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Sabine Dörry & Christian Schulz

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# Green financing, interrupted. Potential directions for sustainable finance in Luxembourg

Sabine Dörry <sup>a</sup> and Christian Schulz <sup>b</sup>

<sup>a</sup>Department of Urban Development and Mobility, Luxembourg Institute of Socio-Economic Research (LISER), Esch-sur-Alzette, Luxembourg; <sup>b</sup>Institute of Geography and Spatial Planning, University of Luxembourg, Esch-sur-Alzette, Luxembourg

## ABSTRACT

This paper has a quintessentially explorative character. It aims at identifying existing as well as potential (yet missing) links between the finance industry and local businesses that aspire to more sustainable economic practices. Building on the observation that green investments have been gaining weight in global investors' strategies, we analyse how sustainable – in the most comprehensive sense of the word – green investments could ultimately be(come), when green assets are still managed according to the logic of “financialised finance”. This latter's technologies of commodification, securitisation and derivatives-trading allegedly oppose alternative economic practices that pursue economic sustainability through social and environmental gains. In contrast, we investigate how the finance industry relates to alternative financial practices, products and organisations that offer sustainability-oriented financing services, – for example, regional banks, cooperatives and the like, – with a specific focus on green, social and solidarity businesses. Both approaches subscribe to apparently contradictory ideologies. We establish a beneficial dialogue between the opposing models of “green capitalism” and “alternative economies” so as to identify potential points of intersection. The context of Luxembourg's local/regional economies provides a great opportunity to empirically access three levels of investigation: the private sector, the public sector and an international financial centre, a key facilitator for green finance, thus utilising insights from the concept of *bricolage*. Whilst supporters of Luxembourg's emerging green finance profile recognise its positive impact on the small country's national branding, in combination with economic stimuli, more critical commentators point to pure “green washing” effects.

## ARTICLE HISTORY

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## KEYWORDS

Green finance; sustainability; financial centre; alternative economies; de-growth; Luxembourg

## 1. Introduction

Proliferating de-growth initiatives can be interpreted as reactions to the severe crisis of capitalism embodied by, amongst other things, climate change, resource depletion, ecological degradation, sovereign debt crisis, social inequality and injustice, but also as attempts to transform our society and its economy (red and green justness; cf., for example, Agyeman, Bullard, and Evans 2003). Critics, however, point to hyperbolically used catchphrases such as “green economy” (Pearce 1991), “impact investing” (Bugg-Levine and Emerson 2011) and “environmental finance” (Bishop, Pagiola, and Landell-Mills 2003; Labatt and White 2003), which only pretend to reconcile the economy with environmental concerns, yet neither abandon the capitalist logic of unending

growth nor provide solutions to remedy resource depletion and environmental degradation (Brand 2012; Jackson and Victor 2011). In contrast, debates revolving around “alternative” or “diverse” economies question the unbalanced growth- and profit-orientation and address new forms of societal power and control (Gibson-Graham 2008; Gibson-Graham and Roelvink 2010). Alternative forms of production, exchange, labour/compensation, finance and consumption, different from mainstream capitalist economic activity (Zademach and Hillebrand 2013), seek to reconcile red with green justness. Diverse economies can therefore be characterised as a pertinent pillar of a transition towards a more socially just and environmentally sustainable economic system. In the light of the above, “alternative finance – which includes financial instruments and distributive channels that emerge outside of the traditional financial system – has thrived” in the Western world (Wardrop et al. 2015, 9).

Building on the observation that green investments have been gaining weight in global investors’ strategies (Appell 2017; Pooley 2017), we analyse: How sustainable – in the most comprehensive sense of the word – can green investments ultimately be(come), when green assets are still managed according to the logic of “financialised finance”, that is, an extensive use of technologies of commodification, securitisation and derivatives, that focus on economic profit maximisation rather than on social and environmental value creation? What are the key features of such financial “greening” processes?

Definitions of green finance, often used interchangeably with green investments (Zadek and Flynn 2013), are manifold and carry different meanings within the realms of academia and industry (Lindenberg 2014). In a narrow sense, green (or environmental) finance “encompasses all market-based instruments designed to deliver environmental quality and to transfer environmental risk” (Labatt and White 2003, 1). More critical observers, however, see this “new buzz word in sustainability discourses” linked with the hopes of politicians to green the economy (Brand 2012). The rationale of a financialised finance economy allegedly opposes alternative economic practices. The latter pursues economic sustainability through social and environmental gains, thus affecting the embedded agents, applied ethics and principles, and challenge agreed values and motivations. We contrast both approaches and investigate how (parts of) the finance industry relates to alternative financial practices, products, spaces and organisations that offer sustainability-oriented financing services, for example, regional banks, cooperatives and the like, with a specific focus on green, social and solidarity businesses (Zademach and Hillebrand 2013). Both approaches subscribe to apparently contradictory ideologies.

Importantly, there is a subtle difference between the activities of financing and investing, a difference that is implicitly addressed in the debate around green finance, but a difference that also illustrates the opposing logics at work in the design of “green finance” as a system. Overall, financing activities comprise obtaining funds for starting and operating a business. Such activities illustrate the relationship between the company and its *lenders* (e.g. banks, investors) and *owners* (e.g. shareholders of the lender). We argue that the current discourse about “green finance” is primarily about “assets” and investing activities that emphasise finance as an investment vehicle with expectations of an economic return greater than both the value of the initial investment and the administration costs involved. This discourse revolves around the established capitalist approach, thus focussing on the needs of shareholders rather than on the needs of the borrowing (often small) companies. In contrast, we find that the dominant green finance discourse is much less about basic “financing activities”, i.e. the relationship between the (local) company and its (local) lenders. Yet, such a focus would be highly useful for local economies aiming at transitioning their set-ups. Ultimately, the creation of a novel (financial business) model reveals newly emerging power struggles among incumbents and challengers to define/design the process of transition (cf. below, the concept of *bricolage*, Engelen et al. 2010). Our argument, using the example of Luxembourg, is determined by that kind of tension. We scrutinise the disparate understandings of “green finance” and seek to define them more clearly in order to

address and complement-derived policies with dissimilar incentives for, and impacts on, “sustainable” economic activities for different scales of the economy.

The remainder of this paper is structured as follows. The second section provides an overview of established and emerging strands of literature that reflect the current state of analyses of “green finance”/“green investments”. It situates them conceptually among the literature on financial innovation and *bricolage* (Engelen et al. 2010) in an attempt to shed light on the power structures and mechanisms surrounding the actors involved in the emergence of green finance. Building on this literature review, section 3 positions three empirical dimensions of Luxembourg: one as the world’s leading “green” financial centre, one as a leading public investor in climate change funding and one as only a small lender towards its own, national, “greening” economy. The fourth section assesses and discusses these empirical findings and links them back with our critical literature review. Section 5 concludes and generalises our findings regarding the current state and future avenues of research of “green financing” development.

## 2. Current trends of “greening” in the finance industry

Facing numerous human-induced crises, our society finds itself in urgent need of a “great transformation” towards sustainability. The finance system – an integral part of our social organisation (Martin 2014; Norgaard 1994) – constitutes an essential factor in the equation of societal transformation and economic sustainability. Despite promoting the “greening” of capitalism, finance in its current role, with its inherent growth compulsion, is a critical driver of an *unsustainable*, growth-oriented economy (Petschow and Hofmann 2017).

A massive, publicly funded, US\$100 billion climate finance commitment is, for example, anticipated for unlocking private capital aimed at scaling up low-carbon energy infrastructures, and to encourage innovations for tapping into new renewable – or green – energy sources (OECD 2015). Such needs position the finance sector in the spotlight of transformation policies embracing environmentally sustainable and socially just economies. A transition to sustainability would thus seek to go beyond an “ecological modernisation”, i.e. “business-as-usual”, green capitalism approaches (Bailey and Caprotti 2014; Bina 2013; Gibbs and O’Neill 2017; Krueger, Schulz, and Gibbs 2017). A more profound transformation of the current economy would encompass the emergence of “alternative” economies (North 2016; Zademach and Hillebrand 2013), dissociated from resource-intensive growth and profit-maximisation logics through new forms of organisation, cooperation, product design, production processes and ways of distribution. This includes, for example, resource efficiency gains through the longevity/reparability of consumer goods, the sharing of goods, tools, vehicles, etc., the co-production of goods and services, paired with new forms of social organisations (e.g. community businesses/cooperatives) and production (Schneidewind and Zahrnt 2014). While these alternative ways of producing wealth – or “*Prosperity without Growth*” (Jackson 2009) – induced an increasing interest in policy-making and research (Krueger, Schulz, and Gibbs 2017; North 2016), the academic literature seeking to intersect processes in the realm of alternative economies with greening trends in the finance sector is fairly modest (if not absent). This includes literature on the actual interplay between sustainability goals of finance and successful ways of financing local economies aspiring to more sustainable ways of production and consumption. The complex relationship between the allied dimensions “green economy” and “green finance” echoes a rather divisive debate between academia and political need, as it reflects conflicting approaches between incumbents’ interests and challengers’ attempts to disrupt the capitalist growth imperative.

For example, approaches that seek to adapt (as opposed to transform) the current finance system focus on its “pragmatic” re-design to support sustainable economies. International organisations such as UNEP (2011), the World Bank (2012), the OECD (2011) and the G20 (2016) favour this approach. Their perspective highlights the economic “opportunity” character of the current intersection of financial and ecological crises. Critics highlight that this turn towards such kind of green(er) economies was to facilitate technocratic environmental governance that would potentially marginalise “non-

expert” stakeholders (Lohmann 2014) and consequently follow a “market-based environmentalism” (Adams 2017; Castree and Henderson 2014; Corson et al. 2015). These new, “green”, business opportunities for corporations would hence ultimately result in a “mash-up of environmentalism with capitalism” (cf. Braun 2015; Prudham 2009, 1594) and the further commodification of nature. Representing such an explicit market view, Knox-Hayes (2017, 513), for example, argues that “[t]he pricing of ecosystem services suggests that there is tremendous untapped value to be gained from the pricing of the functions of the ecosphere”. Scholars who object to this largely capitalist market logic tightly embedded in the economics of the Anthropocene (Brown and Timmerman 2015), insist that such capitalist market logic would simply not address the central transformation challenges because markets simply ignore the value of essential, highly complex ecological functions and treat them as economic “externalities” instead. A market’s profit motive would further profoundly mismatch the stimulation of low-cost innovations that would, not least, benefit the poor, because of the investors’ struggle to realise sufficient future income (Farley 2015). Farley’s arguments align with the growing critique of the “green economy” discourse (see above). Instead, critics advocate a much more profound restructuring of the socio-economic system as debated in the literatures on *de-growth* arrangements (D’Alisa, Demaria, and Kallis 2015; Latouche 2006; Paech 2009; Schulz and Bailey 2014) (see editorial introduction for further details). These arrangements are often manifested in local/regional economies that emphasise sharing/circular rationales and other forms of cooperative approaches (Gibson-Graham 2008; Zademach and Hillebrand 2013). Our focus on local/regional economies does not imply that this scale stands for generally more sustainable modes of the economy. Rather, it acknowledges evidence that the vast majority of transformative projects such as transition initiatives, community-supported agriculture, food and product cycles, alternative currencies, etc., primarily emerge from a local/regional context. These approaches seek to repress market- or finance-based exchange processes as part of a sustainable re-organisation of society and challenge, overall, the current financial capital model’s sole focus on financial return (Adams 2017, 247). Proponents of this comparatively radical approach, however, face the criticism of being in danger of missing “seizing upon *possibilities* for radical change” (Brown 1999, 20, emphasis added), “if not coupled with an assessment of possibilities for progressive action at multiple scales in the present” (Cavanagh and Benjaminsen 2017, 203; cf. Gibson-Graham 2006).

We acknowledge the necessity of pursuing both approaches in the initial stage(s) of a deep societal transformation. Yet, based on the recognition that finance has been both the main driver and the main beneficiary of financialisation (Christopherson, Martin, and Pollard 2013; Engelen 2008; Lapavitsas and Powell 2013; Sokol 2013; Wissoker 2013), scrutinising the finance industry’s manifold ability to facilitate and uphold societal and economic transformation is a primary task. One way would be to place greater value on truly transformative projects embedded in local/regional economies. In doing so, we briefly introduce two of the most pronounced strands of the “green finance” literature in the subsequent section: One focuses on socially responsible investments (SRI), the other one on “stranded assets”. Whilst the former addresses smaller investments on a much smaller spatial/investment scale and highlights the inclusion of social, ecological and ethical aspects in investment decisions, the latter is mainly concerned with offering solutions to large financial investors threatened with being “stranded” with heavy losses on their large-scale investments that suffer from unanticipated and significant losses in value. These mainly concern overinvestment in fossil fuels due to, for example, regulatory changes (e.g. air pollution standards), environmental challenges (e.g. climate change), changing resource landscapes (e.g. water stress) and technological innovation (e.g. circular economy practices) (Caldecott and McDaniel 2014; Crew and Kleindorfer 1999). The stranded assets threat has primarily affected large institutional investors such as pension funds, insurance companies and sovereign wealth funds that feel increasingly pressured by the public to commit to integrating environmental, social and governance (ESG) investment goals. This pressure has particularly gained momentum through large divestment campaigns run by influential actor groups (Grady-Benson and Sarathy 2016; Healy and Debski 2017). A prime example of pronounced divestment processes is the *GoFossilFree* campaign, coordinated by a

global network of grassroots organisations (350.org) and launched at the Boston/Cambridge based institutions Harvard University and the Massachusetts Institute of Technology.

Because of the sheer scale of the investments by those powerful institutional investors, as well as their importance for the future of societal peace, including social welfare systems and the maintenance of a nation's physical and social infrastructure, "reforms in investor practice and market frameworks are needed to prevent value destruction" and to encourage "responsible stewardship of the assets under their management" (International Institute for Sustainable Development 2014, 1–2). Policy-makers and institutional investors ought to make clear efforts to mitigate risks caused by financial instruments that permit and tolerate "'pledgeable' future income streams for themselves and their clients" (Kaminker and Youngman 2015, 21).

SRI investing, on the other hand, concentrates primarily on local and regional alternative financial institutions that aim for a "double dividend", that is, financial *and* moral. Examples are alternative banks that finance social and ecological projects too small for financial institutions with conventional investment criteria. Respective finance initiatives include social businesses such as microfinanciers as well as NGOs dedicated to alternative financing and are found in local and regional economies, especially those who aspire to make the transition to sustainability. Unlike the stranded asset rationale, SRI is considered to deploy large potential in promoting an array of localised practices that – in the future – could potentially be scaled up and adapted to other local/regional economies. "Historically, socially responsible investment has taken two forms: either exclusion funds, mainly in the English-speaking countries and usually at the instigation of religious communities, or shareholder activism which involves bringing pressure to bear on a company through the shareholder vote" (Laurence 2013, 2259). It shifts the attention to actors' constellations and a reconceptualisation of "what actors do" (Engelen et al. 2010, 56) in "*bricolage*"-like (Lévi-Strauss 1966) processes of financial innovation. According to this radically different conceptualisation of financial innovation as *bricolage* (Engelen et al. 2010), financial *bricoleurs* "innovate" in situations of conjuncture. Although not in a rational, scientific way but rather through unscientific processes of improvisation (Lévi-Strauss 1966), financial *bricoleurs* use the opportunity of a new conjuncture to create novel, lucrative financial business models. The scale, scope and political focus of current green finance initiatives indicate a (re-)positioning at such a conjuncture/opportunity, which finds regulators regularly "in the position of generals fighting the last war against irregulars who improvise new tactics and strategies" (Engelen et al. 2010, 58).

Is green finance yet another variation of financial innovation and, thus, the offspring of the latest conjuncture for "green" financial innovation? Or do new "green" policies and public strategies actually break with the primary focus on profit-generation, and instead emphasise social and environmental values, thus, creating new political dialectics between stakeholders from the financial industries, regulating agencies and regional economies?

This section embedded our general problem statement in the broader context of sustainable developments and the societal struggle to push for transformation. We have outlined two distinct, yet disparate, approaches, both of which we believe are playing an important role in the transformation process: Whilst top-down green finance initiatives remain anchored in the capitalist growth logic, while having the potential for shifting large funds into the domain of green impact investments, the bottom-up/grassroots approaches of local businesses can create a whole range of new ideas for conducting economic activities in local environments in a more just way. We investigate these complexities using the example of Luxembourg in the subsequent section.

### **3. Luxembourg: a large investor in, and knowledge mediator for, green economies?**

#### **3.1. Luxembourg's financial centre: creating and facilitating new potential for green finance**

Luxembourg-City hosts a highly dynamic, and internationally increasingly recognised, financial centre specialised in asset management, private banking and insurance, and whose future path is



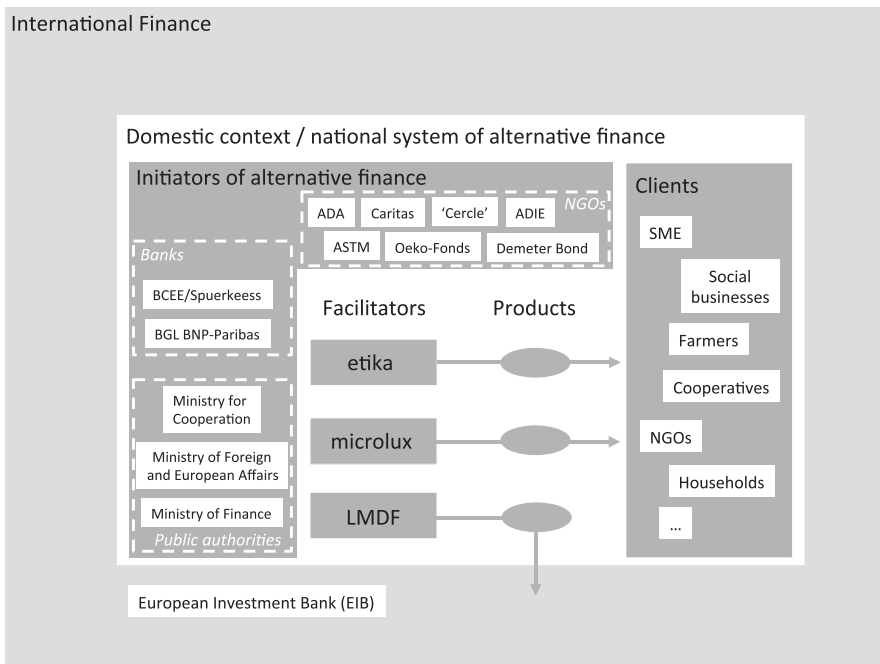
defined by the two pillars “green/social” and “digital” finance (Tageblatt 2017). Luxembourg concentrates a large array of international financial institutions, financial infrastructures, such as stock exchanges and clearinghouses, and a highly specialised labour market, which together form a unique financial business environment controlled by strong financial regulations. In particular, Luxembourg’s international financial centre (IFC) has developed a distinct expertise in the administration and global distribution of investment funds, as well as comprehensive administration procedures for listing and trading securities at its specialised stock exchange (LUXSE) (Dörry 2015, 2016). Founded in 1928, it builds on its long-standing experience and specialisation with a view to innovation, of which its most recent initiative, the creation of a platform to list and trade green bonds and shares of green (structured) funds, is only one example.

Luxembourg’s financial centre developed and flourished alongside the growth of the Euromarkets (specifically the Eurobond markets) since the early 1960s. The creation of the European single market for financial products and services in the 1990s has led to Luxembourg’s growing pre-eminence in the investment fund industry. Luxembourg’s financial industry, supported by a business environment characterised by easy access to, and quick decision-making by, the authorities, has repeatedly proven it can incorporate new EU directives into national law very quickly, thus benefitting from a decisive competitive edge relative to other European financial centres (Dörry 2016).

Today, Luxembourg’s financial centre ranks 18 in the most recent GFCI, thus falling behind in the global race with its highly competitive Asian rivals, but still ranking as the most important IFC in the Eurozone (Mark Yeandle 2017). It says much about the significance of finance as an industry of strategic national interest for the government in Luxembourg, nudged and nurtured by massive public investments and regulatory incentives. Like everywhere else, Luxembourg’s strategic measures are interest-driven. One could understand its orchestrated measures as a means to branding and repositioning the country on the world’s finance and investment map. Indeed, the scale of the projects realised so far, as well as their trendsetting characteristics, are impressive for a small country such as Luxembourg.

Among the most ambitious and internationally recognised projects of the financial industry is the Luxembourg Stock Exchange’s recent launch of the *Luxembourg Green Exchange (LGX)* dedicated exclusively to listing and trading green securities. Currently, more than half of the world’s green bonds are listed at LGX, equal to more than 50 billion EUR of investments in green projects. LGX is designed to meet the highest transparency procedures, in line with international standards that would further ensure green issuers’ credibility. Prominent issuers comprise the German Kreditanstalt für Wiederaufbau (KfW), the Nordic Investment Bank, the Bank of China and the European Investment Bank (EIB), to name but a few. The Luxembourg Stock Exchange plans further to introduce a new, complementing section for “sustainable and social bonds” within its LGX segment. Optimism is shared that LGX will act as a quality label to help abolish investment barriers and risk so that much-needed private investment in decarbonisation and other renewable energy projects is released. A notable project in this regard is Luxembourg’s strategic partnership with the EIB, the world’s largest multilateral financier of climate action. This partnership links with Luxembourg’s commitment to the international climate agreement (COP21) since December 2016 and has resulted in the creation of an innovative *LU-EIB Climate Finance Platform* that aims to finance climate action both inside and outside the EU, including impact investing in renewable power, energy efficiency, sustainable agriculture, reforestation and green buildings (LFF 2016b).

Both flagship initiatives further seek to strengthen and promote Luxembourg as one of the leading “green” financial centres in the world with the bulk of the green fund and bond business indeed being channelled through, and labelled by, Luxembourg. Yet, what is “green finance” and how exactly do we assess it with respect to Luxembourg’s impressive financial commitment to economic transition? Here, we identify three, often-separated, aspects (cf. Lindenberg 2014, 2), which we urge to integrate into a more holistic definition of green finance: 1) the need to be precise in defining the type of investment that falls under the category “green”; 2) the policy dimension that defines political programmes and support schemes for green investments (for both the production and



**Figure 1.** Luxembourg's alternative financing system (own illustration).

consumption sides); and 3) the type of investment vehicle most suitable to matching the need to finance transformative processes at different geographical scales and administrative territories. The core of the proposed interaction between these three aspects – investment type, policy dimensions and investment vehicle – are processes of learning and skill transfer between the finance and economic sectors, between *policy* realms at national, inter- and supra-national levels, as well as between *public* policy and *private* industry/finance that would include both established large-scale and global green investments and local alternative finance approaches. We argue that Luxembourg is exceptionally well-suited to bringing these processes together. Figure 1 illustrates the situation in Luxembourg by mapping the initiators, operational agents, clients and interest groups of alternative financing. It also indicates the alternative sector's weak ties with the IFC, a gap we address in section 4 in more detail.

On paper, the long-standing knowledge and skill located in Luxembourg's financial centre comes in very handy in order to facilitate and fuse the disparate bodies of political will and financial skill. From such a distinct perspective, we argue that IFCs, firstly, can be distinct breeding and testing grounds for developing progressive green business/economic policies and new green financing structures, and, secondly, most suitable platforms to conjoin the still disparate realms of expertise in identifying suitable green investments with the expertise to set up the most appropriate investment vehicle for green investment purposes and targets. In this process, the state would ideally take on a prominent role in interrupting prevailing conditions that entirely play into the hands of profit-making incumbents, and instead begin facilitating a dialogue between both – thus far disparate – realms of expertise.

### 3.2. National policies and recent government initiatives

Amongst the earlier attempts to diversify Luxembourg's financial centre towards innovative, and socially and ecologically sustainable products, one should highlight the increasingly important micro-finance sector, also known as "inclusive finance". This provides the poor and vulnerable with access to



financial products and services such as micro-loans and micro-insurance policies. 52% of the global microfinance assets under management (AUM) are currently domiciled in Luxembourg (LFF 2016a). 45 out of 197 microfinance funds registered in Europe are managed in Luxembourg (KPMG 2017). Except for *microlux* presented below, all the Microfinance Investment Vehicles (MIVs), i.e. specialised funds domiciled in Luxembourg, target projects/clients in the less and least wealthy parts of the world, in particular in Africa, Latin America and in parts of Asia.

However, the need for trust-enhancing transparency for investors has grown and was echoed in early attempts to certify MIVs. Today, Luxembourg hosts some of the key institutions of this proliferating sector, e.g. the globally operating Luxembourg Fund Labelling Agency (LuxFLAG), a pivotal authority for certifying MIVs. Founded in 2006 as a non-profit organisation by seven public and private partners, it supervises MIVs' compliance with internationally recognised standards, covering not only the certification of microfinance, but also offering *Environment, ESG, Climate Finance* and *Green Bond* labels (cf. LuxFLAG 2017). Observers link the success of the microfinance sector in Luxembourg to both its "strong civil society and public commitment to cooperation with developing countries, and, [its] ... competitive fund industry with its specific expertise and a favourable regulatory environment, [which] helped to establish MIVs and to attract foreign investors to domicile their funds in Luxembourg" (Walther, Schulz, and Dörry 2011, 138).

The microfinance industry is actively supported by the Grand-Duchy's government and is in line with Luxembourg's overseas development aid (ODA) donations and financial inclusion agenda as part of the UN's Millennium Development Goals. Not least, Luxembourg's government provides its *House of Microfinance* with premises for several national and international organisations (including LuxFlag, the Appui au Développement Autonome (ADA), *microlux* and the LMDF, cf. Table 1), by co-funding ADA as the development NGO that coordinates microfinance activities originating in Luxembourg through the support of dissemination/marketing activities (e.g. the microfinance portal *microfinance.lu*, run by ADA), and through support mechanisms for the Luxembourg-based micro-insurance network. Examples for favourable regulations for microfinance activities comprise a range of legal investment vehicles, from which fund promoters can choose a favourable tax environment for investors, as well as the exemption of microfinance investment funds from capital gains duties, to name but a few.

A very distinct and frequently applauded characteristic of Luxembourg's economic and financial landscape is its rapid decision-making. Round tables are often the (informal) instrument of choice for assembling different stakeholders. The *Luxembourg Microfinance Round Table* (LRTM), which since 2004 has been bringing together government officials, NGO representatives and representatives of the manifold finance sub-industries, set up the *Inclusive Finance Network Luxembourg* (InFiNe.lu) in 2013 to strengthen capacity-building, knowledge-dissemination, and economic engagement and promotion of the microfinance industry in Luxembourg.

Yet, although the bulk of financial activities performed in and through Luxembourg's financial centre aims at investments outside the country, new – alternative – economic activities *in*

**Table 1.** Alternative financing instruments initiated in Luxembourg; source: authors, based on information and interviews from/with firms.

	LMDF	etika	microlux
Established in	2009	1996	2016
Initiators	Government + NGOs	NGOs	Bank + NGOs
Investors	Public, private (mainly institutional)	Public, private (mainly institutional)	Public, private
Target regions	Global South	Luxembourg	Luxembourg
Beneficiaries	Micro-entrepreneurs, households	Firms, households, NGOs	Micro-/social enterprises
Financial resources for financing and/or investment activities, in EUR	27 million (AUM), in 2017	400,000 (guarantee fund), in 2009	180,000 (loan volume), in 2017

Luxembourg have increasingly been receiving financial support from Luxembourg's public authorities. A new field of economic activity that benefitted, in particular, is the social and solidarity economy (SSE). The full official title of the Ministry of Labour, i.e. the *Ministère du Travail, de l'Emploi et de l'Économie sociale et solidaire* (our emphasis), indicates the programmatic role the SSE sector has within Luxembourg's government (Sarracino and Gossat 2015). For example, in 2011, the then Department of Solidarity Economy, part of the Ministry of Economy and Foreign Trade, launched a first dedicated action plan, the *Plan d'action pour le développement de l'économie solidaire au Luxembourg* (Ministère de l'Économie et du Commerce extérieur 2011). In that same year, the government launched a new support system for business projects pursuing social or solidarity goals in Luxembourg, called *1,2,3 GO Social*. Since 2013, government initiatives are actively supported and complemented by Luxembourg's Union of the Social and Solidarity Economy (ULESS), which aims at actively endorsing the principles and values of the SSE in Luxembourg itself. It comes as no surprise that SSE was also put on the European agenda under Luxembourg's last EU presidency in the second half of 2015.

### 3.3. Alternative local financing institutions

In addition to the activities, policy measures and financing instruments mentioned in the previous sections, this section identifies three domestic actors we subsume under the notion of alternative finance in the narrow sense as defined in section 2. The first actor is a Luxembourg-based non-profit microfinance fund, i.e. the *Luxembourg Microfinance and Development Fund (LMDF)*, that can itself be considered as an alternative enterprise, while the two others – *etika* and *microlux* – are rather facilitators that help alternative entrepreneurs in finding suitable financing through their specific financial products, all of them co-managed with established banks in Luxembourg.

The following brief portraits of these three organisations are based on explorative interviews conducted with each of these firms' directors in May 2017, on desk research and media coverage of their activities, as well as on information, documents and data provided by the organisations themselves, such as annual reports, newsletters and websites.

The *LMDF* is a for-profit organisation and as such home to two different investment funds, both of which are Alternative Investment Fund Manager (AIFM) authorised:

1. *LMDF's Social Venture Capital Sub-Fund (SICAV)* was established in 2009. It is a mixed investment derived from two of Luxembourg's ministries (Finance; Foreign and European Affairs), a number of different NGOs, for example from *ADA* and *etika*, and from a range of Luxembourg-based banks and insurance companies. It supports microfinance institutions (MFI) in about 20 countries in Africa, Asia and in Latin America, where it embraces investments in MFIs with social objectives, e.g. supporting and advancing women, people in financially excluded, rural areas, or projects for young people, to name but a few. The fund started with less than a million euros of AUM in 2010, but its net assets rose to 27.3 million euros in March 2017, of which 69% are now invested in loans. According to the homepage of the European Microfinance Platform, *LMDF* "facilitates access to responsible finance by building sustainable links between investors, microfinance institutions and ultimate beneficiaries" (*LMDF* 2017).
2. More recently, and based on the fund promoter's long-standing experience in this field, *LMDF* presented its new *Forestry and Climate Change Sub-Fund* concept during COP21 in Paris in December 2016. The fund offers investment opportunities in climate change mitigation projects such as the sustainable management of secondary and degraded tropical forests in Nicaragua, in the sustainable management of generating ecological, economic and social value added, including a reduction in greenhouse gas emissions through forestation and climate change mitigation through increased storage.

While LMDF supports alternative economies abroad, *etika* and *microlux*, the two examples introduced below, act as intermediaries between established banks and alternative businesses in Luxembourg and for Luxembourg-based entrepreneurs themselves.

*etika* – *Initiativ fir alternativ Finanzéierung* (*etika* – initiative for alternative finance) is based on the preceding ALTERFINANZ initiative and was founded as a non-profit association in 1996. Its foundation was led by NGOs active in the areas of environmental protection (*Oeko-Fonds* and *Demeter Bond*), social inclusion (*Caritas foundation*) and development cooperation (*Action Solidarité Tiers Monde* (ASTM)), as well as the *Cercle de cooperation des ONG de développement*, an umbrella organisation of Luxembourg's development NGOs. Its main objective is to support alternative financing of local businesses and to engage in debates revolving around ethical issues on money and finance. Since 1997, *etika* closely cooperates with the *Banque et Caisse d'Epargne de l'Etat* (BCEE), aka "Spuerkeess", Luxembourg's largest public savings institution. This cooperation has enabled *etika* to offer two financing products (*etika* 2016):

1. An alternative savings account (*Epargne Alternative*) for private individuals who seek to "let their savings do good things". The interest rate is currently 0.1% lower than for conventional Luxembourgish saving accounts. From 2007 to 2016, deposits rose from 19.4 million euros, which equals 552 savings accounts, to 51.55 million euros (1141 accounts). This increase is complemented by a substantial seed capital injection of 1.24 million euros by the BCEE. About two-thirds of the deposited savings have been converted into mortgages (see next point).
2. An alternative credit scheme for socially and/or environmentally sound initiatives with low(-er) interest rates. The interest rate for these loans is 0.5% lower than the one set for standard loans by the BCEE, and the discount gap is refinanced with a 0.1% gap from *etika's* savings accounts plus on-top contributions from both *etika* and the BCEE. To date, alternative credits have been assigned to more than 200 projects, which can be divided as follows: 32% organic agriculture and distribution of organic products; 28% renewable energies; 16% construction or renovation of green buildings; 11% social initiatives; 9% energy efficiency; and 2% support for rural areas.

More recently, *etika* joined the NewB cooperative in Belgium. As the only non-Belgian member, *etika* seeks to support this initiative that aims to start a new bank with a focus on "productive" investments (or: real economy) only. As such, it subscribes to respective ethical and environmental principles. While the creation of the bank is still pending, the initiative has already launched the NewB credit card named "Good Pay" – which is a MasterCard-based prepaid card and can be obtained from the BCEE –, with which NewB donates five euro-cents per transaction to a charitable organisation of the client's choice. *etika's guarantee fund* is an instrument that is independent from alternative savings accounts. It is primarily used to fund projects that have significant ethical value.

*microlux* was launched in March 2016. It is the first microfinance institution active in Luxembourg, meaning that it finances eligible projects in the Grand-Duchy itself. Shareholders of *microlux* are the bank BGL BNP Paribas, as well as the two NGOs ADA and *Association pour le Droit à l'Initiative Economique* (ADIE), the largest and most renowned French microfinance association. The *microlux* consortium has partnered with the *European Investment Fund* (EIF) for loan guarantees that are provided as part of the EU Programme for Employment and Social Innovation (EaSI). In brief, *microlux* (2017a) promotes the individual right to economic initiative, supports "business start-ups, active entrepreneurs and social entrepreneurs ... not eligible for traditional bank credit", and finances "the creation and the expansion of enterprises by granting microcredits and credits for social entrepreneurs". It currently offers three types of credits: microcredits up to 15,000 euros for "micro-entrepreneurs",<sup>1</sup> credits up to 20,000 euros ('micro+') for micro-enterprises already in operation and microcredits up to 25,000 euros for "social start-ups".<sup>2</sup> Loan conditions include the need for a third person to act as guarantor for one-third of the entire loan, annual interest rates between 7% and 9% and the possibility to pay back loans earlier without additional fees. The repayment period varies

between 12 and 48 months, and *microlux* also offers personalised, free coaching for entrepreneurs and start-ups, both of which provides a mix of guidance and flexibility to the borrowers. During the first 12 months of its operation, *microlux* financed 15 activities with an average loan amount of 12,500 euros.

All three projects are linked through a somewhat curious observation. Luxembourg's largest saving bank, the Spuerkeess (BCEE), founded in 1856 by enactment, is involved in each of the three businesses, although in different functions and roles, and also to varying degrees. A savings bank is a local financial institution with the primary purpose of accepting savings deposits and paying interest on those deposits, thereby serving local communities. Historically, governments or socially committed groups opened savings banks to encourage impoverished people to save money and to have access to banking services.

As regards LMDF, the Spuerkeess acts as its depository bank, which is a somewhat unusual role as there are much larger players in the market to act as depository banks than the savings bank. However, LMDF's kind of relatively small (in comparison to the big investment funds) and socially oriented business suggests that the State's saving bank is an appropriate partner as the small volume of the business would be too expensive to manage for the large private players in the market. Both Spuerkeess' and BGL BNP Paribas' involvement in, respectively, *etika's* and *microlux'* businesses, is perhaps more obvious as they are the main financier for both facilitators. This finding is highly interesting as it points to a profound involvement of the Luxembourg state in the financing of sustainable businesses and local economies.

### 3.4. Implications – facilitating knowledge exchange

The three previous sections identified in Luxembourg can be characterised as constituting a unique knowledge platform that hosts expertise for the world's leading "green" financial centre, for leading public investors in climate change funding and for small lenders to its own, national, "greening" economy. Unfortunately, and as regards the empirical evidence presented so far, its embryonic architecture of alternative financing and its prevalent power structures in many respects do not yet allow to realise this "platform's" full potential. It is shaped by the tight interplay of two major domestic finance actors, namely BCEE and BGL BNP Paribas, the state, i.e. several state ministries, and a series of NGOs, whose financing activities predominantly embrace activities of development cooperation and/or social and environmental justice (Figure 1). Luxembourg-based clients of such financing activities range from small- to medium-sized firms and include farms, social businesses, (energy) cooperatives and households. Its current architecture suggests, however, that traditional power structures prevail and further impact the strategic orientation and actual financing decisions. Despite the strong topical impetus of the partaking NGOs, as well as the political support of several ministries for alternative financing, commercial banks in Luxembourg and the EIB as an international partner, that is, the actual lenders, still determine investment strategies via their sheer size and market power.

More crucially, however, Luxembourg's alternative financing system is still largely detached from Luxembourg's IFC. Local finance initiatives are largely blocked from tapping into the international financial flows handled by the Luxembourg-based international banks. An exception might be the IEF, a financial instrument of the EIB, which partially absorbs potential defaults on loans issued by *microlux*. Nevertheless, the structures, actors and the accumulated knowledge concentrated in Luxembourg's financial centre facilitates a largely unique setting for the generation of new, and the transfer of existing, financing knowledge across both the conventional and the alternative financing industries. Although no direct organisational ties exist as yet, managers and firms engaged in alternative financing activities on an international scale may have incorporated experience and knowledge abroad that could be partially transferred back home and inspire the set-up of similar products and practices to serve the financing of activities in the domestic market. One of the most prominent examples is surely the microfinance sector.

Moreover, the particular role of Luxembourg's state and its public authorities, such as committed ministries (Figure 1), as key initiators and "nudgers" of its domestic alternative finance sector becomes obvious. The state does not only co-initiate and support (financially and ideally) the creation of alternative financing facilitators and products, but has also started to build bridges between big commercial financiers and the largely unaddressed societal need for alternative financing products. For example, Luxembourg's state paired up *etika* with the BCEE in order to launch *etika's* alternative loan scheme, which so far seems to have become a small success story. The full potential of the state's role as a key intermediary and its bridging of gaps between large commercial and smaller alternative actors in the realms of both domestic and international finance businesses, as well as the state's pivotal role as agent of change, have not yet been exploited.

#### 4. Discussion

The trends, initiatives, measures and means towards sustainable economic and financial activities established in Luxembourg described here, all of which can be interpreted against the background of the dynamics of broader societal transition, are undoubtedly ambitious. We started from the general observation that global debates revolving around the notion of sustainable finance and the related, yet separate, imperatives of capital returns vs. environmental sustainability/social justness have resulted in a striving for "greening" the financial sector in two distinct, and still largely incongruent directions.

The three case studies of LFMD, *etika* and *microlux* provided interesting insights into recent and ongoing "greening processes" of the financial industry in Luxembourg. These examples, however, also illustrate that the success of financing alternative businesses both in Luxembourg and abroad is not only ambivalent, i.e. of minor/marginal importance for the finance industry, as the overview in Table 1 suggests, but in their varying degrees of success they are also heavily dependent on the state's role(s) and (subsidy-based) policies.

It is too early to evaluate the impact and durability of the nascent microfinance activities such as those of *etika* and *microlux* in Luxembourg. Furthermore, the fact that *etika* and *microlux* are essentially funded by two banks, that is, Spuerkeess and the BGL BNP Paribas, does not necessarily mean that creditor banks are profoundly changing their business portfolios. Rather, these commitments, marginal in terms of economic weight, are perhaps relevant for marketing purposes but also hint at the strong role of the state. However, the complementary fact that their financing banks' (small) credits are safeguarded by public institutions like the EIF, and indirectly by public funding from the state, could be interpreted as a first step in a more sustainable direction.

One of our interviewees highlighted that, besides the limited access to small loans for social, alternative businesses in Luxembourg, it is also getting increasingly difficult for Luxembourg-based SMEs to find appropriate financing for their ongoing activities and planned investments. Such a finding might be surprising, given the strong position of Luxembourg as a recognised IFC. Yet, it is the functions of the Luxembourg-based international banks, primarily (economically lucrative) corporate banking, that bypass small-scale greening financing activities, e.g. low(-er) yield functions such as sustainable provision of credit to target groups like SMEs and start-ups in greening economies.

Against that background, the evident influence of the government in the small Grand Duchy of Luxembourg is both a blessing and a curse for players operating in the dominant and powerful finance industry. Hegemonic discourses, buoyed and strengthened further by state policies and interventions, reiterate and support the feeble attempts to green the financial sector in Luxembourg. Initiated, commissioned and financed by the Ministry of Economy and Foreign Trade, the *TIR Consulting Group LLC* (2016a) of Jeremy Rifkin developed, in close concertation with domestic stakeholders from various economic domains, no less than a roadmap for Luxembourg's "third industrial revolution". The so-called *Rifkin Report* is believed to formulate the new leitmotiv for Luxembourg's future economic and regional development policies. Despite stressing and advocating greening

aspects such as digitisation, sharing economies and “smart” city approaches, the report articulates these aspects in a narrow, overly technology-centred understanding and misses the opportunity to anchor the anticipated new economic growth sectors within the larger societal structures in Luxembourg, respectively, matched by the finance sector. Technology alone (“finternet of things”, i.e. the financial internet of things), it seems, is considered the holy grail for defining and qualifying Luxembourg as the new, leading financial hub (TIR Consulting Group LLC 2016b, 90–91). Nonetheless, the report stresses two “business model innovations” regarding the IFC of the future:

1. The creation of the *Luxembourg Sustainable Development Finance Platform* (LSDFP), a “market-place” to sustain the financing of investments in each of the identified pillar sectors of sustainable development (TIR Consulting Group LLC 2016b, 93), aims at bridging existing gaps between public and private investors and initiatives. It would/could serve as an instrument to insure appropriate measures to finance industries and projects further proposed in the report.
2. The application of microfinance in Luxembourg “to foster bottom-up innovative and sustainable projects” (TIR Consulting Group LLC 2016b, 95) to support target groups such as social start-ups primarily embedded in sustainable economies, e.g. the sharing economy. Again, however, the report’s recommendations focus one-sidedly on technical aspects of IT infrastructure (e.g. on the development and technical leadership in block chain technologies) in order to facilitate respective economic activities and businesses in this realm, whilst largely neglecting societal structures and needs to match these new technologies and business structures in ways that would meet sustainability criteria as defined above.

The Rifkin Report is currently highly present in Luxembourg’s political and media discourses. It sends a strong and unmistakable signal regarding Luxembourg’s future as a site for sustainable economies that are also financed in sustainable ways, but with a clear agenda for the “green” expansion of Luxembourg’s international finance industry. In this sense, it is used by government officials and policy-makers to legitimise strategic priorities, which in turn clearly privileges the “smart” technology dimension over other environmental, social/societal aspects.

## 5. Conclusion

The analysis of the empirically introduced examples of green/sustainable financing and economic initiatives in Luxembourg illustrate that the IFC Luxembourg has not just adapted to new greening imperatives. Instead, it has itself contributed to repositioning/rebranding the finance industry, by invoking labels indicating progress such as “green” and “technology”, towards more sustainable objectives.

The most prominent example of this development has been the microfinance sector, which currently faces the risk of becoming a victim of its own success. With the proliferating growth and spread of MIV around the globe, this emerging market is increasingly “captured” by incumbent actors” (Pel 2016, 673) from the banking and insurance industries. As these actors’ motivations tend to diverge from exclusively social or environmental objectives, more and more funds struggle to receive the treasured LUXFLAG certification that signals the presence of the “sustainability” dimension in their investment products. Consequently, microcredits and related financing/investment practices are increasingly criticised for creating new dependencies between investors and investment targets, and for externalising risks to the already disadvantaged debtors and borrowers. David Harvey’s drastic disqualification of microfinance as the “subprime of all subprime forms of lending” (Harvey 2012, 86) might be hyperbolic with regard to many smaller players in the microfinance industry. Yet, he hints at the thin line easily crossed, e.g. the potential misuse of an initially well-intended financing tool that seeks to support beneficiaries in social groups most in need by powerful financiers interested primarily in shareholder-driven profit-seeking.



This discussion hints at the wider problem we outlined at the beginning, namely the discussion about what counts as “green finance”. Does it consist of innovative green investment strategies and the utilisation of current conjunctures to create new markets for environmental and climate finance, as the *bricolage* concept would suggest, or does it involve the alternative financing of small(-er)-scale local/regional, environmentally friendly and socially inclusive businesses? Socially inclusive businesses potentially allow for a more equitable spread of gains and resources amongst different social groups, both in terms of wealth distribution and in access to resources such as education, labour markets and healthy work environments. The disparities in the underlying capitalist logics between both approaches hint at the long-standing question of how to frame sustainable finance within a sector that largely remains growth- and shareholder-oriented, and which thrives in an environment of securitisation and derivatives trading. Luxembourg’s gigantic finance industry is no exception. Yet, the country’s small size, its thriving international financial economy, and its high degree of dependency on the well-being of the financial businesses it hosts makes it an ideal test site for observing and analysing the design and amendment of economic structures and policies using a greening model. This comprises established financial structures and narratives designed by a state that, first, continues to nurture its strategic sector of international finance and second, – with a view to the changing global economic conditions – further seeks to complement it by “greening” its private businesses, all of which is well-designed to highlight Luxembourg’s new image as a recognised green, international and sustainable economy. In this regard, [Figure 1](#) relates financing *initiators*, such as state ministries and NGOs in Luxembourg, and financing *facilitators*, such as sustainable financiers (*etika*, *microlux* and LMDF) with new, green financial products in Luxembourg that are linked both to the international financial markets (so as to secure their refinancing) and to alternative businesses in- and outside Luxembourg. Both linkages represent potentially flourishing markets for the different business strategies and models designed by a range of different players, as our case studies *etika*, *microlux* and LMDF revealed.

#### Green finance, interrupted?

The explorative approach in this article, together with its empirical material, suggests a range of interesting points of interruption and leads to ask many more questions than it provides answers in this emerging field of research. Alluding to perceptions from a conceptual *bricolage* angle, the workings of the *bricoleur(s)* across our three analytical levels – private, public and regulatory interests – require a much deeper understanding in order to assess current transition processes in finance toward greener economies and societies correctly. A non-exhaustive list of characteristics to be scrutinised in the future might include:

- ... to comprehensively track motivations, decision-making and implementation strategies underpinning greening efforts in the finance industry;
- ... to identify potential overlaps between large investors’ strategies and the needs of debtors devoted to alternative economic practices;
- ... to assess how recent global climate finance initiatives and approaches may translate into stipulating new products, services and strategies in local/regional economies and link them with new sustainability and de-growth imperatives;
- ... to evaluate the innovativeness and transformative potential of business models of microfinance and micro-insurance in local/regional economies of developed countries;
- ... to investigate impulses from a large range of community-based transition initiatives.

The (notorious) Rifkin Report for Luxembourg signals strong political willingness towards more sustainable development, which could be interpreted as a reaction to the financial industry’s attempt to regain societal trust and reputation. Yet, concrete activities launched thus far are either too marginal or too recent to be able to gauge their full impact. Despite its huge efforts, the illustrated inconsistencies in Luxembourg’s green(-ing) ambitions of its finance industry seem to persist in the traditional logic of growth for now, with consequent limitations for the transformative potential of

associated public policies. The momentum of challenging traditional approaches to the finance industry and the particular needs of alternative economic endeavours remains fragmented, but disruptive, innovative “green” undertakings are well on their way.

## Notes

1. Defined as: “a very small business employing up to 10 people and having a turnover or an annual balance sheet less than 2 million EUR.” (*microlux* 2017)
2. Defined as “business respecting the following principles: 1) to carry out an ongoing economic activity; 2) to have a social or societal purpose (to support persons in fragile situations, to reduce exclusion and inequities, to contribute to sustainable development and to environmental protection etc.)” (*microlux* 2017)

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## ORCID

Sabine Dörry  <http://orcid.org/0000-0002-3599-8371>

Christian Schulz  <http://orcid.org/0000-0001-8383-6193>

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