (1954) dual-sector model (agricultural and industrial, capitalist and farmers), this dualism characterising, for Lewis, developing countries, i.e. a labour surplus moving from agriculture to industry and urban jobs and an ‘unlimited supply of rural labour’ being a condition of industrialisation. Such a two-sector model contrasts a low-productivity sector with excess labour (usually agriculture) and a high-productivity sector (usually manufacturing) (Matsuyama, 1992). The high-productivity sector is profitable due to the existence of this surplus of labour with low wages, and it fosters higher capital formation, which drives growth (Das and N’diaye, 2013). Development agencies keep a simple dualistic approach, and define ‘structural change’ as a shift of labour from agriculture to industry (or manufacturing) – both sectors being characterised by technology differences (Eberhardt and Teal, 2013), as the capacity for an economy to diversify from traditional, low-productivity products to ‘non-traditional’, high-productivity ones (IMF, 2012) or as the reallocation of labour from low- to high-productivity activities and sectors: in developing countries, usually a shift of labour from subsistence agriculture to commercial agriculture, manufacturing and modern services (Martins, 2014). Indeed, there is an ambiguity regarding as to whether or not services are an industry, but this is problematic in developing countries, where services are already dominant, such as trade, and are not vectors of any change (such as petty trade). Another ambiguity is as to whether agriculture is a vector of structural change, as agriculture may be an industry, but in developing countries it is also subsistence: for all these categories, thresholds are difficult to establish. In addition, structural change is measured by various indicators: e.g., increases in productivity, changes in the composition of exports; for Timmer et al. (2012), the key indicators are i) a declining share of agriculture in GDP and employment; ii) the process of urbanization; iii) the rise of a modern industrial and service economy, and iv) a demographic transition from high to low rates of births and deaths.

An IMF report devoted to SSA (in the ‘Outlooks’ series, IMF, 2012) has thus explored whether structural transformation has occurred across countries in SSA from 1995 to 2010. Similarly, United Nations agencies centred on development have devoted some of their flagship reports to structural change. (e.g., UNECA, 2015) or regional development banks (e.g., African Development Bank-OECD, 2013). UNCTAD also used the concept of structural change at the same period, with however, different policy recommendations, as traditionally UNCTAD supports a more ‘heterodox’ stance than the IFIs and even other UN agencies.

Academic research focused on development has also examined this ‘need’ for a structural change that fails to happen, and explored the constraints that prevent such a change, particularly in SSA (a feature of development economics is that much academic research is driven by international agencies, both financially and in terms of paradigm formation). Structural change is defined via a variety of indicators – among others, gains in productivity, total factor productivity, export sophistication (Hausmann et al., 2007), changes in patterns of specialisation (Fagerberg, 2000). As underscored by Mcmillan and Rodrik (2011) and Mcmillan et al. (2014), large gaps in labour productivity between the traditional and modern sectors are a key characteristic of developing countries, and a key driver of development is the flow of labour from low-productivity to high-productivity activities. A major obstacle to structural change in commodity-based countries is that integration into the world economy reduces incentives to diversify towards manufactures. Moreover, commodity sectors such as minerals exhibit high levels of labour productivity but a low level of employment, and structural change associated with participation in

international markets remains limited. Mcmillan and Rodrik underscore that patterns of structural change differ, with labour moving from low- to high-productivity sectors in Asia, but in the opposite direction in Latin America and SSA: this is why since 1990, in countries with a large share of natural resources in exports, structural change has been growth-reducing. This literature gives a variety of responses to the question of why some economies have the capacity to achieve 'structural change', and others not: for instance, being able to accumulate productive knowledge (Hausmann, 2012) or foster innovation (Rodrik, 2013) - both Hausmann and Rodrik underscoring that in developing countries the recurrence of market failures (regarding, e.g., informational spillovers, coordination of investment policies) makes public action necessary (in particular industrial policies). This literature acknowledges the relevance of institutions for the success of industrial policies – e.g., for Rodrik (2013), political leadership, coordination councils and accountability mechanisms.

B.3. QUESTIONING THE CONCEPT OF 'STRUCTURAL CHANGE': THE RELEVANCE OF THE REGULATION CONCEPTUAL FRAMEWORK

These views of structural change by international financial agencies are affected by several flaws, and firstly a conceptualisation that remains shallow. The concept of structure is confused and refers to several phenomena - market structure, export structure, economic structure. The use of this word is not made explicit, though structure precisely implies the notion of an arrangement that is fundamental and durable. Elements of this structure are not explained: they are presented as purely economic and driven by economic forces, such as incentives. Moreover, due to a loose borrowing of the Lewis model, the concept is even restrained to a simple duality of structures, and therefore a simple view of change: agriculture vs. industry, rural vs. urban, etc. and with ambiguity in the indicators, e.g., export structure, share of industry in value added or in employment. Change may be viewed as stemming from an endogenous process or coming from exogenous forces, but the state and public policies are typically viewed by the IFIs as sub-optimal or causes of distortions and inefficiencies.

IFIs and development agencies' view of 'structural change' overlook the fact that structural change is in essence an holistic change – which is obvious from the very moment they use the word 'structural'. In the Lewis dual model, structure refers to a totality of relationships, and Lewis himself insisted on the power relationships implied by his model, e.g., by the distinction between 'capitalists' and 'farmers'. The view of structural change by development agencies does not include any conceptualisation of power relationships. These agencies overlook the fact that a 'structure' involves institutional and political relationships: e.g. inequality, policy externalisation (legitimacy of rulers and taxation), capacity of the governments to implement policies as in Asian developmental states (education, infrastructure), this being doomed to a limited pertinence. Moreover, even if political or institutional dimensions are considered, they are examined through the lenses of neo-institutional economics. Various senses of neo-institutionalism can be used, e.g. Douglass North or the economic and political institutions analysed by Daron Acemoglu and James Robinson. The concept of 'institutions', however, keeps neo-institutionalism's functionalism, with institutions defined by their function, e.g. reducing transaction costs, information costs, etc. The limitations of these views, though dominant in the mainstream literature, have been underscored by many studies. Similarly, political phenomena are apprehended through the lens of positive political economy, via models of political entities explaining the persistence of 'inefficient' institutions, e.g., oligarchies, or by notions such as 'extractive' (anti-developmental) vs. 'inclusive' (developmental) institutions (Acemoglu and Robinson, 2012). 'Institutions' are often proxied by notions such as 'governance' and its reform (e.g. 'reducing corruption') or sets of appropriate incentives, as explicitly denoted by the title of the World Bank World Development Report devoted to institutions (World Bank, 2002).

Equally, the policies recommended for triggering 'structural change' are based on market instruments and public policies that must avoid distorting the incentives provided by markets. This stance is typically defended by the World Bank, which since the three decades of adjustment programmes under-address the effects of the export regime: the possible detrimental effects of the exporting of commodities can be solved by market instruments, e.g. insurance or hedging. Here the World Bank contrasts with the IMF (as the IMF mandate differs from that of the World Bank), which is more focused on the stability of fiscal balance, the increase of public revenue and taxation reform (e.g., VAT), and the smoothing of shocks via fiscal and monetary policies (sterilisation policies), countercyclical policies, sovereign funds and the like.

Interestingly, in their recommendation of structural change and shift to manufactures, the IFIs remain explicitly opposed to the industrial policies (exoneration, subsidies, tariffs) recommended by 'heterodox' views as the best means to achieve industrialisation in poor developing countries, as these industrial policies constitute a distortion that is antithetical to the liberalisation policies recommended by IFIs in their programmes as the only route towards growth. East Asian 'developmental states' demonstrated that these industrial policies have been the root cause of their capacity to accomplish structural change, and this highlights the inconsistency of IFIs analyses (these industrial policies have indeed become much more difficult to achieve for latecomers due to IFIs policies and WTO rules, compared with the policy space enjoyed by East Asian states at the time of their catch-up, Amsden, 1997). Equally interestingly, the IFIs also under-address the fact that the current situation where poor countries have not achieved this structural change and remain stuck in low-productivity sectors has followed three decades of programmes of stabilisation and adjustment prescribed by the same IFIs. These programmes precisely started in SSA in 1980, and, as coined by a former World Bank economist, resulted in two decades – the 'lost decades' – of 'stagnation in spite of policy reform' (Easterly, 2001). Moreover, the decades of growth in SSA during the 2000s, recurrently praised by the IFIs as successes, have been precisely driven by the export pattern based on primary commodities that 'structural change' is supposed to transform. Indeed, willing to detect structural change under the growth of the 2000s, which is fact driven by commodity prices, the IFIs are confronted with the fact that structural change in SSA does not appear to have actually happened in many countries, and express some hesitation: the IMF thus observes that 'it is not obvious' that the transformation through low-wage manufacturing implemented by East Asia will be the path of SSA countries, and that change may be achieved others through services, or through the transformation of their agricultural sector (IMF, 2012, chap. 3).

Regulation theory is here a powerful framework for a critical assessment of this revisited concept of 'structural change' and the causalities associated with it. Change in capitalist relationships is one of its central focuses (Jessop, 1990), and it has elaborated more accurate and complex concepts: regime of accumulation, transformation and transitions from one regime to another, their embeddedness in institutions, politics and conflicts (e.g., the concept of compromise, which explains the stability of a regime), and the coevolution between regimes and institutions (Boyer and Saillard, 2002a). Regulation theory, in particular, enables the assessment of the concept of structure via that of institutions: structural change for the international agencies loosely mentions that 'institutions' could 'matter', institutions being conceptualised within the neo-institutionalist framework. Regulation theory does not use the word 'structure' in the broad sense of economic structures, as do economists within the IFIs. Moreover regulation consistently underscores that capitalism is firstly a dynamic process (whether it is affected by imbalances or crises). When the qualification of 'structural' is mentioned, it does not denote a structuralist model of reproduction – indeed, accumulation regimes and modes of regulation emerge in a contingent way (Jessop, 1990). This may be for denoting institutional forms, e.g., specific 'structural forms' (Boyer, 2004; Petit, 2005) (the transformation of social relations creating new forms that are organised in structures reproducing the determinant structure of the mode of

production, Jessop, 1995), and also for denoting major crises ('structural crises'), i.e. those that affect the modes of regulation and accumulation regimes (Boyer and Saillard, 2002b).

c. COMPLEMENTING REGULATION THEORY: DEVELOPING COUNTRIES AS CAUGHT IN TRAPPING PROCESSES REINFORCED BY INSTITUTIONS

Regulation theory has powerfully explained the different regimes prevailing in developed/industrialised – capitalist- countries, the modalities of transition from one to another and the crises to which they could be exposed. The conceptual framework of regulation has indeed analysed the mode of insertion into the international regime as one of the five institutional forms that ground the regularities of a particular economic configuration (Boyer, 2004; Petit, 2005).

Developing countries, however, have been subject to lesser attention, notably their specific characteristics, among them the fact that they remain 'developing', i.e. the continuation and perhaps even stabilisation of regimes of production and accumulation over a *longue durée* – indeed regulation theory has centred on the analysis of change (Boyer and Saillard, 2002b).

c.1. CUMULATIVE CAUSATION NOT IN GROWTH, BUT IN STAGNATION

It is argued, however; that low income countries appear to be subject to a specific modality of evolution, i.e. processes of cumulative causation and traps. The renewed focus by international development agencies on structural change underestimates a key obstacle to it: the fact that poorer economies can typically be caught in processes of cumulative causation and self-reinforcing mechanisms that stabilise 'traps' and 'low equilibria' (as it may be also the case for middle-income countries, as acknowledged by the IFIs themselves and their recent interest in 'middle-income traps').

For its part, regulation theory has given much attention to cumulative causation: however, it has centred more on processes of cumulative growth, which, within the circuit of productivity gains, identifies the retroaction between organisation (or production) and demand (Petit, 2002). Similarly, regulation theory has underscored the endogenous character of the dynamics of change, e.g. via the concept of mode of regulation as a mechanism of coherence, and modes of development as a combination of accumulation regime and mode of regulation – regulation being either functional with malfunctionings being within the mode of regulation, or subject to crises, e.g. of the accumulation regime (Boyer and Saillard, 2002b). Stability in low growth over a long period of time, as in low-income countries, is indeed an endogenous process: it is precisely this stability that persists despite malfunctionings or crises, which appears to express a typical endogenous dynamic such as that of cumulative causation and self-reinforcing mechanisms. In low-income countries, this endogenous cumulative causation, however, instead of cumulative growth, appears to generate 'cumulative stagnation'.

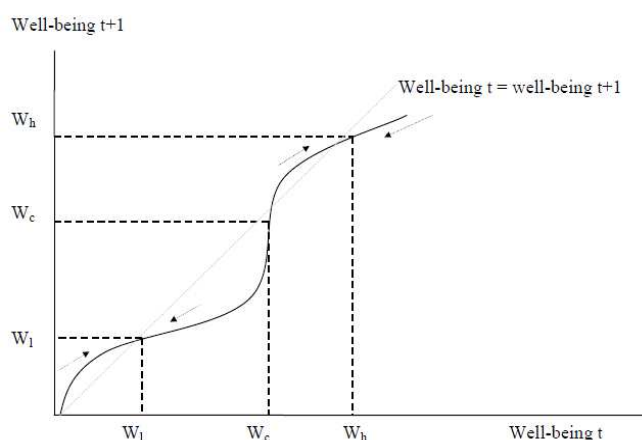
Theories that analyse cumulative causation, self-reinforcing processes, feedback effects, irreversibility, display here a strong explanatory power, as well as the related concepts of multiple equilibria, non-linearities and threshold effects (e.g., phase transitions). They can be integrated in the theory of regulation, as they explain low equilibria and absence of – or severe constraints to – change. Indeed these conceptual frameworks have much in common, for example regarding instabilities, the absence of the equilibrium that is defended by mainstream theory, and the existence of 'endogenously generated equilibria' (Arthur, 2013) and causation created by combinations of causes rather than a case in isolation (as underscored by the institutional coherence of modes of regulation). This perspective has been developed, in particular, by Arthur

(1994), or David (regarding the mechanisms of path dependence, David, 2001). It underscores the importance of non-linear processes in growth, as opposed to linear ones, where all variables vary proportionately. In non-linear processes, a quantitative change, even small, induce a qualitative change, at a given point of time. Typically, such changes cannot be predicted *ex ante* (or only for omniscient brains that would be able to apprehend highly complex processes).

A poverty trap is a particular example of these processes, and may be defined as ‘a self-perpetuating condition whereby an economy, caught in a vicious circle, suffers from persistent underdevelopment’ – many causes having been identified, e.g., learning-by-doing externalities, financial development, market size, and demography (Matsuyama, 2008). For an economy, household or an individual, it is a stable equilibrium at a low level of wealth, a ‘low-level attractor’ out of which it is impossible to get (Ravallion, 2009). As underscored by Azariadis and Stachurski (2005, inefficient equilibria reinforce themselves, and increasing returns are typically departures from the competitive neoclassical benchmark: increasing returns are crucial because development is almost synonymous with industrialisation.

The conceptualisation of trapping processes draws on this perspective and it is argued that it gives an accurate account of low-income countries trajectories. In contrast with standard economic models of growth, the existence of multiple dynamic equilibria is assumed, and consequently the growth function is S-shaped, with stable dynamic equilibria at high and low levels of welfare (W_h and W_l) with at least one unstable dynamic equilibrium, a critical threshold (W_c). After a shock, in an unstable equilibrium, the direction of change in well-being bifurcates from growth to decline at the unstable equilibrium (Barrett and Swallow, 2006). As shown by Barrett and Swallow, limited initial endowments may trap households in the basin of attraction of the low-level equilibrium, and if they are small, transfers generate only modest gains.

Figure 5: The dynamics of a poverty trap



Source: adapted from Barrett and Swallow (2006).

c.2. INSTITUTIONS AS COMPOSITE ENTITIES AND THEIR CONTRIBUTION TO TRAPPING PROCESSES

Regulation theory has given much attention to institutions as a foundation of the economic and social regularities of a particular regime of production and accumulation, as shown by the importance of the concept of institutional form and its disaggregation in five different modalities (money, wage relationship, competition, international insertion, and the state). It has also underscored the impact of institutional forms on modes of regulation and accumulation regimes respectively, with the possibility of incompatibility of institutional forms and economic dynamics, which are the root causes of crises (Boyer and Saillard, 2002b). This powerful conceptualisation of institutions, however, may be viewed as broad, as institutional forms may qualify a wide range

of economic relationships (money, wage-labour, competition, international insertion, the state). Regulation indeed remains more a macro approach (Jessop, 1995) – the critical analysis of the micro phenomena has been more explored, in particular, by conventions theory.

It is argued that institutions (and social norms) contribute to the cumulative causation processes that typically generate traps in low-income countries. Institutions and policies are endogenous to low levels of development and export structures (e.g., commodity-dependence) and are hence likely to generate state and institutions' failure (e.g., autocracies), and therefore likely to become part of cumulative causation processes that prevent structural change.

Traps are macro, as with, e.g. a certain mode of production and international insertion, as rightly shown by regulation theory: the exporting of commodities and asymmetric insertion in global value chains may be an impoverishing process (Milberg and Winkler, 2013). Traps are also generated by micro self-reinforcing processes. The literature is large on these feedback processes and 'low equilibria', which prevent change, maintain individuals in a situation of low income and low access to public goods – undermining their opportunity to change their condition – and which foster the persistence of status quo. For example, norms may emerge from repeated social interactions (e.g., Durlauf and Young, 2001; Young, 2001). Coordination failures and networks externalities explain the persistence of social arrangements (Arthur, 1989), a famous example being particular technical choices (David, 1985). Traps are also generated by social norms and may build 'institutional traps' (Bowles, 2006; Sindzingre, 2007a).

Traps may therefore display a 'fractal' morphology, i.e. their mechanisms link all levels, and low dynamic equilibria exist simultaneously at multiple scales – micro (households, individuals), meso and macro – and are self-reinforcing, this simultaneity building a stable dynamic low equilibrium, out of which escape is difficult (Barrett and Swallow, 2006). The studies of development agencies mentioned above under-address the pervasiveness of such trapping dynamics in poorer economies and therefore the fact that structural change requires processes – shocks or incremental – that are capable of breaking cumulative causation and traps in all their dimensions – micro, meso, macro, e.g., markets, public policies, political institutions – in their 'fractal' simultaneity.

Yet public policies, as shown by regulation theory, i.e. the state as an institutional form, have the ability to modify the mode of regulation and the regime of accumulation: it is what happened in many commodity-based economies, e.g. Norway, Canada, Australia, but also historically in the United States, precisely via the establishing of institutions channelling the gains from commodities in others institutions paving the way for industrialisation (e.g. educational institutions) (Wright, 1990; Wright and Czelusta, 2002).

In addition, institutions are entities that are both narrower and more complex than their conceptualisation, obviously by the mainstream theories of 'structural change', but also by regulation theory. The causal mechanisms of stabilisation in trapping processes do not involve purely economic phenomena: mental representations and beliefs fully contribute to the formation of cumulative processes and traps. Indeed, constraints to 'structural transformation' are compounded by a fact that is under-addressed in the mainstream literature on structural change, that a 'structure', 'structural change', institutions, and cumulative causation processes also involve individual beliefs (mental representations). Yet this fact is central to other conceptual frameworks, notably cognitive psychology, evolutionary psychology, evolutionary economics – yet the results from these neighbouring disciplines are most often ignored by mainstream economics, notably regarding development or growth economics, though they address the foundations of the concept they use (e.g., structure, change). In particular, beliefs coevolve with institutions, and more generally with economic phenomena (Richerson and Boyd, 2005). When they are collectively shared, these individual representations may generate social rules and institutions, and depending on their content, relevance and dissemination, they may prevent, or, on the contrary, accelerate transformation.

Institutions are indeed composite entities and are made of forms and contents, notably mental representations (Sindzingre, 2007b; 2014). Some mental representations are more stable and disseminated than others in given contexts, because they may be more cognitively relevant (Sperber, 2000) or have the property of being reproduced more easily than others (Dawkins', 1976, 'memes'); they generate social norms and institutions that are therefore more stable and more disseminated than others: for example those related to 'core' institutions, i.e. to group membership (Sindzingre, 2012).

A consequence is that causation is also complex: the exact channels according to which institutions can 'cause' a change in a regime (or an absence of change) remain most often under-addressed. They are indeed more complex than the argument that p 'causes' q, economic institutions 'cause' economic phenomena, or power relationships 'cause' economic phenomena. Causation is here indeterminate *ex ante*, and mental representations – in a more cognitive sense than concepts such as, e.g., conventions or routines – strongly contribute to change or to stabilisation. Causalities combine among themselves, with cumulative causation being an outcome: different elements with uncertain outcomes taken in isolation reinforce themselves when they combine among themselves. Institutions combine with the mode of production and international insertion: for example, dominance of commodities with low value added, narrow industrial sectors, weak states and a political economy based on predation.

Beliefs are also endogenous to levels of development; they are crucial elements of the cumulative causation processes that shape public policies, institutions and the conditions of any change or transition: beliefs and the associated rules may reinforce the other elements of cumulative causation (economic, political), while simultaneously they may be reinforced by individual perceptions created by economic (or political) environments, thus stabilising low equilibria (e.g., low productivity poverty traps). For example, as shown by Hoff and Pandey (2004) in the example of India and beliefs created by the caste system, the more one is discriminated against, the more one is poor, the more one believes that one cannot succeed, and the more one fails (e.g. at school), thus perpetuating low income. Beliefs and norms, however, can also be contradicted by exposure to these environments, which may lead individuals to revise these beliefs. Low income developing countries, and in particular many SSA countries, may be characterised by the absence of, or by different contents of these institutional forms. These countries are also characterised by a coexistence of a capitalist mode of accumulation (within countries and in their international insertion) with non capitalist modes of exchange and social norms, the causal mechanisms of these on individual behaviour and their macroeconomic consequences requiring complex and case-by-case analyses.

A key characteristic of low-income countries relates to the nature of the state, which is different from states in developed countries and their consolidated democracies, constituting a crucial distinction with the conceptual space where regulation theory has been elaborated, e.g., Europe, US, Japan. Particularly in poorer countries, but also in middle-income ones, typically oil countries (e.g. Angola, Nigeria), states may be 'weak', 'absent', 'captured' or 'privatised' by various interest groups: a weak state combined with a mode of production and accumulation based on primary commodity means predation and representation of the state as a (economic and political) resource to be appropriated by individuals (with democratic forms either emptied of their content by a private appropriation of constitutions' rules, or a democratic changeover that reproduces the same mode of accumulation). Hence states as institutions and their public policies cannot participate in a wider institutional coherence and foster other developmental institutions (as argued by Wright), they cannot modify regimes of accumulation nor modes of regulation.

This view of institutions as grounded in mental representations explains the formation of trapping processes. A sub-set of beliefs and associated social norms are more stable than others from an evolutionary and cognitive perspective, and less transformable by politics and policies, particularly in low-income countries where a meta-level such as the state is absent: these are the beliefs and institutions creating group memberships and hierarchies. As institutions are

composite entities, their transformation is already more complex and less *ex ante* predictable than other economic entities (e.g. measurable aggregates): these beliefs related to memberships and hierarchies constitute important constraints on regime change and must be integrated in the conceptualisation of transition processes. In low-income countries with weak states, i.e. in the absence of the meta-norms and affiliations provided by the state, lower social levels are more relevant for individuals. In particular, institutions are not equivalent in their capacity to organise or enforce individuals' behaviour: many institutions are less relevant, disseminated and stable than what can be coined as 'core' institutions, i.e. those organising group membership (e.g., lineages, allegiances to a variety of groups, territorial, occupational), etc. Both memberships and neighbourhood effects typically create self-perpetuating traps, as individual beliefs on the behaviour of others influence oneself behaviour, generating groups (Durlauf, 2002; 2003). Religious beliefs are typical beliefs that are more relevant for individuals in the absence of the state, and moreover provide high psychological rewards (Ginges et al., 2011). These institutions govern lower social levels (lineages, territories) than that of the state; importantly, they institute social norms: in low-income developing countries, due to the limited extension of states (bureaucracy and power), these institutional levels are causes of stabilisation in poverty traps much more than in Western economies where the state is a major cause of economic dynamics at the scale of a nation. In particular, these lower social levels institute hierarchies that strongly differ from those of capitalism and its individual mobility (even if the latter is an ideal-type): these hierarchies are instituted by birth, which is a non transformable and non negotiable attribute and therefore, in contrast with capitalist hierarchies, fix individuals in immutable statuses (e.g. intra-group hierarchies or hierarchies between groups) (Sindzingre and Tricou, 2012).

Several causal channels – specific economic features, political and social institutions – have combined in SSA and built the ingredients of a stabilisation in stagnation. Commodity-based export structures induce specific political-economic nexuses, in particular the treatment of the commodity as a rent privately used by rulers, which the latter can redistribute to various clienteles in order to stay in power. Political instability and political competition over states' resources has fostered a short time frame for rulers, notably the perception that prosperous local entrepreneurs could be political threats, for instance in the industrial sector (Van de Walle, 2001). Rulers favoured patronage in their relationships with public or private firms, or at the extreme, sometimes preferred genuine 'anti-developmental' policies (e.g., predation, as in ex-Zaire) (Acemoglu and Robinson, 2006). For citizens, it has been therefore more rational to 'exit' from the state and rely on lower social levels, which are more apt to provide social protection: this generates detrimental vicious circles because this weakens further the state in reducing the tax base, and state legitimacy via citizens' adherence to local social norms outside of the meta-norms of the state. Many SSA countries have thus been caught in trapping, self-reinforcing processes combining commodity dependence and patronage-based rents, making the escape through public policies (industrial policies) very difficult.

The existence of feedback and self-reinforcing effects is here crucial, i.e. that the weaker an institution such as the state, the stronger these core institutions and the associated beliefs. This conceptualisation of institutions as composite entities refines the analysis of institutions elaborated by regulation theory and instead of concepts that imply change, e.g. growth, accumulation, crises, refine the concept of institutional forms and explain how in fact they generate stabilisation in a regime of poverty.

D. CONCLUSION

The paper has critically assessed the notion of 'structural change' put forward by international development agencies as a necessity for low-income countries. It has demonstrated its conceptual weaknesses via the example of Sub-Saharan African countries as they share a series of characteristics: commodity-based exports and comparable nexuses of political, economic

relationships - which differ from capitalist economies while including also capitalist relationships (within countries and in their international insertion). The paper has shown that the concepts of regulation theory, though ignored by the mainstream literature on development, both within international agencies and academia, are far more powerful in explaining the trajectories of developing countries and the determinants of transition, e.g. via the concepts of accumulation regime, institutional forms and mode of regulation.

Regulation theory, however, has devoted more attention to capitalist and developed economies. It has more thoroughly investigated growth and/or accumulation regimes and the various modalities of transition between them, and less the regimes of stagnation, which appear to characterise a region such as Sub-Saharan Africa. The paper has therefore proposed a complementing of regulation theory with the conceptual framework of trapping processes. It has enriched this latter approach with a conceptualisation of institutions and social norms as composite entities that can combine with economic features, such as commodity-dependence, resulting *in fine* in an absence of transition and in stabilisation in economic stagnation.

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