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With and beyond sustainability certification: Exploring inclusive business and solidarity economy strategies in Peru and Switzerland



Christoph Oberlack^{a,b,*}, Trent Blare^c, Luca Zambrino^b, Samuel Bruelisauer^{a,b}, Jimena Solar^a, Gesabel Villar^{a,b}, Evert Thomas^d, Marleni Ramírez^d

^a Centre for Development and Environment (CDE), University of Bern, Switzerland

^b Institute of Geography, University of Bern, Switzerland

^c Department of Food and Resource Economics, University of Florida, USA

^d Alliance Bioversity International and CIAT, Lima, Peru

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ABSTRACT

Certification of sustainability standards is an important governance strategy aimed at enhancing the human well-being outcomes of agri-food value chains. While the impacts of certification on well-being are positive for some farmers under certain conditions, they are insignificant or adverse for others. Many barriers can impede positive impacts of certification on well-being. Alternative or complementary strategies such as inclusive business and solidarity economy may challenge these barriers. However, since certification, inclusive business and solidarity economy strategies are studied in isolation, their precise similarities and differences, their interplay and their relative efficacy and limitations remain elusive. Therefore, this paper explores to what extent and how inclusive business and solidarity economy strategies may overcome the persistent governance and economic barriers that limit well-being impacts of certification. We explore four purposively selected cases of inclusive business and solidarity economy strategies from the cacao value chains connecting Peru and Switzerland. Results show that value chain actors combine different specific elements of the three strategies (certification, inclusiveness and solidarity) into portfolios of instruments, which reflect their value chain role and organizational missions. These instrument portfolios may address some of the barriers of certification schemes, but they come with their own challenges and limitations. We conclude that promising future research may use comparative research designs to disentangle specific instruments of inclusiveness, solidarity, and certification; to build typologies of instrument portfolios; to understand their interaction with systemic change in markets and land-use systems; and to specify the conditions under which value chain actors can use specific instruments to improve well-being outcomes of agri-food value chains.

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1. Introduction

Certification of sustainability standards such as “Fairtrade” or “Organic” has become an important governance strategy intended to enhance human well-being in global agri-food systems (Elder et al. 2021). Certification schemes use production or trade standards, monitoring, certification, and labelling to identify and reward products that comply with a set of environmental and social requirements (DeFries et al. 2017). Over 450 certification schemes have been developed worldwide (EcoLabel Index, 2022). Up to 45% and 37% of globally cultivated land for coffee and cacao,

respectively, is under some form of certification (Lernoud et al. 2018).

Proponents argue that certification schemes improve well-being of smallholders, workers, and local communities via price premiums, minimum prices, long-term contracts, farmer access to pre-finance and premium markets, standards for occupational remuneration, as well as health and capacity building (Oya et al. 2018). Yet recent systematic reviews show that the effects of most certifications on well-being are mixed (DeFries et al. 2017, Oya et al. 2018, Meemken 2020). Certification schemes can improve well-being in some cases, but they do not consistently so across regions, standards, crops, and producers (Traldi 2021). The well-being effects can even be adverse, for instance, if higher labour intensities or transaction and production costs of certified production are not recovered via higher prices (Vanderhaegen et al. 2018)

* Corresponding author at: University of Bern, Mittelstrasse 43, 3012 Bern, Switzerland.

E-mail addresses: christoph.oberlack@unibe.ch (C. Oberlack), tblare@ufl.edu (T. Blare), samuel.brueelisauer@unibe.ch (S. Brueelisauer), jimena.solar@unibe.ch (J. Solar), e.thomas@cgiar.org (E. Thomas), m.ramirez@cgiar.org (M. Ramírez).

or if auditing practices are insufficient to protect rights of land users (Schilling-Vacaflor et al., 2021).

Many barriers can limit the potential positive well-being impacts of certification from being attained by smallholders, workers, and communities. These barriers include weak producer organizations or limited capacity of producers to bear higher certification-related production and transaction costs (Giuliani et al. 2017, Schoneveld et al. 2019). Certification schemes are embedded in value chains and regulatory frameworks with specific structural attributes that influence the outcomes of certification (Grabs et al. 2021). First, the agri-food industry is amongst the most concentrated in the global economy (IPES-Food, 2017). Such market concentration has led to imbalances in bargaining power between integrated large traders, processors and manufacturers and dispersed small-scale farmers who are mainly price takers with small capacity to negotiate prices that cover production costs and ensure a living income (UNCTAD, 2016, IPES-Food, 2017). Property rights structures perpetuate these effects. The five largest global asset management firms now own together 10–30% of the shares in the largest agribusiness corporations across agri-food chains. This common ownership reinforces concentration of decision-making power and consolidates wealth and income in the hands of shareholders (Clapp 2019). Ponte (2019) argues that lead firms in global value chains can use sustainability certification to squeeze additional value from suppliers in the Global South, if certification tightens the requirements that producers need to meet, while most added value of standard-compliant production accrues at intermediary and final stages of value chains. Second, trade protection measures are a structural factor. Tariffs on agricultural products are nearly 12% higher than those applied to non-agricultural products globally. In addition, non-tariff barriers such as sanitary, phytosanitary and technical measures to trade are prevalent in agricultural products and the capacities to implement them in producing countries are flawed (WTO and World Bank, 2022). If such measures are not applied in a non-discriminatory and proportionality manner, these comprise trade barriers that can prove harmful for producing countries businesses, in particular small and medium enterprises (OECD 2020). Third, transport is a significant part of trade costs. Correspondingly, the quality of transport infrastructure and logistical services influence the extent to which producers may benefit from access to certified markets (UNCTAD, 2020, World Bank, 2021). Taken together, these structural factors set important framework conditions for the implementation and outcomes of certification (Grabs and Ponte 2019, Neimark et al. 2019).

Against this background, research on sustainability certifications currently advances along multiple lines. One line delves into the complementarities and antagonisms between private certification and state regulation (Lambin and Thorlakson 2018, Pacheco et al. 2020, Grabs 2021). A second strand seeks to enhance the methodological rigour of impact assessments of sustainability standards (Ruben 2017, Meemken 2020, Traldi 2021). Other research frontiers include disentangling the precise institutional designs of certification schemes and their adoption, evolution, and diffusion (Schouten and Bitzer 2015, Grabs, 2020, Arnold 2022, Marx et al. 2022); examining the trade-offs and synergies between different goals of governance such as equity and effectiveness (McDermott 2013; Grabs et al. 2021; Cammelli et al. 2022); as well as upscaling of sustainability standards from farm- to landscape level (Tschardt et al., 2015). These research lines offer crucial insights and advances for the functioning and effects of certification schemes.

However, most research on certification takes the governance strategies and business models of the organizations who are active in agri-food value chains as given, even though distinct alternatives exist. We argue that disentangling private governance strategies

and business models in greater detail is one of the important frontiers for research on certification and sustainability standards, because strategies and business models affect the very core of what constitutes private governance – they affect who the actors in value chains are and how multiple actors interact. Thereby, they affect how actors position themselves towards certification and how they engage in value chains of different structures.

Inclusive business and solidarity economy are two important, but different strategies in this regard. Inclusive business strategies are long-term contractual partnerships between buyers and agricultural producers through which the former aim to enable and improve the participation of and benefits received by the latter in commercial agricultural value chains. Examples are contract farming and outgrower schemes (Vermeulen and Cotula 2010, Chamberlain and Anseeuw 2019). Solidarity economy strategies are collective initiatives based on democratic governance and co-ownership through which smallholders or workers, by themselves or in collaboration with other actors, aim to gain access to and control over their participation in agricultural value chains. The most common form of solidarity economy initiatives are agricultural cooperatives and producer associations which have been widely recognized and promoted for poverty reduction, rural development and decent work in global supply chains (Develtere et al. 2008; Bernard and Spielman 2009; Verhofstadt and Maertens 2015; Möller et al. 2019). Other examples of solidarity economy initiatives in the agri-food sector include community-supported agriculture schemes and solidarity finance groups (UNTFSSSE 2014, Utting 2018). Thus, inclusive business and solidarity economy are two contrasting strategies of different actors mobilizing different mechanisms to influence well-being.

Inclusive business and solidarity economy strategies may complement or substitute certification in attempts to enhance well-being outcomes in agri-food value chains, but their interaction is not well researched. This gap is problematic because the lack of rigorous comparative data and theory limits understanding of the interplay and relative efficacy of each strategy. This lack of understanding is partly attributable to current research designs that study certification, inclusive business, and solidarity economy strategies in isolation.

Therefore, this paper explores to what extent and how inclusive business and solidarity economy strategies may address the barriers to positive impacts of certification on the well-being of agricultural producers. We explore this research direction by analysing four purposively selected cases of inclusive business and solidarity economy strategies adopted by companies and cooperatives all along cacao value chains that connect Peru and Switzerland. We selected organizations that supply cacao in Peru and ones that transform it and deliver to the final consumers in Switzerland for multiple reasons. Cacao is an important agricultural product traded in global value chains. It is relevant for the well-being of agricultural producers and certification is a common strategy in cacao (Lernoud et al. 2018, Thorlakson, 2018). Finally, the cacao sectors of Peru and Switzerland feature innovative strategies of inclusive business and solidarity economy (Blare et al. 2020).

Two research questions guide our study: (1) What are the shared and distinctive elements of inclusive business, solidarity economy and certification strategies? (2) To what extent and how can inclusive business and solidarity economy strategies overcome barriers of certification to enhance the well-being of agricultural producers?

The article is organized into six sections. Section 2 reviews the pathways to impacts of certification on human well-being and it identifies recurrent barriers to such impacts. We argue that research is needed that takes a direction of comparing certification and other private governance strategies in a systematic way. We introduce inclusive business and solidarity economy as two impor-

tant governance strategies in this regard. Section 3 presents material and methods of our exploratory case study. Section 4 presents the strategies of four diverse organizations from Peru and Switzerland. In section 5, we discuss whether inclusive business and solidarity economy constitute alternative or complementary strategies to certification and whether they may overcome some of the barriers that challenge certification. Section 6 concludes.

2. Impacts of certification on human well-being and new research directions

2.1. Pathways to impact of certification on human well-being

Many standard setters present a theory of change to underpin the design, implementation, and communication of their certification schemes (Bray and Neilson 2017). Pathways to impact are one component of their theories of change; they explain how particular interventions lead to particular outcomes and impacts (Dhillon and Vaca, 2018). While any single certification scheme can feature idiosyncratic elements (Bray and Neilson 2017), there are typical pathways to impact, which contain common elements shared by many certification schemes (Ruben 2017; Oya et al. 2018, Dietz et al. 2020, Traldi 2021).

Oya et al. (2018) group typical impact pathways around four main interventions of certification schemes. The first pathway posits that certification schemes involve capacity building interventions such as training or other support to producers and their organizations, which contribute to improved farming or processing practices. These improved practices translate into higher productivity or quality as intermediary outcomes, which in turn may improve farm profits and income and finally farmers' well-being.

The second impact pathway suggests that certifications involve market interventions that provide producers with better access to premium markets and to longer-term contracts, pre-finance and credit. These market interventions are expected to lead to reduced risk aversion, higher and more stable prices, which in turn enable more investments in farm improvements, leading to better well-being outcomes through greater farm profits and farmer income.

Third, certifications come with premium payments. Smallholders may benefit from them directly or through greater capacity of producer organizations to provide services in education, health, transport or processing. These intermediary outcomes may strengthen farm profitability and value chain upgrading.

A fourth pathway to impacts posits that agricultural workers may benefit in their well-being through tighter labour standards that come with certification. Labour standards can target e.g. decent remuneration, workplace safety and freedom of association. They may improve worker's well-being through better wages, rights and safer and healthier workplaces (Oya et al. 2018).

Theories of change of certifications also posit other beneficial and secondary effects. These include improved product quality, stronger producer organizations, copying behaviour in farmer communities, more reliable supply chain relations and improved product marketing (Bray and Neilson 2017, Ruben 2017).

2.2. Barriers to impact

Accumulating scientific evidence shows that these descriptions of pathways to impact are often overly optimistic. Systematic reviews of the scientific evidence show that the impacts of certification schemes on well-being are mixed (Bray and Neilson, 2017, DeFries et al. 2017, Oya et al. 2018, Meemken 2020, Schleifer and Sun 2020, Garrett et al. 2021, Traldi 2021). The impacts differ according to crop, location, standard, producer needs, outcome indicators, and research methodology, among others (Ruben

2017, Meemken 2020). While some farmers can benefit from certifications to a sizable extent (Elder et al., 2021), others do not (Oya et al. 2018, Meemken 2020). The impacts can even be adverse (DeFries et al. 2017, Traldi 2021). This can occur, for instance, if production volumes are lower due to limited pest and disease control options in organic agriculture or if higher costs of certified production are not offset by higher prices (Oya et al. 2018) or if standards set preserve incentives for agricultural intensification and specialization, resulting in reduced resilience (Ruben 2017). Moreover, better well-being of smallholders does not necessarily into better well-being of workers or community, and the effects on well-being of workers and broader communities in producing regions are less understood (Ruben 2017, Meemken, Sellare, Kouame, & Qaim, 2019).

Thus, barriers may limit or even reverse the desired positive impacts of certification on well-being. We define barriers to impact as the dynamics and effects that counteract intended pathways to impacts. The systematic reviews of Oya et al. (2018) and Meemken (2020), for instance, provide detailed overviews of those barriers. Here, we focus on typical economic and governance barriers that systematic reviews identified. We note that other barriers include trade-offs between goals, small land areas and low production volumes of small-scale farmers as well as contamination with pesticide residues of organic farms by neighbours who are conventional (Oya et al. 2018, Vanderhaegen et al. 2018).

2.2.1. Economic barriers to impact

Uneven participation of producers in certified production is a first common set of barriers to well-being impacts (McDermott 2013). Better-off producers may engage in standard-compliant production more easily than poorer producers (Oya et al. 2018, Meemken 2020). In Peru, for instance, certification is clearly more common among large, agro-industrial farms (13–21% in 2018) than small family-operated farms (0.7–0.9% in 2018) and tends to occur in regional clusters of farms rather than among dispersed or remote farms (Meemken 2021). Reasons for such uneven participation include low levels of interest and awareness, formal education, ability to invest, land titling, as well as orientation towards export vs domestic markets, among other reasons (Brandt et al. 2015, Hutabarat et al., 2019, Elder et al. 2021). Standards may come with barriers to entry, such as strict compliance rules or a set of priority standards on quality and supply chain performance rather than support for vulnerable producers (Oya et al. 2018, Dietz et al. 2021). Exclusion from historical planning or extension programmes can be another barrier smallholders face to participate in certified production (Watts et al. 2021). These barriers affect impact pathways by constraining those people and organizations who can benefit from certification.

Costs of certification and certified production are a second common barrier. Next to the direct fees for certification agencies, certification can invoke investment costs necessary to meet standards as well as bureaucratic costs for detailed documentation and auditing (Oya et al. 2018, Meemken 2020). These costs may reinforce uneven participation, or they may reverse the beneficial effects of higher prices of certified products. A similar effect occurs, when lower production volumes in certified systems are not compensated by price premiums (Meemken 2020).

Despite substantial growth of demand, *capacity of markets to absorb certified production is still limited*. Consequently, producers may need to sell excess certified products in non-certified markets at commodity prices (van Rijsbergen et al. 2016). The proliferation of labels may entice or pressure producer organizations to engage in multiple certification schemes to gain access to multiple segments of certified markets (Donovan et al. 2020), but economic impacts of multiple certification are limited (Dietz et al. 2020).

The structure of value chains can constitute a barrier to well-being impacts, if producers depend on a few buyers, on unstable supply chain relations, or if standard-compliant markets come with many supply chain intermediaries (Bray and Neilson 2017, Elder et al. 2021). In such cases, producers' bargaining power may be low and added value of certified products may be distributed to a greater benefit of upstream value chain actors (Yi et al. 2021). In markets with strong lead firms such as traders, manufacturers or retailers, their strategies can significantly affect well-being outcomes of producers (Grabs and Carodenuto 2021).

2.2.2. Governance barriers to impact

Here we focus on barriers in private governance, noting that the political and legal framework conditions and public support services for producers are important factors of public governance.

The absence or dysfunctionality of producer organizations is a common barrier to well-being impacts of certification. Cooperatives and other producer organizations are often instrumental to organize certification and to manage certification rents (Oya et al. 2018, Elder et al. 2021). They can support positive well-being impacts of certification not only when they organize producers' access to inputs, trainings or financial services, but also if they are producers' vehicles to self-organize processing, transportation and/or marketing collectively (Meemken 2020, Blekking et al. 2021). However, lack of common interests, pre-existing local conflicts, unequal gender relations or elite capture by the management of producer organizations are some of the typical factors that can undermine functionality of producer organizations (Donovan et al. 2017, Oya et al. 2018).

Limited voice of producers in many standard-setting organizations is a common critique of many certification schemes (Bacon 2010, Bennett 2017) which is particularly salient as transnational standards can modify local resource governance (Johnson 2022). Producers' voice is necessary for the implementation of schemes that are viable considering producers' labour, investment, and other constraints. Thus, a lack of voice becomes a barrier to well-being impacts, if it reduces producer adoption of standards. This situation explains the emerging demand of adapting international standards to local context and priorities in producing countries (Elder et al. 2021).

Finally, the effectiveness of monitoring and auditing systems has been challenged. Critiques argue that transparency, accountability and context-sensitivity of auditing procedures may be limited and producers, producer organizations and exporters may manipulate auditing processes. These factors may affect the capacity of certification schemes to ensure compliance with sustainability standards (Oya et al. 2018).

2.3. Implications for research directions: Towards comparison of certification with alternative private governance strategies

The dynamic field of research on sustainability certification currently takes different important directions. However, much of the current research on certifications takes the organizational strate-

gies and business models of value chain actors as given. This is problematic, because the objectives and mechanisms of private governance may influence how actors constitute themselves, how value chains are structured and what practices producers, buyers and traders adopt (Meemken 2020, Grabs and Carodenuto 2021). By doing so, private governance strategies beyond certification may challenge the barriers to improve well-being outcomes of certified and non-certified value chains. Therefore, we argue that comparative analyses of certification schemes with other strategies of private sustainability governance are needed to identify the most effective ways of improving well-being outcomes of agri-food value chains.

2.4. Inclusive business, solidarity economy and certification as private governance strategies

Inclusive business and solidarity economy strategies are gaining relevance as two private governance strategies. They seek to strengthen the inclusion of smallholders, workers, and low-income communities in agri-food value chains (Ros-Tonen et al. 2019) or the community-based and self-organized production and provision of goods and services based on principles of solidarity (Vicari 2014, Utting 2018).

The common denominator of certification, inclusive business, and solidarity economy is that they are strategies of private-sector organizations (e.g. corporations, non-profit, and community-based organizations) whose members define and implement rules for land use, investment, and trade with limited direct involvement of state actors. The strategies differ in terms of the main rule-setting actors and main mechanisms for improved well-being (Table 1).

A single organization may use one or multiple of these strategies simultaneously. For instance, a single cooperative may constitute itself in line with principles of solidarity economy among its members; it may engage in an inclusive business partnership with a trading and manufacturing company; and it may have Fairtrade or Organic certification.

Certification, inclusive business, and solidarity economy are not the only strategies employed by private-sector actors with the aim of improving well-being in agri-food chains. Others include pledges of corporate social responsibility and codes of conduct (Lambin et al. 2018), sustainable sourcing practices of agribusiness (Rueda et al. 2017, Thorlakson et al., 2018, Bager and Lambin 2020), sector-wide commitments (e.g. zero-deforestation commitments) (Lambin et al. 2018, Garrett et al. 2021), multi-stakeholder roundtables (Rueda et al. 2017), and transparency initiatives (Gardner et al. 2019, Garrett et al. 2021). In addition, governments, public administrations, and international organizations remain key actors in governing agri-food chains as they devise public policies, property rights, and international agreements (Lenschow et al. 2016, Lambin and Thorlakson 2018).

We focus on certification, inclusive business, and solidarity economy strategies here, because sustainability standards, inclusiveness and solidarity are widely believed to enhance human

Table 1
Distinguishing characteristics of certification schemes, inclusive business, and solidarity economy strategies. (source: authors, based on Vicari 2014, German et al. 2018, Oya et al. 2018).

Strategy	Main rule-setting actors	Main potential mechanisms to improve human well-being
Certification schemes	Standard-setting organization (typically: corporations, non-profit, or multi-stakeholder organization)	Capacity building, market interventions, premium payments, labour standards
Inclusive businesses	Agribusinesses, smallholders	Protection of smallholder land rights and assets, improved access to goods, services and livelihoods for low-income communities
Solidarity economy	Community of agricultural producers, food consumers	Solidarity among participants, fair prices, risk sharing, reducing role of intermediaries in value chains, securing common property

well-being. Moreover, they build on different theories of change. They emphasize different main actors and mechanisms to improve human well-being (Table 1). Their main institutional arrangements and ideological foundations also differ. They range from non-profit- or corporation-led standard setting and verification (as in certification scheme) to corporation-led contractual arrangements with smallholders (in inclusive business strategies) or community-based self-organization (in solidarity economy). Thus, the selection of these three strategies enables direct comparison of contrasting theories of change to enhancing well-being in global agri-food value chains.

3. Materials and methods

We adopted an exploratory case study research design, in line with the aims of this study to explore the comparison of certification, inclusive business and solidarity economy strategies (Yin 2013). We focus on the cacao sectors of Peru and Switzerland to explore (1) the diversity of inclusive business, solidarity economy, and certification strategies in the respective cacao value chains; and to investigate (2) the extent, mechanisms and limitations of inclusive business and solidarity economy strategies to address barriers to impact encountered by certification schemes. We selected Peru and Switzerland for multiple reasons. Per capita, Switzerland is one of the top countries in the global North whose consumption and processing activities displace social and environmental impacts onto other countries via trade and investment (Weinzettel et al. 2013). Cacao imports contribute to the environmental footprint of the Swiss food industry (Nathani et al. 2019). Peru is an important producer of cacao including fine-flavour cacao in the global South and well-being within Peru is impacted by global land investments and trade in agricultural goods. In this vein, the related policies are conceived by Peru as tools to promote economic growth besides to improve social inclusion and people's living standards (World Trade Organization WTO, 2019). Peru has become an important exporter of cacao certified as Organic (Scott et al. 2015). Both countries are connected by cacao value chains and hotspots of innovative and established organizations employing the three strategies of interest (Blare et al. 2020, COMTRADE 2022). They are also directly linked via certification schemes, inclusive businesses, and solidarity economy strategies of Swiss and Peruvian organizations.

We implemented a mixed-methods data collection approach. We collected qualitative and quantitative data from 24 semi-structured interviews with managers, experts, and government representatives. Interviews with managers of companies and cooperatives focused on the basic characteristics and institutional setup of the selected organizations. Interviews with sectoral experts and government representatives focused on the political environment, trade relations, and sectoral dynamics. Interviews were held between October 2018 and March 2019. The interview data were triangulated with 15 additional interviews with producers, employees, members and managers of cooperatives and enterprises held in November 2021, April and May 2022 as well as with document analysis, participatory observation, and complemented with secondary data sources from scientific literature to develop converging lines of inquiry. We validated the accuracy of the results with the primary contact persons in the selected organizations. In total, we explored 14 cases from the cacao sectors of Peru and Switzerland. For the purposes of this article, we selected four cases. We took the following criteria into account for case selection: 1) demonstrate particularly illustrating examples of inclusive business and solidarity economy strategies; 2) cover organizations headquartered in a cacao producing country (Peru) and a consuming country (Switzerland); 3) variation in geographical scope of

sourcing (single source location within Peru vs multiple continents); 4) scope of marketing strategies (geographical focus and range of products); 5) different degrees of vertical integration (with/without cacao production; different value chain activities); and 6) different firm size (in terms of handled volume and number of producers or staff). The cases are (1) a farmer cooperative based in Peru; (2) a private chocolate company based in Peru; (3) a private chocolate company headquartered in the Netherlands with important processing facilities in Switzerland; and (4) a chocolate company co-owned by Peruvian cacao farmers and based in Switzerland. This sample aims not to be representative, but to illustrate distinct examples of inclusive business and solidarity economy strategies and their potential and limitations to address barriers to well-being impacts encountered under certification schemes.

We analysed this data by means of qualitative content analysis. We identified (1) characteristics of the companies and cooperatives related to their value chains and firm size; (2) their strategies of inclusive business, solidarity economy and certification strategies; (3) statements about how these strategies address the barriers to well-being impacts; as well as (4) statements about limitations. To identify the inclusive business, solidarity economy and certification strategies of the selected organizations we asked three questions: To what extent and how does the organization...

1. build long-term partnerships between buyers and producers, which seek to enable and improve participation of producers in cacao value chains? (inclusive business strategy)
2. realize collective action based on democratic governance and co-ownership, which seek to enable and improve producer's access and control over their participation in cacao value chains? (solidarity economy strategy)
3. include certification schemes (certification strategy)

The following methodological limitations should be taken into account when interpreting the results of this study. First, this study follows an exploratory case study research design. Therefore, the results are not meant to be generalizable, but with this study we intend to prepare and inspire more large-N and in-depth comparative analyses of certification, inclusive business and solidarity economy strategies. Second, most of the data originate from semi-structured interviews. The aim was to open new research directions on certification by exploring the scope of key distinctive elements in certification, inclusive business, and solidarity economy strategies. Future research can build on these insights through more systematic empirical assessments of the full range of instruments that value chain actors use to implement such strategies. Third, this study analyses the governance and market strategies of the selected cases. Further, we discuss how the strategies may influence the barriers to impacts of certification schemes, but we did not implement a household survey to systematically measure the impacts of the governance strategies on human well-being. This article aims to inspire future rigorous impact assessments that go 'beyond certification' in their research design by comparing the impacts of the different private governance strategies on well-being.

4. Results: Inclusive business, solidarity economy and certification strategies of four value chain actors

This section explores the inclusive business, solidarity economy and certification strategies of four different organizations in the Peruvian and Swiss cacao value chains. Table 2 shows their key characteristics in terms of value chains and firm size. All of them process so-called fine flavour cacaos. These diverse native varieties

Table 2
Overview of the four value chain actors.

	A cooperative in Peru (case 1)	A private chocolate company in Peru (case 2)	A farmer co-owned chocolate company in Switzerland (case 3)	A private chocolate company based in the Netherlands (case 4)
Value chains in Peru	Cacao, coffee, sugarcane and fruits	Cacao	Cacao	Cacao
Primary and processed cacao products	Cacao beans, chocolate bars	Cacao beans, cacao nibs, couverture, chocolate bars	Cacao beans, chocolate bars	Cacao beans, couverture, chocolate bars
Main roles within cacao value chain	Producer, technical services, sourcing, processing and distribution	Sourcing, technical services, processing, distributions and marketing	Producer, technical services, distribution and marketing	Sourcing, technical services, distribution and marketing
Varieties of cacao	native fine flavour cacao (Piura white cacao), CCN-51	native fine flavour cacao (Chuncho and Piura white cacao)	CCN-51 complex, CYP, native fine flavor cacaos	native fine flavour cacaos (chuncho and Piura white cacao)
Sourcing regions in Peru	Piura, Tumbes, Amazonas, Cajamarca and San Martín	Cusco, Piura, and Amazonas	San Martín	Piura and Cusco
Cacao value chains in other countries than Peru and Switzerland	dry cacao export to Europe	chocolate export to Europe and Japan	cacao butter from the Dominican Republic	source cacao beans from Latin America, West Africa and Caribbean for dry bean retail and chocolate production
Size (employees and producers)	126 employees; greater than 6'000 associated producer families of which 3600 produce cacao	11 employees ~30 producer families	15 employees 40 producer families	15 employees 222 producer families
Size (handled volume of dry cacao in/from Peru 2018)	~1360 tonnes	50 tonnes	24 tonnes	300 tonnes

of cacao with high quality flavour characteristics are predominant in Peru (Scott et al. 2015). They are typically used for speciality markets with consumers who are willing to pay higher prices for fine-flavour chocolates (Tsowou and Gayi 2019, Blare et al. 2020). Some of the companies also process the hybrid CCN-51 varieties of cacao that are widely cultivated worldwide. The final products are primarily chocolate bars but also cacao nibs (roasted cacao beans) and couverture.

In the following, we will describe the inclusive business, solidarity economy and certification strategies of each organization. We focus on their most distinctive elements, rather than a full-fledged institutional analysis, because we aim to carve out their most innovative and distinguishing governance strategies. In Section 5, we will discuss how their strategies may address barriers to well-being impacts and what their limitations are.

4.1. Case 1: A large cooperative based in Peru

Case 1 is a large cooperative based in Peru. It sources and trades cacao, coffee, sugar cane and fruits from more than 6'000 associated producer families of which 3600 produce cacao and 480 of those are women. At the time of research, it processed about 1'360 tonnes of cacao of both native cacao as well as hybrid CCN-51 varieties. The cooperative adopts a mix of strategies of inclusive business, solidarity economy and certification.

Inclusive business strategy: The cooperative maintains direct relationships with its buyers abroad as well as with producers and other producer cooperatives in Peru. It organizes client-specific, post-harvest processing of cacao, storage, logistics management, export and marketing to Europe and the United States. These activities facilitate access to certified markets for associated producers. Side sales of cacao are not permitted, unless for cacao that comes from areas with high contents of cadmium. Cacao prices paid to producers include a premium of about 50% over global market prices for high quality, native, organic cacao. Other producer benefits include better access to credit and government funds, on-farm technical assistance, educational support for children and target-oriented premium funds for community projects.

Solidarity economy strategy: The cooperative is constituted according to Peru's General Law of Cooperatives (Legislative Decree No. 85 of 21 May 1981). It is a second-tier cooperative with

smaller associations. Participating farmers are grouped in 13 associations, which are responsible for the gathering, fermentation, drying and selection of cacao beans. All members of these associations are members in the cooperative. They have voting rights in the general assemblies, including to choose the board of directors, who make most of the strategic decisions and hire the managers. The cooperative leads marketing and communication and it is responsible for the technical supervision of the processes of each association. The cooperative has policies to advance gender equity such as 40% of leadership positions must be held by women; and it has a goal to increase the share of women employees from 20 to that 40%.

Certification strategy: The cooperative uses multiple certifications, including Fairtrade and Organic.

4.2. Case 2: A private chocolate company based in Peru

Case 2 is a private chocolate company headquartered in Lima, Peru. It specializes in high-quality native fine flavour cacao, sourcing 50 tonnes of cacao beans in 2018 through a direct trade scheme with smallholders and cooperatives in Piura, Cusco and Amazonas. It markets its chocolate bars in Peru, Europe, and Japan. The company pursues primarily an inclusive business strategy.

Inclusive business strategy: The company maintains direct and long-term partnerships with farmers who are capable to produce high-quality cacaos, roughly 30 smallholder households. To increase the quality of cacao beans, the company has organized producers into two producer cooperatives at the time of research. It has equipped them with post-harvesting infrastructure and introduced a systematic post-harvest process. This process includes technical assistance to monitor and improve productivity and production and harvest practices and to guarantee they meet certified Organic standards. The company's pricing model was to pay double the global market price at the time of research. Additional premiums are paid for the highest-quality cacaos. When global cacao prices plummeted in 2017/18, the company did not reduce prices, thereby guaranteeing a minimum price. Furthermore, advance payments and access to government support programmes strengthen financial inclusion of producers.

Solidarity economy strategy: Cacao producers make operational decisions for the cooperatives created with support of the com-

pany. Quarterly meetings are held between the producers and the chocolate company to discuss about their relationship and strategy. However, the producers do not have any ownership rights nor democratic decision-making authority in the chocolate company.

Certification strategy: The company uses Organic certification which is held by the producer cooperatives but not by the chocolate company nor the producers. Thus, the producers are required to sell to the cooperative and then to the chocolate company in order to receive the organic price premium, which limits concerns of side selling.

4.3. Case 3: A chocolate company co-owned by farmers based in Switzerland

Case 3 is a chocolate company headquartered in Switzerland, but co-owned by cacao farming families from Peru and consumers in Switzerland and Europe. In 2021, Peruvian cacao farmers held about 28% of the shares of the company, and consumers about 7%. Farmers are supposed to become majority shareholders in the medium term. The organizational set-up comprises the company and a foundation in Switzerland as well as a cooperative in Peru. The three sub-organizations complete almost all value chain activities, except for chocolate making, which is conducted by a Swiss manufacturer. Case 3 contains strong elements of a solidarity economy strategy.

Inclusive business strategy: The company seeks to foster value chain inclusion of cacao producers through a co-ownership model across the entire value chain. The company maintains direct and long-term relations with cacao producers who meet quality, social and ecological requirements.

Solidarity economy strategy: The most distinct element of case 3 is its co-ownership model, in which Peruvian cacao farmers own not only their cooperative, but also an increasing share of the company registered in Switzerland. This model provides for participation of producers in corporate governance such as the company's board of directors, including product development, marketing and communication. A second distinct feature is that prices of the final product (chocolates) are set in coordination with primary producers. Thereby, the company implements a minimum pricing model that is among the highest prices for cacao in Peru. Other producer benefits include on-site technical assistance. Post-harvest processing and trade of the cacao beans are conducted by the cooperative. The foundation governs a target-oriented premium fund that collects 5% of proceeds from chocolate sales. This fund is used for investments in community-based infrastructure and social and environmental projects in Peru. Furthermore, the company seeks to strengthen direct producer-consumer relations through direct trade, visits and public events of Peruvian farmers in Switzerland as well as journeys to the production site in Peru, which consumers from Switzerland and elsewhere can book.

Certification strategy: The company plans to introduce Organic production standards and labelling.

4.4. Case 4: A private chocolate company based in the Netherlands

Case 4 is a private chocolate company headquartered in the Netherlands, with chocolate manufacturing in Switzerland. The company's mission is to produce climate-positive and socially responsible chocolate bars from fine-flavoured rare and native cacao beans. It sources cacao from Latin America, West-Africa and the Caribbean. The cooperative of case 1 ships the beans to Europe, where a Swiss chocolate manufacturer produces chocolates, which the company of case 4 markets and distributes in Switzerland and large parts of the EU.

Inclusive business strategy: In Peru, the company sources from 222 producer families who are organised in associations and cooperatives. The company collaborates specifically with farmers who live close to nature conservation areas. It aims at protecting forests by offering farming families alternative incomes from native cacao and other crops of agroforestry systems, which means that there is less need for them to engage in illegal timber harvesting or to expand their farms into the forest. The company also invests in conservation efforts such as establishing native tree nurseries and hiring park guards. Through on-site technicians who provide overview and support, the company maintains direct and contact with farmers and four cooperatives in Peru. The cooperatives carry out post-harvest processes aligned with the company's preferences and coordinate payments and transportation. The company cooperates with local NGOs to provide training programmes regarding organic production standards. The company pays a minimum price that is double to three times global market prices at the time of research, and that stays stable according to contract also when global cacao market prices drop. For cacao that does not meet the company's standards, other buyers take over produce that meets Fairtrade and Organic standards.

Solidarity economy strategy: Cacao producers do not co-own the company and have no formal role in corporate governance. However, the company engages producer-led cooperatives in cacao value chains. Furthermore, the company supports direct consumer-producer relations by means of a QR code that allows European consumers to trace the cacao beans back to the cooperative that produced them.

Certification strategy: The company uses EU and Swiss Organic standards. The company rejects the social production standards of Fairtrade certification as it considers that the payments and other rewards that such certifications provide are too low to meet living standards in producing countries.

4.5. Summary

Table 3 summarizes the main elements of the inclusive business, solidarity economy and certification strategies. Cases 1 and 3 follow primarily a solidarity economy strategy, whereas cases 2 and 4 pursue primarily an inclusive business strategy.

5. Discussion

5.1. Are inclusive business and solidarity economy strategies alternatives for or complements of certification schemes?

At first glance, the three strategies might be seen as distinct and alternative strategies of private sustainability governance, because they involve different main rule-setting actors and mechanisms to influence human well-being (Table 1). Their principal institutional arrangements and ideological foundations also differ, ranging from non-profit- or corporation-led standard setting and verification (as in certification), to corporation-led contractual arrangements with smallholders (in inclusive business) and community-based self-organization (in solidarity economy strategies) (Vicari 2014, German et al. 2018, Oya et al. 2018).

The results of this study indicate that the three strategies are not distinct alternatives, but companies and cooperatives can combine different elements of multiple strategies (cf. Table 3). For instance, strengthening of cooperatives is a common element of all three strategies. Some certifications may for many smallholders be only accessible through cooperative membership (e.g. currently a requirement for Fairtrade International) (Sellare et al. 2020). Further, inclusive business and solidarity economy strategies are more likely be combined with ecological rather than with socio-

Table 3
Main elements of certification, inclusive business and solidarity economy strategies across the four value chain actors.

Strategy	A cooperative in Peru (case 1)	A private chocolate company in Peru (case 2)	A farmer co-owned chocolate company in Switzerland (case 3)	A private chocolate company based in the EU (case 4)
Certification	<ul style="list-style-type: none"> Multiple certification: Fair-trade and Organic 	<ul style="list-style-type: none"> Organic certification 	<ul style="list-style-type: none"> Organic certification planned Rejects Fairtrade certification for being insufficient 	<ul style="list-style-type: none"> Organic certification Rejects Fairtrade certification for being insufficient
Inclusive business	<ul style="list-style-type: none"> Value chain inclusion through cooperative model across entire cacao-chocolate value chain Direct, trusted, long-term relations with buyers and farmers who meet quality standards 	<ul style="list-style-type: none"> Direct, trusted, long-term relations with farmers who produce high-quality cacaos Minimum price, double the global market price; additional quality-dependent premiums Advance payments Support to farmer cooperatives (organization, post-harvest infrastructure and systematic process, access to government programmes) On-farm technical assistance and overview Financial support to farmer-led cooperatives 	<ul style="list-style-type: none"> Value chain inclusion through co-ownership model across entire cacao-chocolate value chain Direct, trusted, long-term relations with farmers who meet quality standards 	<ul style="list-style-type: none"> Direct, trusted, long-term relations with farmers who meet quality standards and live close to nature conservation areas Very high, stable minimum price of cacao (ca. double the global market price) Afforestation directly linked with chocolate sales On-farm technical assistance and overview Training programmes through local NGO network Alternative channels of Fairtrade and Organic certified markets for cacao that does not meet the company's standards Support to farmer-led cooperatives Direct consumer-producer relations by means of QR code that allows European consumers to trace cacao beans back to the cooperative; and publishing impact assessments
Solidarity economy	<ul style="list-style-type: none"> Farmers are members in one of 13 associations and the overarching cooperative Cooperative bodies incl. general assembly, councils for collective decision-making Market-oriented pricing with price premium Conducts post-harvest processing, logistics, exports, distribution, and marketing in Europe Improves farmer access to credit and government funds On-farm technical assistance Children education Target-oriented premium funds Women and men in leadership positions 		<ul style="list-style-type: none"> Co-ownership of Peruvian farmers in Swiss chocolate company, and association and cooperative in Peru Pricing of cacao and chocolate co-determined by cacao farmers Women and men in leadership positions of the company and cooperative Target-oriented premium fund On-farm technical assistance and overview Consumer-producer relations through direct trade, mutual visiting options, public events and publishing impact assessments 	

economic certification. The companies and cooperatives may adopt Organic certification schemes because value chain actors and consumers widely recognize them as standards for ecological sustainability and because they guarantee cacao buyers that ecological production criteria are being met (Marx et al. 2022). By contrast, the four organizations of interest in this study differ in their position towards socio-economic certification. While one adopts the Fairtrade standard, two other companies explicitly reject adoption of an established socio-economic certification scheme. They argue that their organizational strategy aims to be “better than Fairtrade”. They justify their position partly with reference to the pricing of cacao: one of the companies pays minimum prices above Fairtrade reference prices, while in the co-ownership model, Peruvian cacao farmers themselves set the prices for cacao and chocolates. Both pricing models result in stable cacao prices which are about double the global market price at the time of research.

Taken together, inclusive business and solidarity economy strategies are neither pure alternatives nor pure complements for certification schemes. Instead, more emphasis needs to be given to the specific instruments that can be used to design and implement a private governance strategy. Such instruments should be understood as building blocks in the sense that specific value chain actors – such as self-organizing farmer cooperatives, buyers, traders, chocolate makers or brands – can combine different instruments into their specific portfolio. These instruments also reflect the specific organizational missions and strategies, i.e. the very nature of how an organization constitutes itself. Future research needs to map and disentangle the wide range of instruments in inclusive business, solidarity economy and certification strategies. Such research needs to build typologies of instruments and portfolios of instruments as a foundation to trace the impacts of specific instrument portfolios – including and beyond certification – on human well-being and how best to scale up and out the portfolios that provide more benefits to the current participants and include additional producers and products.

5.2. Levers of inclusive business and solidarity economy strategies to overcome barriers to well-being impacts of certification schemes

5.2.1. Overview

Inclusive business and solidarity economy strategies may address the barriers to well-being impacts of certification schemes, which we identified in Section 2, but there exist pertinent tensions and limitations. In what follows we propose a number of hypotheses centred on plausible causal mechanisms which may be tested by future research through causal case study methods (Beach and Pedersen 2016) or impact assessments of private sustainability governance (Meemken 2020, Traldi 2021).

Our results indicate that three main mechanisms may mediate the effects of inclusive business and solidarity economy strategies on barriers to well-being impact of certifications. First, these strategies can re-shift how value is created and captured in value chains (Schoneveld 2020). Cases in our sample have created value chains that are short and transparent, upgraded the role of producer organizations in value chains and reducing the number and roles of intermediaries. The cases also developed new value chains, particularly in speciality chocolate markets that offer producers a high-value alternative to bulk commodity markets. A second mechanism concerns value distribution between different parties of the cocoa value chain. Here, the range of pricing models is key, but also the recognition of non-monetary values contributes to valorise the work cocoa producers do. The third mechanism of change concerns innovations in corporate governance of companies and cooperatives. The cases have demonstrated innovations in beneficial ownership, accountability, traceability and decision-making in organizations that are active in cocoa value chains.

Table 4 disentangles how and to what extent inclusive business and solidarity economy strategies may affect the seven barriers to well-being impacts that confront certification schemes. Thus, inclusive business and solidarity economy strategies offer distinct approaches to change the ways how value is created, captured and distributed in agri-food chains. Each strategy comes with a specific approach that faces its specific strengths, trade-offs and limitations. The next two sections discuss these insights in detail.

5.2.2. Addressing uneven participation of producers in certified production

Inclusive business strategies provide cacao buyers (e.g. traders, manufacturers) various levers to improve participation of low-income producers in high-value cacao chains. First, the long-term orientation of the business relations offers buyers and producers an incentive to invest jointly in their relation. This may occur by fulfilling mutual commitments and building trust, by investing into quality improvements and capacities and by functional upgrading of producers through training and infrastructure. Financial inclusion such as advanced payments, access to credit and government programmes may increase farmer’s interest and ability to invest. Guaranteed minimum prices and quantities may reduce farmer’s risk aversion and increase their willingness to invest labour, time, or money into producing high-quality cacao (Ruben 2017).

Solidarity economy strategies in cooperatives, associations or farmer co-owned enterprises offer producers an option to organize collective action amongst themselves to expand their roles in existing value chains or even to develop new value chains. Successful collective action may address several of the root causes for uneven participation in value chains, including levels of investment capacity, technical skills, interest and awareness (Oya et al. 2018). Nonetheless, the degree of such collective action remains limited with less than a third of Peruvian cacao producers being organized in cooperatives (Blare et al. 2020). Recurrent limitations in this sector include deficiencies in cooperative management and governance structures, limited working capital and instable business relations between cooperatives, farmers and buyers (Donovan et al. 2017).

All four organizations in our study require producers to comply with high quality and organic standards in order to meet the quality expectations of high-priced final products. Strict compliance rules, however, are one of the causes for uneven participation of more vulnerable producers (Dietz et al. 2021). Moreover, organic standards typically imply increased labour demands and higher costs of inputs. These lead to economic disadvantages for producers if they are not sufficiently compensated through price premiums (Meemken 2020). Therefore, the required standards in our study cases may indeed contribute to replicate this barrier for those producers who cannot comply with standards. One crucial question is who carries the costs and requirements of being organic, such as greater labour intensity and often lower productivity due to pests and diseases and the use of less productive cacao varieties. A second crucial question in addressing this barrier is whether producers can benefit even before they comply with strict quality or ecological standards. To address these questions, the four organizations provided producers with access to premium markets with higher willingness to pay to recover costs. The four organizations also provided on-side technical support and training for farmers and/or cooperatives. Another practice in case 4 was to arrange alternative distribution channels when farmers comply with many but not all requirements of a buyer.

5.2.3. Addressing costs of certification and certified production

Long-term business relations in inclusive business strategies offer producers and buyers an incentive to invest in and incur costs of certification. Some corporate buyers also covered the adminis-

Table 4
Levers to address barriers to well-being impacts through inclusive business and solidarity economy strategies.

Barrier to well-being impacts	Diagnosis (cf. section 2.2)	Inclusive business	Solidarity economy
<i>Economic barriers</i>			
Uneven participation of producers in certified markets	<ul style="list-style-type: none"> • Uneven abilities of producers to meet social, ecological, product requirements, related to awareness, interest, knowledge, land size, ability to invest, land tenure security, historical exclusion 	<ul style="list-style-type: none"> • Investments in long-term business relations between buyers and PO • Buyer-led value chain upgrading or development • Buyer-led financial inclusion of producers or PO 	<ul style="list-style-type: none"> • Community-led value chain upgrading or development
Costs of certification and certified production	<ul style="list-style-type: none"> • Administrative costs, production costs or investment needs may exceed ability to cover costs or added value of certified produce 	<ul style="list-style-type: none"> • Long-term business relations provide incentives to POs to incur costs for standard-compliant production • Some buyers have covered the administrative costs of certification as part of their business model 	<ul style="list-style-type: none"> • POs in our sample combine solidarity economy with certification strategies, covering the costs of certification through collective action • Farmer co-ownership of chocolate enterprises is developed as an alternative approach to socio-economic certification
Capacity of markets to absorb certified production	<ul style="list-style-type: none"> • Supply of certified produce exceeds demand 	<ul style="list-style-type: none"> • Buyer-driven development of high-value market segments. 	<ul style="list-style-type: none"> • Development of high-value market segments by farmer co-owned enterprise.
Dependency in value chains	<ul style="list-style-type: none"> • Dependency of producers/POs on few buyers or market concentration contribute to unequal bargaining power 	<ul style="list-style-type: none"> • Buyer-driven value chain upgrading or development of new value chains • Guaranteed minimum prices for cacao reduce producer's vulnerability to price shocks 	<ul style="list-style-type: none"> • Community-led value chain upgrading or development of new value chains • Farmer co-owned enterprises enable larger beneficial ownership of producers in value chain operations (e.g. marketing).
<i>Governance barriers</i>			
Absence or dysfunctionality of producer organizations	<ul style="list-style-type: none"> • Deficient PO governance structures, lack of trust of producers in collective action, economic unviability of POs 	<ul style="list-style-type: none"> • Buyers invest in the creation and/or support of POs 	<ul style="list-style-type: none"> • Self-organized professionalization and investments in well-functioning POs
Voice of producers in standard-setting	<ul style="list-style-type: none"> • Limited or no participation of producers in decision-making about standards 	<ul style="list-style-type: none"> • Negotiation of standards among buyers and producers 	<ul style="list-style-type: none"> • Democratic governance and co-ownership in POs
Monitoring and auditing systems in certification schemes	<ul style="list-style-type: none"> • Auditing practices may be limited in terms transparency, accountability and context-sensitivity, or unable to reveal non-compliance from producers/POs 	<ul style="list-style-type: none"> • On-site technicians 	<ul style="list-style-type: none"> • PO develops own standards for producer-driven processing and marketing • On-site technicians

Abbreviation: PO: producer organizations.

trative costs of certification as part of their business model. Similarly, the producer organizations in our sample combine solidarity economy and certification strategies, as they cover certification costs through collective action among producers.

The strategies without socio-economic certification seek to establish credibility of socially responsible practices in different ways. All maintain direct, trustful and long-term relations with cacao farmers. The solidarity economy strategy in case 3 institutionalizes the producers' co-ownership and producer-influenced pricing in a chocolate enterprise, rather than merely in a producer organization. This strategy replaces third-party audited trade relations (and related administrative costs of certification) with direct voice for producer representatives in corporate governance. Complementary instruments to verify socially responsible practices include publishing impact assessments through social media; traceability through a QR code on chocolate packaging; visits of producers in consuming countries and of consumers in sourcing locations. Cost-benefits assessments are needed to assess the relative efficacy of these instruments vis-à-vis certification.

5.2.4. Addressing capacity of markets to absorb certified production

All four cases target premium markets through their cacaos or chocolates of high quality and environmental and social standards. For the two cases that did not use the established Fairtrade label, considerable investments are necessary to build consumer awareness and willingness-to-pay for socially responsible practices that are not certified. One scenario to consider is strengthening domestic market consumption of cacao and cacao products, which is rising but still quite low in Peru (Blare et al. 2020).

5.2.5. Addressing dependency in value chains

Both types of strategies established new value chains that offered participating cacao producers new processing and marketing channels, reducing their dependency on intermediaries or lead firms. However, some organizations require producers to deliver their entire harvest in order to avoid farmer side sales. Farmers hence lack marketing independence when they enter into these arrangements (Roldan et al. 2013). The farmer co-ownership model reduces producers' dependency on intermediaries or lead firms by increasing their voice as well as beneficial ownership all along the value chain, but this model may imply that producers are exposed to entrepreneurial risks all along the chain, too, meaning that dependency on entrepreneurial success in the entire value chain may replace dependency on intermediaries and lead firms.

5.2.6. Addressing the absence or dysfunctionality of producer organizations

Solidarity economy strategies are at the heart of addressing this barrier, as they seek to establish or professionalize democratic governance and producer co-ownership in producer organizations. We observed buyer companies to producer organizations as part of their inclusive business strategies, too. The producer organizations are instrumental in advancing producers' value chain participation in post-harvesting, transport and distribution/marketing. However, we note the limits of producers' self-organization – such as lock-ins into deficient governance structures, low levels of trust in collective action among producers or economic unviability – which likely contribute to the low rate of less than 30% of cacao producers being organized in cooperatives in Peru (Donovan et al. 2017).

5.2.7. Addressing voice of producers in setting standards of production

Inclusive business relations involve the negotiation of standards that traded products need to fulfil. The extent to which inclusive business addresses producers' voice in standard setting hence depends on the power relations between buyers and producers.

The co-ownership model of case 3 and the membership model of case 1 are arguably the strongest means to increase voice of producers over production standards and terms of trade, but also trust building in direct relations can contribute to this aim (Middendorp et al. 2020). As noted, all four organizations adopted established Organic certification, rather than defining ecological standards by themselves. We did not find efforts to bring in producer voices to influence Organic standards.

5.2.8. Addressing monitoring and auditing systems in certification schemes

Both buyer-driven inclusive business and producer-driven solidarity economy strategies aimed at improving, monitoring and verifying standards of cacao production. To this end, the cooperatives and companies involved own on-site technicians. While this does not guarantee compliance with social or ecological criteria towards consumers, it may reduce potential principal-agent issues among cacao producers, cooperatives and downstream companies.

Taken together, inclusive business and solidarity economy strategies offer two approaches to re-shape the ways in which organizations at different stages of the value chain govern the creation, capture and distribution of value.

5.3. Challenges and limitations of inclusive business and solidarity economy strategies

Strategies of inclusive business and solidarity economy also face persistent challenges and limitations, related to pricing models, economic and financial viability, opportunistic behaviour, consumer recognition, regulatory frameworks, logistics and infrastructure as well as sustainable land management.

First, price premiums do not necessarily meet local living standards because production costs per hectare are higher under standard-compliant production (Scott et al. 2015), and this challenge is exacerbated when land sizes are small or global market prices drop drastically. This is particularly critical given that a significant portion of primary producers do not reach break even with commodity crop production under current conditions of global commodity trade (Dietz et al. 2020). Living income price models are emerging as one response to this problem, but they are in their infancy yet (Waarts et al. 2021). Second, financial challenges include smallholders' debts charged with high interest rates of 20–30% in regional banks. Further, some cooperatives or companies face a challenge in building a large enough market to become economic profitable. Opportunistic behaviour is third challenge, for instance, enforcing the prohibition of side-selling by associated farmers. Payments need to be monitored transparently from the farm onwards to prevent corrupt practices.

A fourth challenge concerns consumer awareness beyond labels: Consumers are widely aware of labels such as Fairtrade or Organic, but other strategies such as farmer co-ownership are less known. Accordingly, communicating the reasons for higher chocolate prices to consumers without a recognized label remains a challenge.

Regulatory frameworks can pose challenges. For instance, high levels of cadmium in the soil of some sourcing regions conflict with EU regulation on maximum levels of cadmium in cacao and cacao products (Commission Regulation (EU) No. 488/2014 of 12 May 2014). These challenges have led to the amount sourced by some cooperatives or buyers to fall by 15–20% within few years. Similar challenges may arise from policies issued by importing countries to reduce their social and environmental footprints abroad. Such import-driven mandates may be a potentially powerful instrument to enhance sustainability outcomes of agri-food chains, but they may also add additional burdens on producers and producer organizations to access markets. For instance, the current regulation

proposal by the European Union to curb deforestation requires importers of six agricultural commodities, including cacao, to prove that land used for its cultivation was not deforested in recent years (Grabs et al. 2021). Providing necessary evidence may not always be cheap and, similar to cadmium, put small and medium-sized producers and exporters at a disadvantage.

Transportation costs are comparatively high due to long and challenging transport routes from some production areas in the Amazon to processing plants or ports in Lima, which can be an over 30 h drive. The trip through the Andean mountains is prone to landslides and criminal gangs. The height of harvest overlaps the end of the rainy season, which is December and May, when the roads are the most difficult to travel. Such inadequate infrastructure constitutes a bottleneck in the cocoa export logistics chain due to the congestion of the cargo transit routes to the Callao Port as well as the serious rainfalls and geographical risks (MINCETUR, 2016).

Crop failure due to pests, diseases and degraded soils – partly from previous chemical fertilisers and pesticides under coca monoculture in the 1980 s – as well as relatively high cadmium levels remain a persistent sustainable land management challenge.

5.4. Private governance vis-à-vis systemic change in markets and land-use systems

The structure of markets, value chains and land use systems interact in important ways with the design and well-being effects of solidarity economy and inclusive business strategies. First, the organizations in this study pay cacao farm-gate prices that are considerably higher than the prices paid under certification schemes and on uncertified commodity markets. These price differences may partly be a result of governance structures. Specifically, the institutionalization of producer ownership or voice in the organizations may have contributed to adopt higher pricing models and lean value chains with fewer intermediaries. Further, the ability to pay higher prices may be due to the strategy to target speciality markets where consumer purchasing power and demand for sustainably produced good are higher than on other markets (Cooper et al. 2021). Therefore, the governance strategies may possibly only work for those actors who are active on speciality markets as opposed to bulk markets (Scott et al. 2015, Blare et al. 2020). The ability to increase the size of those markets may then determine the extent to which the governance strategies of the four cases can be replicated and scaled.

Second, cacao is often seen as a solution for entrepreneurial farmers to earn a decent income, to move out of poverty and as an alternative to illicit crop production (García-Yi 2014, Cortés-Arias and Fromm, 2019). Nonetheless, farmers with small land areas cannot live from cacao alone across many regions in Peru. The low profits made by small-scale cacao farmers often do not allow them to invest in their plantation. This can even result in cacao being a poverty trap or pressure to accumulate larger pieces of land (Villar et al. 2021). In other words, the land use systems in the producing regions influence the effects of governance strategies in cacao value chains on human well-being of cacao producers.

Therefore, the scale at which inclusive business, solidarity economy and certification strategies can increase well-being of cacao producers may depend on the extent to which these governance strategies trigger or are a part of systemic change in markets and land-use systems (Fischer et al. 2021). For example, the expansion of agroforestry systems in cacao-producing regions is a pathway for change of land-use systems that is well-known for its beneficial effects and challenges (Niether et al. 2020). In such a pathway, inclusive business, solidarity economy and certification strategies could be more effective for producer's well-being if they do not focus on cacao value chains only but strengthen the valorization

of associated non-cacao crops of agroforestry systems (Niether et al., 2020). Another example is the living income approach. It seeks to strengthen the monetary income and non-monetary benefits of rural communities towards a decent standard of living and good life in a local context (van de Ven et al. 2021). It may be achieved through a mix of agricultural and non-agricultural livelihood strategies (Matthys et al. 2021). In a living income pathway, inclusive business, solidarity economy and certification strategies for cacao value chains may be more effective, if they allow for sufficient producer time and resources for both the cacao and non-cacao components of a living income.

Future research is needed that investigates not only the direct effects of governance strategies 'with and beyond certification' on human well-being, but also how those governance strategies trigger or are part of systemic change in markets and land-use systems. Rather than addressing barriers to impact of certification schemes, such governance strategies may trigger different impact pathways altogether to avoid running into the impact barriers that certifications face, rather than trying to fix them. As one of the next steps, therefore, research in this direction could benefit from a typology that characterizes different pathways of systemic change in markets and land-use systems, and analyses asking what mixes of governance strategies are best suited to develop or reinforce pathways with beneficial well-being impacts (Home et al. 2021).

5.5. Methodological reflection

Interpretation of our results should consider that this study aims to explore inclusive business and solidarity economy strategies from a governance perspective, and their potential and limitations to address barriers to well-being impact encountered under certification schemes. The four selected cases illustrated distinct elements of inclusive business and solidarity across cacao value chains, but they feature characteristics that limit their generalizability. All four organizations target markets for speciality, native or certified cacao derivatives rather than bulk commodities. Their firm size (e.g. volume, staff) is very small compared to the lead firms in this sector. Therefore, it is unclear to what extent the insights of this study would hold at scale in large firms and bulk markets, e.g. for major lead firms in global cacao value chains (e.g. Ponte, 2019, Grabs and Carodenuto 2021, Grabs et al. 2021). Moreover, the Swiss and Peruvian cacao sectors alone comprise several hundred organizations. Therefore, we expect that a large-scale sector-wide survey would identify a greater diversity of strategies for inclusiveness and solidarity with and beyond certification.

6. Conclusion

Certification of sustainability standards can improve well-being of some agricultural producers under certain conditions (Meemken 2020), but the well-being impacts of certification schemes can be limited and sometimes even adverse (Oya et al. 2018, Traldi 2021). Consequently, certification schemes continuously evolve (Mithoefer et al. 2017), but companies and community-based and non-profit organizations also experiment with alternative or complementary strategies to reshape the governance of value chains. Inclusive business and solidarity economy strategies are two prominent approaches. However, current research analyses these strategies in isolation.

The present exploratory study demonstrates that value chain actors combine elements of certification, solidarity economy, and inclusive business strategies into complex portfolios of instruments. These instrument portfolios may address some of the persistent barriers that limit effectiveness of certification for human

well-being, but these instruments come with their own challenges and limitations that must be considered when employing them.

Thus, this study suggests that research needs to embark on a new direction that involves systematic comparative analyses of private sustainability governance strategies including and beyond certification. Such research will increase the available comparable data and understanding of the similarities and differences between these strategies. It should dig deep into the large range of organizational details and instruments of sustainability governance by different value chain actors. Such analysis will allow farmers, communities, buyers, manufacturers, retailers, and other value chain actors to evaluate the interplay and the relative efficacy and limitations of certification, inclusive business, solidarity economy and other governance strategies to determine which ones to pursue or improve their current efforts.

To fully explore the intricacies of the interaction of employing multiple strategies, promising future research shall map specific instruments of inclusiveness, solidarity, and certification; build typologies of instrument portfolios; understand their interactions with systemic change in markets and land-use systems; and trace the pathways to impact and their conditions under which a particular value chain actor can use specific instruments to improve the well-being outcomes of agri-food value chains.

CRediT authorship contribution statement

Christoph Oberlack: Conceptualization, Methodology, Investigation, Writing – original draft, Writing – review & editing. **Trent Blare:** Conceptualization, Methodology, Investigation, Writing – original draft, Writing – review & editing. **Luca Zambrino:** Conceptualization, Methodology, Investigation, Writing – original draft, Writing – review & editing. **Samuel Bruelisauer:** Investigation, Writing – review & editing. **Jimena Solar:** Writing – review & editing. **Gesabel Villar:** Investigation, Writing – review & editing. **Evert Thomas:** Investigation, Writing – review & editing. **Marleni Ramirez:** Investigation, Writing – review & editing.

Data availability

The data is shared in the article.

Declaration of Competing Interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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