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Abstract

Using market-based pro-poor development policy in the global South as an example, this paper engages with the rise of behaviourism and experimentalism as a challenge to the neoclassical orthodoxy and the more recent transformation into an influential policy script. After charting the rise of behavioural economics and discussing the key conceptual building blocks of the emerging behavioural mainstream in economics, the paper turns to the marketization of anti-poverty policy in the global South. Based on an analysis of policy documents, project reports and academic interventions, it is argued that the behavioural approach to poverty shifts the focus from the market to the market subject and engages in often thinly veiled attempts at behavioural engineering. This is achieved with the combined work of behavioural economic knowledge and socio-technical market devices.

Keywords: behavioural economics; experiments; marketization; pro-poor development; geography.

1. Introduction

Standard economic thinking about what constitutes economy and economics has been increasingly called into question by approaches such as behavioural economics, experimental economics or game theory. These approaches take

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aim at key foundational principles of neoclassical economics and redefine the discipline as a more realistic empirical and experimental endeavour (Heukelom, 2012; Santos, 2011). Emerging from a lively exchange between economists, mathematicians and psychologists during the 1950s and 1960s, they have a lot in common, above all a shared interest in experimental, empirical work and inductive reasoning. Existing differences notwithstanding, it is justified in the light of this shared intellectual heritage to speak of a broader behavioural project as a challenger to standard economic theory.

The increasing importance of behavioural economics has not gone unnoticed in the social sciences more generally. There is a fledgling critical debate on the broader implications of the revival of behaviourism in economics. One strand of this debate takes issue with the representation of the broader behavioural project as a challenger to neoclassical economics. Behavioural economics may wage a serious challenge, but neoclassical scholars still call the shots in the discipline and continue to have the ear of politicians worldwide. What is more, there remains substantial intellectual continuity underneath the rebellious surface. By positing that rational behaviour can be learnt, behavioural economics may ultimately strengthen the belief in the efficient self-regulating market (e.g. Etzioni, 2010, pp. 380–381; Streeck, 2010). Another strand of criticism engages with the depoliticization of market-oriented interventions and problematizes the public policy effects of behaviourist approaches (Pykett, 2012, 2013; Santos, 2011, p. 719; see also Jones *et al.*, 2013). A key area in this context is finance, contributions discussing the influence of behavioural economics on state pension policies (e.g. Strauss, 2008, 2011) and the role of behavioural thought in providing alternative accounts of the 2007/2008 financial crisis (Boeckler & Berndt, 2013; Wojcik *et al.*, 2013).

I take both literatures as a starting point for my own paper, being convinced that the political implications of the 'behavioural and experimental turn' in economics warrant critical attention. Heeding Timothy Mitchell's (2005, p. 298) reminder that economics 'is important not just for what it says but for what it does', I start from the assumption that the stylized representation as standard economic theory's foe plays an important role in successfully transforming behavioural economics into an increasingly successful policy script.[1] My particular focus in this paper is the impact of behaviourism and experimentalism on anti-poverty policy in rural regions of the global South. It is important in the light of this focus briefly to clarify what this paper is about empirically: first, I analyse a particular area of development policy and have little to say about the policy influence of behavioural economics in the global South more generally. But I would maintain, with all due caution, that behavioural thinking and the use of experiments and games to change individual behaviour is certainly not limited to poor smallholders. Behavioural economics and its methodological apparatus inform anti-poverty interventions in a vast array of social and economic policy fields in rural and urban settings of the global South. Second, I argue that the interventions analysed in the paper aim at aligning individual behaviour with idealized notions of market rationality and entrepreneurialism.

This is not to say, however, that the insights of behavioural economics are only implemented in this way. The work of James Ferguson or Jamie Peck on conditional cash transfers, for instance, illustrates that these interventions may have more 'progressive' effects (Ferguson, 2007; Peck, 2011). Third, individual behavioural change is not the only way in which the development industry intervenes in the lives of the rural poor. There is a proliferation of policy discourses, and intervention informed by behaviourism is only one of them.[2] And finally, by analysing policy documents and project material, I do not make claims regarding the way these interventions actually play out 'on the ground'. By considering the material devices of behavioural engineering I make a step in this direction, but the practical materialization is an open question that can only be answered empirically.

The research presented in this paper is inspired by a literature which – following Michel Callon and Koray Çalışkan – might be loosely termed 'social studies of economization' (Çalışkan & Callon, 2010). Rather than asking what economy and economic behaviour is, research in this tradition is interested in the processes that render behaviours, institutions and rules of the game 'economic' (Callon, 2009, p. 22). In collaboration with Marc Boeckler I have worked on a geographical translation of this approach putting particular emphasis on marketization, that is, the intricate formation and expansion of markets as a particular modality of economization (Berndt & Boeckler, 2011, 2012). Labelled 'geographies of marketization', the focus is on the market as the ideal site of rational decision-making and on political attempts to align our socio-spatial realities with this utopian idea. Concrete markets are conceptualized as the result of specific constellations of people and things that shape products, prices, procedures, places of exchange and mechanisms of operation and control. The people in question are 'economists' widely defined, and the 'things' are market devices and settings, that is, calculative tools, scripts and procedures through which markets are given form.

In what follows, I develop my argument in three steps. The first section charts the rise of behaviourism and experimentalism in economics and discusses the key conceptual building blocks of the emerging behavioural mainstream. It does so by pointing to three aspects that provide the framework for the subsequent discussion of the case study in the second part of the paper: (i) a shift of attention from the market to the market subject, that is, from market failure to behavioural failure, and from market regulation to behavioural engineering; (ii) the formulation of libertarian paternalism as a policy script that is capable of overcoming both the perceived shortcomings of the interventionist state and the self-regulated market; and (iii) the development of a wide-ranging apparatus of devices and scripts that frame the settings in which behavioural engineering assumes concrete form. The second section then turns to the case study. Based on a discourse analysis of policy documents and project reports I reconstruct the specific way in which the behavioural and experimental apparatus is being translated into the marketization of smallholders in the global South. I demonstrate that behavioural and experimental rationalities connect in

ambivalent ways with classical tropes of modernization and their accompanying culturalist representations, and with a particular understanding of the state as failing and absent. In the final section, I argue that the discursive articulation of perceived backwardness and marginality is a key element in the practical realization of behaviourist ideas. This allows the development industry to transform a problem into an opportunity that can be realized with the help of behavioural engineering, thereby decontextualizing and rendering technical what are in fact highly contested situations.

2. Behaviourism, experimentalism and social engineering

Having been side-lined in economics during the 1950s and 1960s, behaviourism received a new breath of life when it came into contact with advances in cognitive psychology. In the early 1970s psychologists Daniel Kahneman and Amos Tversky co-authored a number of papers that criticized the rational-agent model. Arguably the most important intervention has been a paper that argues that people rely on a limited number of heuristic principles when making decisions under conditions of uncertainty (Tversky & Kahneman, 1974).

Following from this, Kahneman and Tversky detected an asymmetry in people's preferences: responses to losses are consistently much more intense than responses to corresponding gains. Subsequently termed 'loss aversion' and put under the label of 'prospect theory', these insights caught the interest of the economist Richard Thaler. In 1980 Thaler published a paper on consumer theory (Thaler, 1980) that has been identified by Kahneman as 'the founding text of behavioural economics' (Kahneman, 2002a, p. 12). Subsequent joint research between Kahneman, Thaler and others then established behavioural economics as a discipline finally taken seriously by economists. There is no better proof for this assessment than the award in 2002 of the Nobel Prize in Economics to Kahneman.[3]

The insights from Kahneman, Tversky, Thaler and others would be unproblematic for standard economic theory as long as these deviations were small and idiosyncratic, that is, if there was reason to assume that they would on average cancel each other out. The problem, however, is the universalist claim that there are systematic biases built into people's choices which prevent utility maximization. This is a direct challenge, at least for those who retain some notion of expected utility maximization as a unifying principle and for those who regard economics as a scientific endeavour capable of explaining actual human behaviour. At a time of mounting scepticism about the political applicability of neoclassical economics, behaviourism was quickly able to fill the void. The translation of behavioural thought into the policy realm builds on three interrelated extensions of the insights put forward by cognitive psychologists: first, the conceptual distinction between relatively less and relatively more rational individuals (*humans and econs*); second, the appropriation of a political

script that chimes well with advanced liberal policy programmes (*libertarian paternalism and politics of local responsibility*); and, third, the shift from the market to the individual market subject as the principal target of policy interventions (*from markets to market subjects*).

2.1. Humans and econs

In the more immediate past behavioural economics has transformed from a positive intellectual project, that is, a challenge to mainstream economists' pretensions to describe and predict what people actually do, into a normative endeavour, that is, engaging in attempts to change the way people behave. A key assumption from cognitive psychology plays a crucial role in this context. This concerns the distinction between two cognitive systems that is referred to as the 'dual process model' in psychology. The argument is that judgments can ideally be produced in two ways: 'a rapid, associative, automatic, and effortless intuitive process (sometimes called System 1), and a slower, rule-governed, deliberate and effortful process (System 2)' (Kahneman, 2002a, p. 8). System 1 is automatic and unconscious. This is the realm of emotions and believed to represent how people normally make decisions under conditions of uncertainty. System 2 is rule-based, rational and explicit. It 'monitors' system 1 and is able to rationalize ideas and feelings that were generated by system 1. It is also able to correct or replace erroneous intuitive judgments. However, this does not happen all the time. System 2 has its limits, and this is believed to explain the persistence of intuitive illusions (Kahneman, 2002b, p. 451).

What is interesting from the perspective of this paper is how the dual process model travelled from psychology into economics. In his seminal paper Richard Thaler (1980, p. 57) uses the dual process model to criticize standard economics as a positive discipline, illustrating his argument by extending the example of a billiard player developed by Milton Friedman and L.J. Savage. An expert player can be expected to choose the best shot in any situation. Her performance would not deviate much from the optimum as suggested by a mathematical formula. The expert billiard player is almost perfectly rational, resulting in the most efficient, the best solution. Intermediate or novice players, on the other hand, operate with different models. Both use heuristics and rules of thumb, and both are 'rational' in the context of these frames. They do the best they can. But at the same time their performance generates suboptimal outcomes. 'How does consumer behaviour relate to billiard behaviour?', asks Thaler (1980, p. 58), concluding: 'Again there will be various classes of consumers. Some will be experts (*Ph.D's in Economics?*), others will be novices (*children?*) … these shoppers are doing the best they can' (emphasis added).

The world of the two cognitive systems is therefore also the world of different types of people. On the one hand are the experts who are (almost) rational, on the other ordinary people who rely on emotions, affect and rules of thumb and are locked in suboptimal outcomes. In so doing, the perfect rationality

assumption re-enters the stage through the backdoor. Behavioural economists share the normative view that rational maximization is what people *should* do.

2.2. Third way: libertarian paternalism and politics of local responsibility

Another key aspect concerns the appropriate institutional arena for policy interventions. Both market and state are found wanting. The former cannot be trusted to realize itself all on its own. Operating mainly along system 2, the latter is incapable of reaching people in those instances when they operate only in the world of heuristics and rules of thumb. Behavioural economics therefore appears to occupy the middle ground. A crucial step in this context has been Richard Thaler and Cass Sunstein's 2008 book *Nudge: Improving decisions about health, wealth and happiness*, a 'bestseller and bible of behavioural economics' (Kahneman, 2011, p. 412) that has opened the world of politics to behavioural thinking.[4] In this literature an institutional frame is suggested that is capable of intervening politically with as much state as necessary and as much free market as possible. The means with which to achieve this 'best-of-both-worlds' scenario is asymmetric or libertarian paternalism. Both terms depict policies that are 'smart', that is, policies that help those who are less sophisticated cognitively 'while imposing little or no harm on those who are fully rational' (Camerer *et al.*, 2003, p. 1212; see also Thaler & Sunstein, 2008, p. 249). Once again, the dual process model looms large in these accounts. Thaler and Sunstein attach labels to both sides. On the one hand are ideal type 'econs', fully rational and modelled after the famous *homo economicus*. On the other hand are imperfect 'humans', driven by system 1 with system 2 only delivering spurious checks and balances (Kahneman, 2011, p. 413; Thaler & Sunstein, 2008, p. 7).

Nudging is about the construction and management of incentive structures in order to channel the behaviour of 'humans' into a direction that is deemed socially beneficial. There is a preference for small-scale, context-driven policy interventions that mainly mobilize relations in the family, in the neighbourhood or at the urban and regional scale. Confronted with challenges that originate elsewhere, the argument goes, we have to assume responsibility both for our own life and our immediate environment.

2.3. From markets to market subjects: experimentalism and behavioural engineering

In a recent paper, the economists Gary E. Bolton and Axel Ockenfels (2012) coined the term 'behavioural economic engineering' as a label for 'the science of designing real-world institutions and mechanisms that align individual incentives and behavior with the underlying goals' (p. 666). Moving from 'description to prescription' (p. 674), the gradual translation of behavioural economic

thinking into a toolbox for political interventions has a lot to do with experimental methods. A crucial step has been the development of the field experiment. Although experiments are ideally based on a perfectly controlled design, there are always sources of uncertainty (i.e. selection bias). With the introduction of the field experiment this problem has been exacerbated, resulting in a number of methodological innovations to retain as much control as possible. On the one hand, researchers can draw on different models of experimental design that help to stabilize the process. On the other hand there is randomization, a process that is used to neutralize differences between groups. Subjects are assigned randomly to either a control or an experimental group, under the assumption that variations with regard to unidentified factors will be distributed evenly across the groups (Guala, 2005, p. 62 ff.). Although the underlying principle is the classical economic notion of *ceteris paribus*, randomization travelled into economics from the medical world. Here, the so-called randomized controlled trial (RCT) has long been an established procedure in the context of clinical investigation.

Randomization plays a crucial role in the spread of behavioural thinking into the policy realm. While this includes examples in the global North, it has been in the context of development in the global South that this technology has really taken off. Here, behaviourism and experimentalism have joined forces to create an ambitious research programme that has enormous implications for the formulation of anti-poverty programmes in the global South.

3. The marketization of anti-poverty policy in the global South

In 2008 the Kenyan government launched 'Vision 2030' with the aim to transform Kenya into 'a newly-industrialized, middle income country' (World Bank, 2009, p. 1). The agricultural sector plays a key role, Kenya's development goals including increases in productivity and private sector involvement. Being in accordance with its priorities, the World Bank has actively encouraged this policy with a longer-term Adaptable Program Loan. Two interconnected projects have been funded: The Kenya Agricultural Productivity Project (KAPP, 2004–2008) and the Kenya Agricultural Productivity and Agribusiness Project (KAPAP, 2010–2015). A key element of KAPAP is 'Agribusiness and Market Development', organized around four selected value chains in Kenya's key geographical regions. In north-western Kenya the targeted commodity are grains, above all maize, and the aim of this programme component is to transform smallholder agriculture, increasing productivity by building entrepreneurship and encouraging modern farming practices. This is accompanied by the provision of finance that builds on 'Kilimo Biashara' (commercializing or marketizing agriculture), a credit facility initiated to support the transformation of the agricultural sector into a commercialized entity capable of generating employment and reducing poverty (World Bank, 2013, p. 5).

In the years 2003 and 2004, a team of researchers led by development economist Esther Duflo conducted randomized experiments with smallholders in the Busia District, a region located in western Kenya at the border with Uganda and covered by the World Bank-financed projects mentioned above. The experiments centred on the question of how best to encourage smallholders to use fertilizer in agricultural production. Criticizing the ongoing debate in development economics between advocates of laissez-faire policies and those who are in favour of government subsidies, Duflo and co-researchers start with the assumption that it is behavioural biases that limit investment in modern agricultural inputs. Smallholders tend to spend new income (e.g. after harvest) immediately rather than saving it for productive investment in the next growing season, a behaviour that locks them into a poverty trap. However, even poor farmers, it is argued, could reallocate some proportion of their harvest from consumption to fertilizer investment. The authors subsequently recommend 'a "paternalistic libertarian" (Thaler & Sunstein, 2008) approach of small, time-limited discounts' (Duflo *et al*., 2011, p. 2353). They design a 'model of procrastination' and test the model's predictions with a randomized field experiment that involves a number of devices with which to motivate smallholders to behave more rationally: these include personal and text message reminders in various forms, and the opportunity to commit themselves *ex ante* by buying vouchers that entitle them to buy fertilizer at a 15 per cent discount for a limited time period. The results by and large appear to validate the behavioural assumptions. Smart, small-scale nudges perform better than large-scale government subsidies and measures that aim solely at the reduction of informational asymmetry. These interventions are said to be 'smart' because they 'encourage fertilizer use without distorting decision making and inducing excessive use of fertilizer' (Duflo *et al*., 2011, p. 2389).

It is possible to connect the fertilizer experiments in Busia with the restructuring of Kenyan smallholder agriculture, global commodity chains and the workings of the development industry. First, international donor agencies play an active role in the drive towards market-based anti-poverty interventions in Kenya. USAID, the US government development agency, has adopted behavioural and experimental methods to evaluate and implement development interventions, and has embarked on 'market design' as a policy tool (see, for instance, the dialogue between Duflo and USAID representatives in USAID, 2011). USAID is also amongst the key funding bodies of the Kenya Maize Development Program (KMDP) and KAPAP, and of attempts to upgrade the maize value chain in Kenya. Second, there is the crucial role of international and national NGOs that operate as project implementers. The research team around Duflo enlisted ICS-Africa (Invest in Children and their Societies [ICS] is a Dutch NGO) and its relations to smallholders in western Kenya to design and evaluate the fertilizer programme. USAID co-operates with One Acre Fund, a US NGO operating from western Kenya. In the joint 'Kenya Asset-Based Financing for Smallholder Farmers Project' smallholders are nudged with 'Tatu Hadi Tatu', a maize storage pledge that encourages

farmers to store at least three bags of maize in order to provide them with enough food to last through the peak hunger season. The final project report concludes with the success story of a female smallholder in the Busia District (One Acre Fund, 2013). Finally, there are private businesses establishing the link to agricultural value chains and export markets. A case in point is Nafics, a social maize trading business whose aim it is to improve the livelihood of smallholder farmers in a profitable way, by filling in the imperfections in the western Kenyan maize supply-chain, specifically in Busia and Kakamega in western Kenya (source: http://investics.com/our-companies/nafics/). Nafics is listed by ICS-Africa as a partner in its 'Agribusiness Project' providing smallholders with farm inputs (such as hybrid seed and fertilizer) on credit 'for the purposes of ensuring timely planting, adherence to modern farming technologies and to increase the harvest' (ICS, n.d.).

In the western Kenyan field laboratory smallholder maize farmers are addressed as risk-taking, entrepreneurial subjects who are disentangled socially and geographically, allowing them to be integrated into global agricultural markets. In doing so, the assemblage of donors, academics,[5] nudges, experiments, NGOs, government organizations, private telecommunication companies and so on that work together to increase agricultural productivity is a good example for the stimulation of growth in smallholder agriculture (Collier & Dercon, 2014, p. 93). A heterogeneous development community is actively implicated in the extension of capitalist market relations and/or the reconfiguration of the ways in which people and places in the global South are articulated with global commodity circuits.[6]

Being part of a broader 'consensus on poverty alleviation' that aims to incentivize risk-taking and entrepreneurial behaviour (Peck, 2011, p. 165), a confusing array of templates, frameworks and programmes emerged, all designed to enable the world's rural poor to profit better from market integration. Prominent examples in this context are the 'Making Markets Work for the Poor Approach (M4P)', which originated as a joint initiative between the UK (DFID) and Swiss (SDA) development agencies in the early 2000s, and programmes that mobilize the value chain for pro-poor market development. The transformation of the global value chain into a development tool, in particular, has recently started to come under critical scrutiny (see Ouma *et al*., 2013; Werner *et al*., 2014). It is important to note in this context that just as in the discussion about Kenya above it is a wider network of actors that gives form to market-oriented anti-poverty interventions. 'Economists in the wild', including the representatives of donor agencies, NGOs or private companies, drive the marketization of anti-poverty policy in the global South and translate the knowledge generated by academic economists into development practice.

Empirically, my case study is based on two bodies of interrelated literature. On the one hand, this concerns 42 *policy documents* from multinational organizations such as World Bank, OECD and FAO, and from national donor agencies that provide frameworks for market-based policies against poverty in rural settings. Nationally, my focus is on donors in the United Kingdom (DFID),

Germany (DIZ), Switzerland (SDC) and the Unites States (USAID) as key drivers of market-based development. On the other hand, I analysed *project material* from a range of sources. This body of texts comprised longer documentations and evaluations as well as shorter summaries of development projects. Texts were sampled by following leads in the policy documents and from the US-based online archives of the World Bank (e.g. Policy Research Working Papers), J-PAL (Abdul Latif Jameel Poverty Action Lab at MIT), BREAD (Bureau for Research and Economic Analysis of Development at Duke University) and the National Bureau of Economic Research (NBER). This search generated about 50 documents that were authored by a heterogeneous set of authors, including representatives of implementing NGOs, the academy, donors and multinational organizations. I included these texts to get a better grasp of the practical implementation of market-based anti-poverty interventions, being aware that these documents create their own realities and are driven by a need to legitimize the work performed by 'development economists in the wild' (see Mosse, 2005, for a detailed discussion). Although there is documentation of projects in other regions of the global South, the texts have their geographical focus on sub-Saharan Africa and Southeast Asia, as key sites of pro-poor market development interventions.[7]

In what follows, I discuss the argumentative structure of the analysed documents as a sequence of three connected steps: first, the assumption that universal 'behavioural failures' play out more negatively if you are poor; second, the representation of the rural population as being divided between a poor, 'non-rational' group comprising smallholders, and a 'non-poor', (almost) rational group of entrepreneurial farmers; third, the legitimization of behaviourist interventions with the claim that market rationality can be practised and learnt.

3.1. Problems within individuals

The starting point is the acknowledgement that markets are critical for poverty reduction, but 'particular[ly] fail the poor' and 'in the specific context of poor rural areas … may be too thin' (Department for International Development, 2005, p. 2; see also Ferrand *et al*., 2004, p. 11). In trying to explain why markets are not working as they should do according to economic theory the documents regularly draw a line between the individual person and his/her environment, and acknowledge 'internal' and 'external' obstacles to more entrepreneurial and productive behaviour. How 'the cognitive' and 'the social' relate gets obvious with a view to the three key ideas informing the 2015 World Development Report. These concern, first, the idea that '*people think fast*, relying on intuition more often than careful analysis' (World Bank, 2014, emphasis added; compare Kahneman, 2011) and the claim that 'people make most judgments and most choices automatically' (World Bank, 2015, p. 3), respectively. In addition to this there is, second, the acknowledgement that people think 'with mental models' and, third, the insight that their behaviours often depend on 'what

others around them do and think' (thinking socially; World Bank, 2015). At the end of the day, it is argued that the main reason for market failure is the poor themselves. Rather than solely being interested in improving institutions to solve 'problems between people', the emerging behavioural approach to poverty therefore puts emphasis on 'problems within individuals' (Mullainathan, 2005, p. 67; emphasis removed from original) and the 'cognitive, motivational and even sociological limits on action' (Anand & Lea, 2011, p. 284).

In this context, it is important briefly to reflect on how 'the poor' are conceptualized in behavioural economics. Behavioural economists take issue with the neoclassical position that 'the poor' have nothing special about them and behave just as rationally as other people. Against this it is argued that poverty poses constraints on economic decision-making that result in inefficient outcomes (Duflo, 2006, p. 367; Mani *et al.*, 2013). The documents analysed for the purpose of this paper share this view. This is of little surprise, given that the neoclassical position does not chime well with policy interventions, as small-scale and smart as they may be.

While agreeing that decision-making under conditions of uncertainty is different for the poor more generally, the protagonists of the behavioural and experimental turn in development economics send contradictory signals with regard to the global South. In the introduction to a paper titled 'Development economics through the lens of psychology' Mullainathan (2005, p. 47) is at pains to argue that the incorporation of cognitive psychology should not be confused with 'pejorative attempts to label the poor as "irrational" … to blame the poor for their poverty nor to argue that the poor have specific irrationalities'. Rather than pointing at inherent personal traits, the explanatory burden for individual behavioural anomalies is laid at the door of the very context of poverty in the global South.

While Mullainathan himself says very little about what exactly 'context' may mean, there is a tendency in the documents to mobilize classical cultural stereotypes and tropes of modernization when turning to the external environment. Participants in the debate that are more closely linked with development practice are particularly outspoken in this regard. The World Development Report concept note cited above mobilizes 'mental models rooted in particular cultures' (World Bank, 2014). Other documents draw a clear line between modern market economies in the North and more traditional arrangements in the South. 'Rationality violations are less prevalent in an environment that more closely resembles the market-type of setting that is the basis of neoclassical models', argues Cecchi (2010, p. 5). And according to Anderson and Stamoulis (2006, p. 17) it is a lack of exposure to the discipline of the market that sees to it that 'behavioural anomalies may be even less anomalous (i.e. they may be much closer to the norm) than observed in the USA and Europe' (Anderson & Stamoulis, 2006, p. 17).

While I found this argumentative pattern consistently in the documents analysed, there are exceptions. An M4P specialist, for instance, sharply criticized the tendency in the field to assume too easily 'that the very poor are less

connected, less exposed, less engaged, less equipped, more vulnerable, more abused' and that they live 'in a world of weaker positions and lesser options' (Bekkers, 2011, p. 12).

3.2. The poor make safer but less profitable investments

It is three interrelated behavioural 'anomalies' in particular that inform behavioural research in development economics: hyperbolic discounting, procrastination and loss aversion. Discounting refers to the propensity to value the present higher than the future. In its hyperbolic variant discounting is time-inconsistent, for instance when trade-offs between the present and the near future are high, and those between the near and the far future low. This leads to 'self-control problems' (procrastination) (Mullainathan & Thaler, 2001, p. 1096). A slightly different, though connected argument turns to loss aversion. This draws on the insight that humans tend to fear not risk *per se* but the prospect of loss.

What these behavioural anomalies do according to the documents is that they prevent people from taking risks. For instance, hyperbolic discounting is connected with the observation that income earned after selling the harvest is spent right away and/or that decisions to buy fertilizer or other inputs are shifted to an indeterminate future (Duflo, 2006, p. 372; see also Anderson & Stamoulis, 2006, p. 11). And it is assumed that loss aversion makes vulnerable farmers very reluctant to change their behaviour and provides incentives to stick to established ways of doing things. '[The prospect of loss] could explain', argues Fafchamps (2009, p. 16), 'why farmers are not willing to put assets at risk by buying agricultural inputs they are not guaranteed to recoup' (see also Fowler & Brand, 2011, pp. 1, 4; Gibson, 2006, p. 8; World Bank, 2010, p. 8).

Loss aversion and impatience are often equated with traditional life-styles and represented as signs of backwardness and obstacles towards market development. A policy document on the maize market in Bangladesh found market players to be 'especially slow to learn about new ideas and opportunities' (Gibson, 2006, p. 9). Traditional institutions are seen as being 'insufficient in an era of high intensity farming', government support is regarded as ineffective (Gibson, 2006, pp. 21–23) and collective ownership is represented as a major disincentive to investment and risk-taking (Ferrand *et al.*, 2004, p. 3). There is again reference to the social context of decision-making, a key programmatic M4P document pointing at the 'prevalence of traditional social norms' in the agricultural sector (M4P, 2008, p. 12), and the authors of a USAID discussion paper arguing that certain social norms 'de-value or dis-incentivize wealth creation' (Fowler & Brand, 2011, p. 4).

A similar discursive logic is revealed with a view to existing systems of risk management. A randomized experiment assessing the effects of the introduction of formal insurance in rural India, for instance, appears to take the apparent inferiority of informal institutions for granted (Mobarak & Rosenzweig, 2012,

pp. 1, 35). This is a general pattern in the documents analysed. Existing arrangements are represented as 'traditional' and 'informal' and are deemed insufficient to deal adequately with the challenges. All this explains, it is argued, that the poor tend to make safer but less profitable agricultural investments, with negative implications on the ground: 'Reluctance to adopt new agricultural technology for fear of risk is often seen as a key contributor to the persistence of rural poverty' (Fafchamps 2009, p. 1; see also Lybbert *et al.*, 2010, p. 182).

In doing so, representations take up long-standing imaginations that inform classical approaches towards economic development: On the one side are 'the poor', reduced to 'indigenous', 'local' and 'traditional' knowledge, populating a world characterized by small scale and traditional agriculture. On the other side we have 'the non-poor', trained and educated, involved in large-scale production using sophisticated farming methods. On the one side are poor smallholders, on the other entrepreneurial farmers (Ferrand *et al.*, 2004, p. 10). Dualist representations like these are particularly strong the closer one gets to the implementation stage. A telling example is an M4P document subtitled 'Toolbook for Practitioners of Value Chain Analysis', financed by DFID, the UK donor agency. Designed to provide 'value chain practitioners with an easy to use set of tools' (M4P, 2008, p. 1), it provides a checklist and step-by-step script for actors on the ground. The first step concerns the mapping of levels of knowledge and technology in the value chain. This is illustrated by a table referring to cassava production and processing in Vietnam that sharply separates 'the poor' (indigenous knowledge, local practices) from the 'non-poor' (knowledge from formal studies, high tech practices) (M4P, 2008, p. 77).

In representations like these 'the non-poor' play the role of a benchmark against which 'the poor' are judged. It is possible to connect these arguments with the reception of dual process theory within behavioural economics more generally. The poor live mainly in system 1, the cognitive world that is automatic and unconscious. Decisions of the 'non-poor' are checked by rule-based, rational and explicit system 2. By way of exaggeration, habitual behaviour confronts conscious action, or, 'nature' contrasts with 'culture'. It is impossible in this logic to force people to behave against their (imperfect) nature. This provides a crucial step in the discourse. In a situation in which it appears to be economically efficient for the rural poor to adopt a more entrepreneurial strategy, but in which there are systematic cognitive biases that prevent them from doing so, there is a need for incentives to change behaviour 'voluntarily'.

3.3. Markets can be learnt

The devaluation of risk-sharing arrangements as being unproductive, and the 'othering' of poor smallholders against the mirror-image of more sophisticated farmers, prepares the ground on which more formal, that is, market-based solutions are legitimized. Access to land and individual property rights play a

Table 1 Example of knowledge and technology matrix – cassava production and processing

Production	Processing Knowledge	Technology		Knowledge	Technology
Poor	Indigenous knowledge on upland growing conditions	Local varieties	*Poor*	Indigenous knowledge on chip making and drying	Open air drying and home storage in bags
Non-poor	Upgraded knowledge from extension training	Hybrid varieties from China	*Non-poor*	Knowledge from formal studies	
High-tech starch	processing				

Source: M4P (2008, p. 77).

prominent role, policy documents pointing out that 'farmers are more likely to invest in their land – and achieve productivity gains – when they have secure land rights' (Swiss Agency for Development and Cooperation, 2008, p. 27).[8] Mullainathan (2005, p. 59) articulates the question of property rights with the behavioural anomalies discussed above: 'Appropriately defining property rights prevents two (or more) parties from having an endowment effect [i.e. loss aversion] on the same object'.

These quotes illustrate once again that it is the behavioural weakness of the poor that has to be corrected. Libertarian paternalist interventions turn into means to change behaviour, being capable of curing the behavioural defects that are ultimately made responsible for poverty and underdevelopment. This can be substantiated further with selected examples from the analysed texts: Fowler and Brand (2011, p. 3) refer to the need to address 'underlying root constraints' as being 'fundamental for … behavioural change strategies'; the authors of a GIZ value chain development guide argue that '[i]n order to assert oneself in value chains, there very often is a need for significant change in behaviour and thinking' (Barthelmes, 2011, p. 6; my translation); a programmatic M4P report hints at 'the new emphasis on nudging' (Swiss Agency for Development and Cooperation, 2008, p. 8); and the OECD, in a surprisingly outspoken way, concludes that '[p]olicy-makers need to manage habits to break or re-establish them' (OECD, 2012, p. 45).

Global markets are regarded as a pre-given natural fact in this discourse. At a time 'when markets – like the weather – are just there' (Ferrand *et al.*, 2004, p. 3) it is the people who have to change. The market plays an active, positive role in this context. Given that behaviour can be expected 'to be adaptive' there is hope: 'market players can "learn" more efficient behaviour' (Swiss Agency for Development and Cooperation, 2008, p. 8; see also Fowler & Brand, 2011, p. 5).

The market is capable of healing the behavioural deficiencies by disentangling the rural poor from the bonds of traditional, cultural and social conditions and by enabling them to take the initiative into their own hands (Anderson & Stamoulis, 2006, p. 24).

In all these instances markets are not conceptualized simply as exchange mechanisms, but rather as machines that shape the preferences of participating actors, stimulating a 'learning process' that reduces 'rationality violations', as the author of a report published by the Dutch Ministry of Foreign Affairs put it (Cecchi, 2010). 'When placed in the right environment', the same author concludes (p. 5), referring to findings by experimental economists, 'agents tend to behave according to neoclassical theory'. The discipline of the market is expected to normalize the poor, interventions helping 'to mainstream the poor, to bring them to the attention of "normal" market players and to lay the basis for more fundamental change' (Swiss Agency for Development and Cooperation, 2008, p. 14).

But 'market learning' and 'mainstreaming of the poor' do not occur all on their own. Help is needed, and development economists, caged or in the wild, turn into physicians who – after diagnosing the problem – carefully administer small doses of medicine to treat the patients. They crucially do so with the support of nudges, experimental designs and games – the devices of the marketization of anti-poverty policy.

3.4. Market devices

Processes of marketization are not only recursively informed by economic knowledge and put to work by economists, but are also socio-technically distributed. A wide spectrum of market devices intervenes in the framing of concrete markets and the formatting of exchange mechanisms and evaluation processes. Amongst these is, first, a diverse array of devices that – in one way or the other – are designed to increase the commitment of targeted individuals to behaviour that is deemed more rational and in their real interest. 'Commitment devices' are often quite simple nudges that induce farmers to change their behaviour, because they significantly reduce what is termed the psychological costs of deviating from 'business as usual' (Duflo, 2006, p. 374). These nudges often use a combination of IT-based services, media, mobile phone networks and physical proximity (Ferrand *et al.*, 2004, p. 4). In the case of the Kenyan fertilizer project briefly summarized above they take on the form of cell-phone text message reminders and visits by NGO representatives that remind farmers to do certain things. In addition to this, Kenyan smallholders are transformed into entrepreneurial financial subjects that insure themselves against weather risks. A heterogeneous network motivates these smallholders to calculate and to take risks: solar-driven weather stations, historical weather records, the Kenyan mobile phone provider Safaricom, the mobile-phone-based money transfer service M-PESA and the co-operative Agro-Vet-System providing

local outlets for insurance policies. In rural Ethiopia, sesame farmers are exposed to public electronic ticker boards that transmit data from ECX, the Ethiopia Commodity Exchange. And in Bangladesh NGOs implemented an M4P papaya value chain project with the help of television advertisements, billboards and text messages that connect famers with the Jigyasha 7676 agro-information service (Katalyst, n.d.). Economically more beneficial behaviour is also nudged in these projects with the help of role models and peer pressure. As social learning is deemed important in shaping behaviour, market facilitators are advised to take into account how to leverage social networks (Fowler & Brand, 2011, p. 5).

A second form of market devices concerns the procedural settings provided by behavioural games and experiments that are also often used as socially and spatially enclosed stages on which nudges can be applied in controlled environments, and learning can be monitored more efficiently. This holds above all for the field experiment that has turned into a popular policy device in the global South only very recently. While behavioural experiments and games are also used for evaluation purposes, it is their role as a testing ground for planned policy interventions that has increased greatly in importance in the recent past (Karlan & Appel, 2011, p. 8). This has increasingly transformed these instruments into key devices to prepare new policy interventions, for instance, in the context of the introduction of insurance solutions for agricultural risk management (Johnson, 2013).

Given that the selection bias discussed earlier poses even more challenges when experiments are being conducted 'in the wild', the methodological innovation of randomization has been particularly important. Randomization has become a standard procedure when development policy interventions are tested (pilot programmes) and evaluated, academic economists providing templates and practical guidance on 'how to use such evaluations to answer questions about economic behaviour' (Duflo *et al.*, 2008, p. 3898) and to improve programme designs. A key advantage of randomization is the enormous cost advantage, which makes it easy to replicate experiments in different settings. The number of units on which data need to be collected can be relatively small, arguably without compromising economists' preference for scientific rigour and mathematical reasoning.[9] In this vein, randomization provides the frame that allows behavioural experiments to travel freely across the global South. The underlying norms are extremely powerful, and the authority of development economists to control what constitutes normal or efficient outcomes is only rarely questioned. This is linked to expectations that the poor are adaptable and mobile, and internalize the necessity of life-long learning, acquiring and maintaining skills throughout the course of their working life (Swiss Agency for Development and Cooperation, 2008, p. 23).

These devices have become active elements in the socio-technical market arrangements that transform smallholders in the global South into more entrepreneurial economic subjects. They render economic activities calculable, standardize and normalize practices, generate trust and see to it that traditional ways

of doing things are increasingly regarded as dispensable. At the same time, they generate new uncertainties. Smallholders are forced to make economic decisions (when to buy, when to sell), and to compete with other members in the community. They form subjects who are constantly on alert and for whom rational calculation becomes a daily life routine, legitimating their continuous and recurring use. It is in this sense that the devices of market-based anti-poverty programmes 'do things' and produce new realities. It is also striking that the medical cocktails mixed by the engineers of behavioural change programmes often contain disconcertingly high doses of coercion and force. This is a far cry from the gentle nudging prescribed in Thaler and Sunstein's bestselling book, and illustrates that behavioural engineering is different if you are considered poor, above all if you happen to live in the global South.

4. The market subject as a target of behavioural engineering

The marketization of anti-poverty policy is an informative example of how behavioural economic thinking reconfigures what economic policy is and does. As I have argued at the beginning of this paper, a rising number of policy fields could be used as case studies. Accordingly, and the particularities of policy interventions in the global South notwithstanding, there are more general lessons to be learnt from my case study. In what follows I briefly elaborate on three broader themes emerging from the discussion above.

4.1. From market failure to the failing individual

It is possible to read the marketization of anti-poverty policy as a process that ensures that economic and social realities are brought into line with the laboratory conditions of the market model defined by standard economic theory. The underlying logic of the model, however, has been adjusted. At least at first sight, it is no longer exclusively the mechanistic model of neoclassical economics that is called upon. On closer examination, however, the gap between these perspectives is not nearly as wide as we are made to believe. Protagonists of behaviourism in development economics continue to conceptualize the poor as means–ends-oriented, weakening the assumption that they are all-knowing and perfect calculators only to some extent (Anand & Lea, 2011, p. 284).

Displacing the market with the individual subject as target of policy interventions may therefore scratch the positive surface of the neoclassical project, but it strengthens its more far-reaching normative aspirations. In so doing the emerging new orthodoxy actually provides a means to stabilize the neoclassical project during turbulent times, translating it into a utopian yardstick to measure concrete economic behaviour and as a behavioural norm performing economic realities. In what amounts to a strange trade-off between individual behaviour and social institutions, the unregulated market is considered as

pre-given and individual behaviour as being in need of adaptation (Frerichs, 2011, p. 308).

4.2. From smallholder to entrepreneurial farmer

In the context of market-oriented development, behaviourist and experimentalist thought is also linked to geographical imaginations that connect backwardness and marginality with market failure. What the documents analysed above do, seconded by the protagonists of behavioural development economics, is, first, to problematize individual behaviour as the main cause of poverty and underdevelopment and, second, to transform this problem into an opportunity for all sorts of behavioural engineers and their paternalist programmes (see Roy, 2010, p. 23). The behavioural and experimental turn in development is driven by a desire to transform poor risk-averse smallholders, trapped in traditional agricultural practices, into 'responsibilized' entrepreneurial farmers who readily take risks and never shy away from adopting the latest technology (Sheppard & Leitner, 2010, p. 190).

By positing 'risk aversion' as a universal character trait of smallholders, heterogeneous economic practices are reduced to a single explanatory variable (Watts, 2013, p. 16). In so doing, the underdeveloped, poor subject is represented in opposition to a norm that continues to be defined by the rational subject of standard economic theory. In order for this representation to work there has to be a strict distinction between a traditional self-sufficient world of subsistence and a dynamic modern realm of market exchange. Their deep and necessary entanglement notwithstanding, the construction and subsequent reproduction of 'two apparently contradictory but unspecified production systems' (Watts, 2013, p. 15) and the deeply asymmetric way these two systems are valued provide the ground on which the practitioners of behavioural engineering apply their paternalist therapies to the behavioural ills afflicting the rural poor.

This is not to say that the script of behavioural programming is inscribed on docile peasant bodies, passively performing the subjectivities it is naming. Nudging and experimenting are never complete and always prone to failure. They may be readily adopted, they may meet outright resistance and there may be instances of what James Scott has termed 'calculated conformity' (Scott, 1985). These are important questions, however, that can only be answered empirically and go beyond the scope of this paper.

4.3. Rendering development technical

All this prepares the ground for a radical decontextualization of the issues at hand, thereby rendering development technical, that is, 'extracting from the messiness of the social world, with all the processes that run though [sic] it, a

set of relations that can be formulated as a diagram in which problem (a) plus intervention (b) will produce (c), a beneficial result' (Li, 2007, p. 265). Wider societal issues are translated into technical problems that can be corrected with the help of behavioural engineering and experimentalism. This is a position that is disconcertingly close to the mechanistic fantasies of conditioned learning popularized by earlier behavioural thinkers such as Burrhus Frederic Skinner.

Policy practitioners and academic economists take issue with the tendency of both market-fundamentalist and state interventionist approaches to focus on the 'big questions'. It is against this that the seemingly less ambitious, micro-level and technocratic approach acquires its legitimization (Banerjee & Duflo, 2011, pp. 3, 9). In so doing, the protagonists of market-driven anti-poverty programmes take part in the emergence of a politics of 'forced choice' that erases any notion of the wider spatial and social contexts of decision-making. In the context of development programmes that connect people and places to global markets and value chains, this concerns the relative position in networks of production, distribution and consumption. It is obvious that some person's or group's articulation with global markets may be another's disarticulation and marginalization. This starts with the carefully constructed settings in which the nudges of behavioural engineering acquire their particular force, or with randomized experiments arbitrarily separating those who are treated from those who are not. And it ends with the caprices of global value chains and markets, in one moment providing opportunities of linking and upgrading, in other moments unceremoniously severing ties with consumers in the global North or in the urban centres of the global South.

This is a reminder that markets and market subjects have to be actively produced in a highly selective process in which 'market forces are imposed on some but not others' (Hall *et al*., 2013, p. 14) and that marketization constitutes individualized rational actors against a backdrop of collective failure. In my example failure is associated with 'the poor smallholder', but in different policy contexts this role may be played by other groups, for instance, 'single parents' or 'welfare recipients'. It is crucial therefore to look carefully how these processes interact with registers of social difference, such as gender, ethnicity or class.

5. Concluding remarks

Economic behaviourism has made an impressive career during the last decades, at first moving from a marginal position at the cross-roads of psychology and economics into the economic mainstream and more recently transforming into a powerful policy script. In the preceding discussion I illustrated this journey with the example of the recent rise to prominence of behavioural thinking in the realm of development policy. Using the case of anti-poverty policy in rural regions of the global South as an example, I argued that there is a reorientation with regard to the target of market-oriented development interventions. The diagnosis is behavioural, not market, failure, and the treatment prescribed

is only thinly veiled behavioural engineering under the label of what has been termed somewhat awkwardly 'asymmetrical' or 'libertarian paternalism'. It is the combined work of nudges and procedural settings that mobilize 'Southern' marketized selves, allowing them to be integrated into global commodity circuits.

I could have done similar analyses in other policy fields. Behaviourist and experimentalist insights inform political attempts to deal with climate change and the management of environmental risks more generally, they underlie the formulation of interventions under the programmatic label of smart cities and smart regions and they provide the blueprint for all sorts of interventions in the context of welfare state restructuring. The behavioural project appears to be well positioned at a time when social policies are represented as demanding but also compassionate, private enterprises appear to be increasingly sensitive towards and make profitable use of social and 'cultural' difference and capitalism is ostensibly getting greener and socially more responsible.

The material presented in the paper demonstrates that the representations of behavioural interventions as 'smart', sensitive to context and 'more humane' hide from view that there is a great deal of coercion and force involved. At the same time, one should not exaggerate the power of behaviourist and experimental policy interventions more generally. Although they may represent the world as a knowable machine, which can be measured, modelled and quantified, the choice architects and libertarian paternalists can escape neither the contradictions when their policy framework touches ground, nor the fact that other actors might use these contradictions to advance their own agenda.

The exact way in which the marketization of development is being played out on the ground is an empirical matter. That there is a need for more empirical research is supported by the fact that the World Bank has chosen to prepare the 2015 World Development Report under the theme 'Mind, Society and Behaviour'. It is therefore highly unlikely that this trend is about to disappear soon, and this not only with a view to the rural settings which constitute the focus of this paper.

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Notes

1. Although I am highly sceptical of the unceremonious translation of behavioural thinking into the policy realm, I do not write my paper from a mechanical opposition to concrete policy interventions, be they informed by behaviourism or by market-thinking more generally.
2. With regard to alternatives, one could think of classical, unconditional aid, the continuing role being played by developmental states of different stripes, or policies that regard high-productivity, commercialized agriculture based on larger farms as a better way forward (see Collier & Dercon, 2014). I thank an anonymous referee for alerting me to make this point clearer.
3. The Nobel Committee decided to honour the experimental economist Vernon L. Smith jointly with Kahneman. This is another indicator for the entanglement of cognitive psychological research with experimental methods and game theory that did a lot to buttress behavioural economics' ascent into the discipline of economics.
4. The book has inspired a rising number of popular academic books by psychologists and behavioural economists (e.g. Kahneman, 2011; Mullainathan & Shafir, 2013).
5. Key figures in the debate include academic scholars whose activities cluster around the Abdul Latif Jameel Poverty Action Lab at MIT to various degrees: Esther Duflo and Abhijit Banerjee, both at MIT; Sendhil Mullainathan, Harvard University; Dean Karlan, Yale University. These scholars combine conceptual work with development practice and have enlisted a wide array of researchers in the global North and the global South. There are also institutions in the global South that promote behaviourism in development directly. A case in point is the Research Unit in Behavioural Economics and Neuroeconomics (RUBEN) at the University of Cape Town, South Africa.
6. Market-oriented interventions have of course a longer history in development and have been challenged by proponents of 'rural development' for the neglect of wider social and political considerations and its technocratic style (Harriss, 1982, p. 17). What gives the processes discussed in my paper a particular quality is that they are part of a more general mobilization of the poor as market actors in the context of representations of a gentler, more ethical capitalism (Roy, 2010).
7. I am aware of the fact that I am dealing with a heterogeneous body of texts. Behaviourism has not been taken up to the same extent by all organizations providing the sources for the policy documents analysed in this paper. There are other narratives in addition to the discourse analysed in this paper, often emerging from the same organization. As it is my explicit aim to reconstruct the translation of behavioural thinking into market-based anti-poverty programmes, the focus on this narrative is justified. However, I will acknowledge deviating positions when appropriate.
8. There is routine reference to Hernando de Soto's Urban Property Rights Project in Peru and subsequent property titling programmes in the global South, proof that policy templates do not necessarily travel successfully because they work, but also because they establish a reality of their own (Mitchell, 2005).
9. The growing influence of the 'randomistas' in development economics has not been left uncommented. Critical voices include key figures in the development industry, such as the World Bank. This illustrates the extent to which there are competing visions in the development community (see, for instance, Ravallion, 2009).

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