

THE PARADOX OF RESILIENCE AND EFFICIENCY

Irene van Staveren

Paper for AFEE at the ASSA meetings in New Orleans, 6-8 January 2023

Email: staveren@iss.nl

The Paradox of Resilience and Efficiency

Introduction

The resilience of our economies is seriously tested under the pandemic, climate crisis and rising inequality. These vulnerabilities have increased the attention to the notion of resilience. But this seems to demand a sacrifice of efficiency, as has been pointed out for example by Martin (2019), because it requires slack in the system instead of mean and lean production. Hence, efficiency and resilience seem to be opposed. This leads to the question whether it is possible at all in our capitalist economy to increase resilience.

In this article, I will address this question by learning from the institutions of resilience that are studied in two overlapping fields: ecological sciences and the study of the commons. These research fields indicate that when we rely more on cooperation and less on competition, resilience and efficiency may go hand in hand. I will add to these insights the views of economists of the past on the institutions of resilience, showing that there is a firm basis in the history of economic thought for a focus on institution building for resilience in these uncertain times.

Resilience

Elinor Ostrom (1990) has spent her career on studying commons, which are common-pool resources (CPR) from which the products are rival goods and non-excludable and therefore easily destroyed when not properly managed through collective action. Andries et al. (2013) define resilience as a systems-level characteristic which makes a complex system persist over time, despite uncertainty. Commons tend to be quite successful in the sense of providing their members with continued production from a shared resource without undermining the resource base itself. The design principles, which Ostrom has uncovered, are institutions that are deliberately created and agreed upon by the users of a CPR. They include, first, boundary institutions (who and what is included and rules on the allocation of inputs and distribution of benefits), and second, diverse and inclusive decision-making institutions (including monitoring, graduated sanctions and conflict-resolution mechanisms) (Ostrom, 1990 and 2005).

Several CPR institutions involve some redundancy in order to be able to deal with high levels of uncertainty. Ostrom found redundancy in monitoring practices in commons, which helps to crowd-in trust by sharing knowledge about the generally low number of transgressions. Interestingly, such redundancies are not costly because they are set-up as self-reinforcing. An example is the monitoring by different teams consisting of two members on horseback of an irrigation common in the Philippines, in which the men may keep the fines (locally produced liquor) for themselves (Ostrom, 1990). Hence, the institutions of resilience in commons research come in three types: *boundary institutions*, *diversity institutions* and institutional features of redundancy, in other words, *buffers*.

In ecological sciences, resilience is similarly understood as “a system’s capacity to cope with shocks and absorb disturbance by adapting and re-organizing while undergoing change such that it retains the same structure, function, feedbacks and identity” (Sellberg et al., 2021: 1). Berbés-Belazquez et al. (2022) distinguish ten resilience-building principles, which largely overlap with the eight design principles for CPRs and can be divided over the same three categories: *boundary institutions*, which include connectivity or isolation, feedback effects and change in slow variables; *diversity institutions*, which include increasing diversity in the system as well as in participation, opportunities for learning and adaptive management. And, again, *redundancy*. Berbés-Belazquez et al. (2022: 2) define redundancy as “having elements of the system that are different but fulfill similar or overlapping functions, so that if one fails, other elements can still perform that function”. Examples of ecological redundancies are wetlands around rivers to prevent floods, or forests, algae and tundra for absorbing CO₂, (Dasgupta, 2021). Examples of economic and social redundancies during the COVID-19 crisis are government funds for economic support to businesses, production capacity of nonmedical firms to produce face masks, and spaces such as parks and parking lots for open-air social connections given the constraints of social distancing (Berbés-Belazquez et al. (2022)).

Resilience and the financial crisis

The financial crisis of 2007 was partially related to the lifting of a boundary institution, separating retail banks from investment banks, through the repeal of the Glass Steagall Act in 1999 (Arestis and Sawyer, 2012). Since the crisis, various central banks, such as the ECB, have added new boundary

institutions, such as a bonus cap and the prohibition of proprietary trading. Moreover, the Bank for International Settlements (BIS) requires higher buffers of banks to make them more resilient to systemic risk and fundamental uncertainty. These macroprudential policy measures were meant to increase the resilience of the financial sector although various economists think that these measures are insufficient (Benink, 2020). Next to boundary institutions and buffers, others have noted the lack of diversity in banks' governance as a contributing factor to the financial crisis, also known as the Lehman Sisters hypothesis (van Staveren, 2014).

Institutions of resilience have been part of institutional economics for decades, but they have not always been framed as such, nor has their relation to efficiency often been addressed explicitly. Below, I will briefly review the three institutions of resilience (buffers, boundaries and diversity) in the economic literature and how they link to the insights from commons and complex socio-ecological systems.

Buffers (redundancies)

It was Frank Knight (1921) who first made the important distinction between risk and uncertainty. The first has known probabilities, whereas the second not, "because the situation dealt with is in a high degree unique" (Knight, 1921: 233). Keynes picked up on this distinction. For example, in an article on buffer stocks, he remarked that "The competitive system abhors the existence of stocks, with as strong a reflex as nature abhors a vacuum" (Keynes, 1938 in CWK XXI: 457; see also Fantacci et al. 2012: 460). Between 1926 and 1943 Keynes advocated storage of food and raw materials by the state and elaborated various buffer-stock schemes (Fantacci et al. 2012). A third economist who took uncertainty seriously was Hyman Minsky, with his Financial Instability hypothesis (Minsky, 2016). Minsky also pointed at buffers as a meaningful strategy to deal with financial uncertainty, for example through higher equity ratios in banks.

From a linear efficiency perspective (at firm level or along a value chain) in a world without uncertainty, buffers are regarded as costs ("slack") because they could be prevented with risk insurance. However, from a resilience perspective, acknowledging uncertainty, buffers are investments in long term adaptation where insurance is not possible.

Institutional boundaries

Keynes and Minsky not only suggested buffers but also pointed at institutional boundaries to reduce the fragility of the financial sector. Keynes (1936) was in favor of public spending and public works programs to stabilize the business cycle, as well as automatic stabilizers in fiscal policy. In his 1982 book on crises, titled “Can ‘it’ happen again?”, Minsky’s answer was a provisional ‘no’ at the time because there were sufficient and robust institutional boundaries in place. But he changed to a ‘yes’ in the 1990s when he saw these institutions crumbling under a strong banking lobby, which eventually led to the repeal of the Glass Steagall Act, three years after his death (Wray, 2019).

The economist who first analyzed the effects of institutions on the behavior of economic agents was, of course, Thorstein Veblen. He noted that the vested interest of the upper class was based on capital gains from estates and investments in large businesses with market power, rather than engaging in entrepreneurship (Veblen, 1919). This rentier attitude would eventually result in financial instability, as Ülgen (2017) has argued, lacking adaptability and diversity.

Boundary institutions, which deliberately constrain or isolate economic behavior that leads to high volatility, inequality, and vested interests, may be more efficient than unconstrained market behavior heading towards a Minsky Moment or irreversible climate change effects. For example, Welsby et al. (2021) have recently calculated that in order to remain below an increase of global warming to 1.5 degrees Celsius, 90% of coal must remain unextracted and 60% of oil and gas must remain underground – a very concrete institutional boundary.

Diversity in governance

Diversity is a basic feature of competitive markets. It was Joseph Schumpeter (2010) who emphasized the importance of the dynamics of such variation in markets for innovation, through creative destruction of firms, requiring state institutions against collusion and market power. In evolutionary economics, diversity is a precondition to deal with unexpected change, because it enables the variation and flexibility that is needed to respond adequately (Witt, 1993).

But diversity also concerns governance, following Ashby's law on requisite variety, stating that complex problems must be faced with a level of diversity in approaches or views that matches the level of complexity (de Raadt, 1987). Two recent review articles indicate that the large majority of studies finds positive correlations between (gender) diversity on boards on the one hand and performance indicators on the other hand (Salma and Qian, 2021; Knyazeva, Knyazeva and Naveen, 2021).

Diversity in economic governance seems to improve performance as compared to a homogeneous status quo, without necessarily any costs other than transition costs of breaking up vested interests. In ecology, a similar role of diversity is acknowledged, where it is understood that biodiversity preserves ecosystems' integrity (Dasgupta 2021: 53). This means that not the different species themselves but their function for the ecosystem matters for resilience, including functions such as absorbing nitrogen and carbon and the mitigation of droughts and floods. Such diversity is to some extent a redundancy but precisely for that reason enables adaptation and prevents costs of unpreparedness.

Resilience, capitalist markets and efficiency

As Marx (2013) already explained, capitalism is not ruthless because capitalists are evil persons but because competition based on accumulation with privately owned capital hiring wage labor, forces capitalists towards shorttermism, externalizing as many costs as possible, and exploiting resources including women, children, and nature. This implies that resilience does not fit well with capitalist production, in which efficiency is sought only internally and focusing on the short-run.

But the economy consists of more than the market, while not all of the market is fully run by capitalist principles. Next to the state, and its institutions to keep market failures in check and to provide safety nets, we have the community economy. The community economy can be defined as providing livelihoods through cooperation and sharing on the basis of reciprocity under conditions of uncertainty. Resilience is therefore an important feature of the community economy. Veblen already knew this, arguing that the institutions of community life are stabilizing the inherent instability of capitalism, according to Martins (2020).

In the community economy, two or more economic roles are combined through cooperation, which automatically reduces the supply or demand side (or both) in the market. For example, renewable energy associations pool investment from a community to produce power for its members, who are investors, producers and consumers at the same time. In worker cooperatives, no capital market is needed because all shareholders are internal and at the same time the firm's workers. And commons are sometimes completely isolated from the market, with joint ownership of a natural resource, pooling labor and monitoring, and distributing yields according to agreed rules for consumption by members and not for sale in markets. These examples show that the key characteristic of the community economy is economic role combination through cooperation, which on the one hand reduces the role of markets and on the other hand isolates the community economy activities to a varied extent from the volatility which markets, and in particular capitalist markets, generate.

In general, research indicates that community economy activities tend to be both resilient and successful in providing their members with benefits, which implies that they are quite efficient. This efficiency is focused on the long-term because the activities are concerned with continuation over time for the particular community involved or for the common. Commons may even be more efficient than privatized market interactions, as Ostrom (1990) has argued, because they solve problems of free riding and generate trust, which crowds-in high contributions of collective labor. Similarly, worker cooperatives have shown to be resilient and efficient because of mutual trust, promotion of participation and self-help, thereby reducing opportunism such as shirking (Spear, 2000). Moreover, coops tend to produce positive externalities for communities, where capitalist firms tend to create negative externalities as part of their efforts to achieve internal efficiency, as Kapp (1974) already argues in his rephrasing of externalities as cost-shifting by firms.¹ Borda-Rodriguez et al. (2016) show, in a review article on worker cooperatives in sub-Saharan Africa, that also in low-income contexts, coops tend to be both resilient and efficient. More specifically, Billiet et al. (2021) find much resilience of coops during the Covid-19 pandemic. Another form of the community economy, mutual insurance firms, have shown to be resilient during the financial crisis and the pandemic

¹ Externalities are successful efforts by a firm "to reduce its costs whenever possible by shifting them to the shoulders of others or to society at large" (Kapp 1974: 60].

because of an efficiency advantage: “by combining ownership and policy holder roles, a mutual structure can align incentives between customer and insurer and so reduce the potential for adverse selection or moral hazard” (Swiss Re, 2016: 4).

In conclusion, the opposition between resilience and efficiency is part and parcel of capitalism but not necessarily a feature of non-capitalist economic activity. In particular, the community economy, with its dominance of cooperation over competition, manages to combine resilience and efficiency through buffers, diversity and boundary institutions for a variety of stakeholders.

References

Anderies, John, Carl Folke, Brian Walker and Elinor Ostrom (2013) ‘Aligning Key Concepts for Global Policy: Robustness, Resilience and Sustainability’, *Ecology and Society* 18(2).

[Http://dx.doi.org/10.5751/ES-05178-180208](http://dx.doi.org/10.5751/ES-05178-180208).

Arrestis, Philip, and Malcolm Sawyer (2012) ‘The “New Economics” and Policies for Financial Stability’, *International Review of Applied Economics* 26(2): 147-160.

Benink, Harald (2020) ‘Global Bank Capital and Liquidity after 30 years of Basel Accords’, *Journal of Risk and Financial Management* 13(73) [doi:10.3390/jrfm13040073](https://doi.org/10.3390/jrfm13040073)

Berbés-Belazquez, Marta, Michael Schoon, Karina Benessaïha, Elena Bennett, Gary Peterson and Rajiv Ghimire (2022) 'Resilience in Times of COVID: What the Response to the COVID Pandemic Teaches us about Resilience Principles', *Ecology and Society* 27(2): 16. <https://doi.org/10.5751/ES-13223-270216>

Billiet, Andrien, Frédéric Dufays, Stefanie Friedel, Matthias Staessens (2021) ‘The Resilience of the Cooperative Model: How do Cooperatives Deal with the Covid-19 Crisis?’, *Strategic Change* 30: 99-108.

Borda-Rodriguez, Alexzander, Hazel Johnson, Linda Shaw and sara Vicari (2016) ‘What Makes Rural Cooperatives resilient in Developing Countries?’, *Journal of International Development* 28: 89-111.

Dasgupta, P. (2021) The Economics of Biodiversity: The Dasgupta Review. London: HM Treasury.

De Raadt, J. (1987) ‘Ashby’s Law of Requisite Variety: An Empirical Study’, *Cybernetics and Systems* 18(6): 517-536.

Fantacci, Luca, Maria Cristina Marcuzzo, Annalisa Rosselli, and Eleonora Sanfilippo (2012) ‘Speculation and Buffer Stocks: the Legacy of Keynes and Kahn’, *The European Journal of the History of Economic Thought* 19(3): 453-473.

Kapp, William (1974) *Environmental Policies and Development Planning in Contemporary China and Other Essays*. The Hague: Morton.

Keynes, John Maynard (1936) *The General Theory of Employment, Interest, and Money*. New York: Macmillan.

- (1938) ‘The Policy of Government Storage of Food-Stuffs and Raw Materials’, *The Economic Journal* 48: 449-460. In J.M. Keynes, *The Collected Writings of John Maynard Keynes*, vol. XXI. London: Macmillan: 456-470.

Knight, F. (1921) *Risk, Uncertainty and Profit*. Boston: Houghton Miflin.

Knyazeva, Anzhela, Diana Knyazeva and Lalitha Naveen (2021) 'Diversity on Corporate Boards', *Annual Review of Financial Economics* 13: 301-323.

Martin, R. (2019) 'The High Price of Efficiency', *Harvard Business Review* (January-February): 42-55.

Martins, N. (2020) 'Reconsidering the Notions of Process, Order and Stability in Veblen', *Cambridge Journal of Economics* 44(5): 1115-1135.

Marx, Karl (2013 [1867] *Capital. A Critical Analysis of Capitalist Production*. Vol. I & II. Hertfordshire: Wordsworth.

Minsky, Hyman (2016) [1982] *Can 'It' Happen Again? Essays on Instability and Finance*. London: Routledge.

Ostrom, Elinor (1990) *Governing the Commons – the Evolution of the Institutions for Collective Action*. Cambridge: Cambridge University Press.

- (2005) *Understanding Institutional Diversity*. Princeton: Princeton University Press.

Salma, Ummya, and Aimin Qian (2021) 'Board Gender Diversity: A Review', *Journal of Business* 6(1): 1-21.

Schumpeter, Joseph (2010) [1943] *Capitalism, Socialism and Democracy*. London: Routledge.

Sellberg, My, Allyson Quinlan, Rika Preiser, Katja Malmborg and Garry Peterson (2021) 'Engaging with Complexity in Resilience Practice', *Ecology and Society* 26(3): 8 <https://doi.org/10.5751/ES-12311-260308>

Spear, R. (2000) 'The Cooperative Advantage', *Annals of Public and Cooperative Economics* 71(4): 507-523.

Swiss Re (2016) Sigma. Mutual Insurance in the 21st Century: back to the future? Zürich: Swiss Re, paper no. 4/2016.

Ülgen, Frank (2017) 'Financialization and Vested Interests: Self-Regulation vs Financial Stability as a Public Good', *Journal of Economic Issues* 51(2): 332-340.

Van Staveren, Irene (2014) 'The Lehman Sisters Hypothesis', *Cambridge Journal of Economics*, 38 (5), 2014, p. 995-1014.

Veblen, Thorstein (1919) *The Vested Interests and the State of Industrial Arts*. New York: W.B. Huebsch.

Welsby, Dan, James Price, Steve Pye and Paul Ekins (2021) 'Unextractable Fossil Fuels in a 1.5 °C World', *Nature* 597, 9 September: 230-234.

Witt, Ulrich (ed.) (1993) *Evolutionary Economics*. Cheltenham: Edward Elgar.

Wray, Landall (2019) 'Hyman Minsky', in Dimand, R. and Hagemann, H. (eds.), *The Elgar Companion to John Maynard Keynes*. Cheltenham: Edward Elgar: 529-537.

