Leonardo Becchetti

Voting with the Wallet

Responsible Consumption and Savings to Make Democracy Work

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LEONARDO BECCHETTI

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1. Introduction. Why Hasn't Democracy Reduced Inequality? We Need Something More Than Electoral Vote

What unites fairtrade pioneers, impact finance, ethical banks and investment funds with Canadian consumers boycott and financial market downturns around Trump's tariff strategies? Theory and empirics of the vote with the wallet, the most powerful instrument we have to change the world and the most effective check and balance to make democracy work

I'm often asked why I focused so much on money, consumption, and markets – rather than politics, which has traditionally been held responsible for solving societal issues - in my research and divulgation about policy solutions to our problems. This instinct to hold elected officials accountable for societal issues is natural – they were elected precisely to address them. However, when we examine the characteristics of contemporary social and economic systems, we realize the limits of our electoral vote (starting from the fact that our will is exercised at long time intervals and we cannot correct our voting decision in short time) since elected officials have only limited power and we assist to a paradox: democracy has not significantly reduced inequality. One of my favorite academic articles on this subject is *Why Hasn't Democracy Slowed Rising Inequality?* by Adam Bonica, Nolan McCarty, Keith T. Poole, and Howard Rosenthal (2013). The authors highlight a puzzle: why, despite democratic systems where the majority could vote for

elected officials and policies that promote greater economic equality, do inequalities persist and even worsen? According to the latest Oxfam reports, the eight richest individuals in the world collectively own as much wealth as the poorest 3.6 billion people. Furthermore, since the COVID-19 pandemic, two-thirds of newly created wealth has gone to the wealthiest 1% of the population, while the remaining 99% have shared just one-third. In 2024, billionaire wealth increased by $2 trillion, growing three times faster than in 2023. This rapid accumulation suggests the world could see at least five trillionaires within the next decade. The report highlights that 60% of billionaire wealth stems from inheritance, monopoly power, or cronyism, challenging the notion that such wealth is solely the result of individual merit or entrepreneurship. By the way, life outcomes depend on luck, talent, birth and effort and only the last can be deserved, even not entirely as its productivity depends on side conditions.

Despite the surge in wealth among the richest, the number of people living in poverty has remained largely unchanged since 1990. Currently, 44% of the global population survives on less than $6.85 per day, underscoring the widening economic divide. The same Oxfam organisation has proposed as a remedy to the problem a wealth tax hitting less than one percent of the richest part of the population. The remaining 99 percent should therefore be and vote in favour of it. Why this does not occur remains a puzzle.

The recent economic literature has shown that inequality is a problem in many respects, not just for its effect on life satisfaction through the well-known phenomenon of inequity aversion (higher when social mobility is perceived as being low) but also because it weakens trust in institutions and fuels populism and conspiracy beliefs thereby undermining democracy (Anderson and Singer, 2008; Bientsman , Hense and Gangl 2024). The growth of before

tax within country inequality in our times is the outcome of the interaction between technological progress and globalisation raising skill wage differentials (Desjonqueres , Machin and Van Reenen, 1999; Haskel and Slaughter, 1999; Burstein and Vogel, 2017; Acemoglu and Autor, 2011) in each country, but its persistence after tax (after policy intervention) is counterintuitive in a democracy, where the majority should theoretically elect representatives who implement policies addressing the problem and aiming to fairer wealth distribution. The question becomes of increasing importance in an era of dramatic technological progress (artificial intelligence after the web revolution) that, as always happened in the history, has the effect of increasing the cake but making it more unequally distributed in absence of policy intervention. After all, the global economy consistently generates growth – world GDP increases steadily – so why is this growth not more equitably distributed? A. Bonica, N. McCarty, K.T. Poole and H. Rosenthal (2013) suggest that the answer lies in how economic elites use their wealth and power. The wealthiest 1% fund political campaigns and media outlets, shaping political discourse and policies to maintain the status quo. In many cases, they succeed in preventing redistributive policies that could challenge their position.

To sum up the point, technological progress, globalisation and lack of redistributive policies have progressively widened within country inequality in the last decades mainly through wage skill differentials. Inequality has in turns fuelled populism, conspiracy beliefs and reduced trust in institutions endangering survival of democracies. Something has to be done to fix the problem and make democracy work. With this book I provide theoretical and empirical evidence that the cure is in hour hands. With our choices of responsible consumption and financial investment we can vote everyday for the better world we want to live in.

"Be the change you want to see in the world" is a very famous motto emphasizing how political progress starts from us. "Make the change you want to see in the world with your daily consumption/saving choices" is the practical and potentially powerful version of that motto that I illustrate in this book.

1. The Power of Economic Choices: The Voting with the Wallet Theorem

If we truly aim to improve democracy and counteract growing inequality to promote equal opportunities, we must recognize that political action is only part of the solution. There is a far more powerful tool at our disposal which register in real time (finance) or almost (consumption) our choices: the market. If economic forces largely dictate political decisions, then we must intervene directly in economic dynamics. The paradox is that while citizens vote in political elections only once every few years, they "vote" in economic markets daily – each time they choose what to consume and where to invest their money (Parmiggiani, 2013; Parmiggiani and Musarò 2007; Tosi and Munarin, 2006).

Markets are governed by supply and demand, and ultimately, demand (after accounting for the share of intermediate product demand run by corporations) consists of consumers – us. Even in a system where many transactions occur between businesses, all goods and services are ultimately intended for end consumers. And it is possible with proper labels to signal the social and environmental responsibility of the entire product chain, and of intermediate transactions, as is the case for instance, of Forest Stewardship Council signalling sustainable wood on the final product. This means that if consumers prioritize ethical, sustainable, and socially

responsible products, companies will be forced to satisfy their preferences to survive.

This leads us to what I call the **"theorem of voting with the wallet."** Imagine that all consumers worldwide understand the importance of making ethical purchasing decisions in their own long-sighted self-interest. If, starting tomorrow, everyone committed to buying only from companies that respect workers' rights, protect the environment, and contribute to solving global issues, many of the world's problems would be significantly mitigated, if not completely solved. And with such solution their own life will be better. The theorem is irrefutable: if consumer demand shifts toward responsible companies, those companies will find it profitable to satisfy consumer tastes and dominate the market, forcing others to follow suit.

2. Seven Barriers to the Theorem

Despite the theoretical soundness of this theorem, the vote with the wallet has not yet materialized on a large scale. In what follows I will scrutinize in depth the reasons and propose solutions to them. Starting from the identification of at least **seven obstacles** preventing widespread adoption of voting with the wallet:

a) **Lack of Awareness:** Many people are unaware that they hold the power to influence markets through their consumption and financial investment choices. "People have the power" is just the slogan of a pop song. The concept of voting with the wallet is not widely understood and still a minority of people raise hands when I ask whether they know the vote with the wallet and its potential in public events. This first barrier indicates that there is ample room for education projects making citizens aware, starting from school, of their potential. Examples are the "Into the label"

education initiative where students study companies as political parties and then go to the supermarket to cast their ballot paper (fig. 1) into a cardboard ballot box and vote with the wallet by buying the products closer to their political preferences.

Figure 1. Ballot paper of the "Into the label" education initiative.

b) **Information Asymmetry:** Unlike product quality, which consumers can directly assess, ethical and environmental responsibility of a product/company are not immediately observable. We can repeatedly buy fairtrade coffee but we do not improve our knowledge on whether that coffee is actually contributing to improve welfare of coffee farmers as it predicates. Corporate responsibility is therefore not an *experience good* where the information asymmetry suffered by consumers is overcome with choice and experience. Consumers need to rely on third-party certifications in their attempt to bridge the information gap. It is therefore no wonder that the economics of the vote with the wallet gave rise to the birth of several infor-

mation intermediaries such as labels, third-party certifiers and rating agencies. The business of these intermediaries is that of improving consumers information about the ethical value of the traded products. The economic literature shows that these organisations can be tempted to be excessively indulgent toward producers since their revenues depends on the number of certified products. The "temptation" represented by the potential economic advantage of being indulgent (or, at the extreme, cheating) is however offset by an expected "punishment", the risk of being caught and therefore lose their reputation which is their main competitive source.

c) **Coordination Problems:** Figure 2 intuitively helps to understand that individual ethical choices are effective only if large numbers of people act collectively. This is the case also in responsible consumption, even though companies are sensitive also to small changes in market shares and the vote with the wallet does not need to be majoritarian as political vote. Yet, many individuals hesitate to vote with the wallet because they fear that others will not follow suit, making their effort politically useless. The individual act of responsible consumption can satisfy one's own moral norms but will not get a political effect unless the choice is followed by a large number of consumers. This coordination problem will be explored in depth in Chapter 2 where we will explain, using game theoretical concepts, that the vote with the wallet is a multiplayer prisoner's dilemma where coordination failure is the most likely outcome, while the superior cooperative equilibrium requires coordinated action of many and is very difficult to attain. I will shed further light on it in Chapter 6 where I will show how expectations about the action of others affect significantly individual decision to cooperate in the vote with the wallet game of ecological transition.

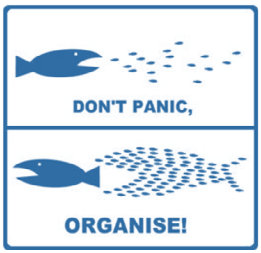

Figure 2. The coordination problem in the vote with the wallet.

d) **Price Sensitivity:** Ethical products often cost more than conventional alternatives. A typical objection to the vote with the wallet is that the poor cannot afford it. For many, affordability is a legitimate concern, particularly for those with limited financial resources. However, if we use the same logic, we should say that charity should not be done because the poor cannot afford it. The answer is that those who can afford it should do it in favor of those who cannot. Moreover, if enough consumers support ethical businesses, economies of scale could reduce prices over time. Based on current distributions of income in Western countries, if all those who are not budget constrained choose to vote with the wallet, there will be enough critical mass to make the action work and produce the change. The question however remains open since, even though it is not at all true that consumers always choose based on the lowest price (as they are often willing to pay to signal their status with conspicuous consumption), prices obviously matter.

e) **Behavioral Inertia:** People resist change due to psychological (switching) costs associated with altering consumption habits, even when switching to ethical products does not entail financial losses. In many cases today, even though voting with the wallet is profitable or does not entail extra costs (ie. choosing a 100% renewable energy company

or buying an ethical investment fund, as shown in section 7), many resist to it since the changes entails psychological and real switching costs to them.

f) **Imbalance in marketing power:** Early pioneers of ethical consumerism have inspired major corporations to partially imitate (see chapter 5) or just to adopt sustainability rhetoric. However, many large companies engage in *greenwashing* – marketing themselves as sustainable without making substantial ethical changes – confusing consumers and diluting the movement's impact. Even in case of competition between pioneers and partial imitators, the first should make consumers aware of their superior 100% dedication to corporate responsibility and therefore of the higher value and impact of voting for them. The problem here is the imbalance in marketing resources between companies doing green or social washing or selling standard products, and companies selling ethical products. The former are in general very large companies with huge marketing resources while the latter are zero or low profit companies with few financial resources to promote their products. It is therefore much easier for the former to shape consumer preferences in the desired direction.

g) **Status-Driven Consumption:** Many consumers make purchasing decisions based on social status rather than ethical considerations. Luxury branding and positional competition often override sustainability concerns even when the lowest price is not the only reason for choice.

3. The Greta Thunberg Objection: Is Consumer Action Enough?

Greta Thunberg has expressed skepticism about the idea of "voting with the wallet". In a post reported below she

ironically argues that if we leave the solution of the global warming problem to responsible consumers we could never be on time (Fig. 3).

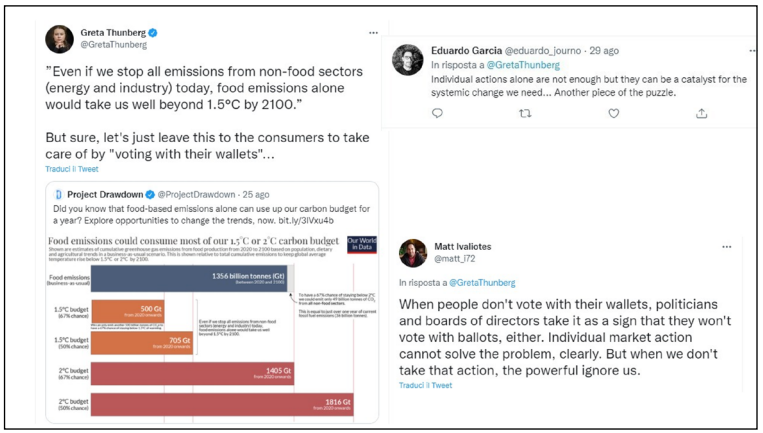

Figure 3. A debate on the vote with the wallet on social media.

It is interesting to see how two Greta's follower replied to her. Eduardo Garcia makes the point that the vote with the wallet can be the catalyst for a wider system change even if he acknowledges that it cannot do the job alone. Matt Ivaliotes reply seems to get in as a clarification of Eduardo's point saying that the vote with the wallet will push politicians and board of directors ("the powerful") to change their behaviour to accommodate voters and consumers will.

While Greta's critique acknowledges the current limitations of ethical consumerism if not accompanied by other political or institutional actions, it overlooks a key point: consumer activism, even if not universally adopted, can still drive systemic change. The sharp decline of Tesla cars have recently induced Musk to slow down its political engagement and the rection of world consumers (and financial markets) against US products led the US president Donald

Trump to hesitate to wage the tariff war to all the world. The vote with the wallet reaction is immediate and can correct leader choices even if new elections are not at sight.

Even before these examples social behaviour studies suggested that even a minority of dedicated consumers can reshape markets and political priorities. Companies constantly monitor consumer trends, and politicians adjust their platforms based on public sentiment. If a significant segment of the population votes with their wallets, businesses and policymakers will have no choice but to respond.

These preliminarly considerations show that, if democracy alone is insufficient to curb inequality, we must recognize that economic power is as influential as political power. Citizens should continue advocating for fairer policies, but they must also leverage their economic influence. Every financial decision – from daily purchases to investment choices – sends a signal to markets and political institutions. The relative advantage of the vote with the wallet with respect to political vote is also its higher frequency allowing citizens to exert a much more fine-tuned influence on political power.

If enough people align their spending with their values, they can create economic pressure that forces corporations and governments to prioritize social and environmental responsibility. While democracy in its current form has not effectively reduced inequality, a more engaged and conscious citizenry – one that exercises its power in both the voting booth and the marketplace – could drive meaningful change.

4. The Recent Revival of the Vote with the Wallet

For many years with research, teaching and public engagement on the vote with the wallet I had the impression to preach in the desert. One of the most depressing moments

was when testing about awareness (the first barrier) by asking to participants to an event to raise their hands if they had heard about the vote with the wallet (usually very few hands up). What is generally needed to raise interest and attention of public opinion, even around a topic which is important but of immediate grasp, is a link to some big event or to breaking news.

The event arrived with Donald Trump's decision to wage war to most of the world with his tariff policy on March 2025. More specifically, after the threat of tariffs on Canadian products such as steel and aluminium in that month, many Canadians adopted the "vote with their wallet" strategy, choosing to boycott American goods and prioritize Canadian-made products. This wave of economic activism was driven by a sense of national pride and a desire to support domestic industries affected by the tariffs. A strong shock produced a strong reaction. The response to the tariffs was a movement to avoid purchasing U.S. goods, particularly in sectors where Canadian alternatives were available with choices supported by novel digital tools such as "Maple Scan" apps which signal to consumers the origins of products found on supermarket shelves. Consumers increasingly sought out Canadian dairy, produce, and processed foods, shifting their spending habits to support local businesses. The hashtag #BuyCanadian gained momentum on social media, encouraging Canadians to be mindful of their purchases and opt for homegrown alternatives.

Retailers also played a role in promoting Canadian products. Some grocery stores and businesses prominently labeled Canadian-made goods, making it easier for consumers to identify and choose domestic options. This trend extended beyond food to products such as clothing, household items, and automobiles, with many Canadians opting for brands that sourced materials and manufactured goods within the country.

Given the large number of "voters" the boycott of American products also had tangible economic impacts. Some Canadian businesses reported increased sales as a result of the shift in consumer behavior. Meanwhile, certain U.S. brands experienced declines in sales in Canada, demonstrating the power of consumer choice.

In addition to avoiding American goods, some Canadians also chose to vacation domestically rather than travel to the U.S. This decision further reinforced the economic impact of the boycott, as tourism revenue remained within Canada, benefiting local hospitality and tourism industries.

Any vote with the wallet has two sides. The negative one is the boycott, or the decision not to buy a given product, a choice explored in depth by the literature (Gesualdi, 2013; Paolini, 2018) . The positive side is the choice of voting for a product which incarnates one's own ideals. I always prefer to present it by focusing on the positive side. Which implies also the negative one because the choice to vote for the preferred products brings with itself that of not buying products below one's own ethical standards. I however believe that the focus on the good side is more generative because it sheds light on a best practice and on a frontier in terms of social and environmental sustainability. The Canadian surge was however and inevitably very much on the negative side with a quite nationalistic attitude. Sanctioning Trump's tariff policy with everyday consumption and investment votes does not however necessarily imply limiting choices to national products. Despite these limits, I believe we should be happy of what has happened since the move has made the public opinion aware of the immense potential power of the vote with the wallet.

"We are the history" is the title of a famous song of a renowned Italian author saying that when people move can create important historical events, echoing another well-known international song remembering us that "people have the power".

The Canadian vote with the wallet is a recent example of a phenomenon whose more circumstantiated and focused effect (from an action not only of Canadian but global consumers) also hit during the same period a single, though highly symbolic and representative company. Elon Musk's political stance, particularly his strong support for Donald Trump, has been increasingly linked to a decline in Tesla's sales. Musk *hubris* did not make him aware of the risk of his choice and led him to violate the golden rule of large consumer business: never choose and make explicit your choice of a political side to avoid losing support of all consumers not sharing that view. It is therefore no wonder that Musk's political affiliation alienated (especially in Europe) a significant portion of Tesla's core customer base, many of whom lean progressive and previously saw the brand as an environmentally friendly and forward-thinking choice. A *Forbes* report highlights that Musk's endorsement of Trump has "seriously damaged" Tesla's brand image among its core audience, contributing to declining demand.[1] Similarly, *The Guardian* notes that Tesla's sales in Europe have dropped nearly 45%, a decline attributed in part to backlash against Musk's political alignment.[2]

Further evidence comes from *NPR*, which reports that Tesla's global sales are plummeting not only due to rising competition in the EV market but also because of growing public dissatisfaction with Musk's political activities.[3] This sentiment extends to investors as well, with *The New York Times* pointing out that Tesla's stock has tumbled as Musk's increasingly divisive political role raises concerns among

[1] https://www.forbes.com/sites/antoniopequenoiv/2025/03/10/elon-musk-says-hes-running-his-companies-with-great-difficulty-as-tesla-shares-plummet/

[2] https://www.theguardian.com/technology/2025/mar/24/tesla-sales-eu-slump-elon-musks-donald-trump-byd

[3] *NPR*, which reports that Tesla's global sales are plummeting

shareholders.[4] *Newsweek* and *DW* also discuss how Musk's political controversies have led to consumer backlash and declining market share, further reinforcing the idea that his political stance is not just a personal matter but a business risk for Tesla.

While some analysts argue that other factors, such as a slowing economy and increased EV competition from Chinese competitors such as BYD, have also played a role in Tesla's struggles, multiple sources suggest that Musk's politics have had a tangible negative impact on the company's brand perception and demand.

At this point in time we are not in the condition to evaluate the long-term effects of Musk choice. Its decision to exit the political forefront due to the short-term reaction of the vote with the wallet of world consumers is the signal of a loss of reputation that cannot be easily recovered and can be crucial in the competitive race between Tesla and Byd. What is clear is that consumers need not wait another political election to correct their mistakes in case of dangers for democracy. In many cases as this one they can act soon using their higher frequency capacity of influence political power with their everyday vote with the wallet.

With our reference to recent events related to the tariff war we focused more in depth on those concerning consumption (Canadian consumer choices and Tesla sales). The strongest and more immediate vote with the wallet reaction however has probably been that of investors on bond markets with a demand fall on US treasury bonds that lead to a surge of interest rates. This is probably the most dangerous signal arrived at Trump. This "vote with the wallet" was not for moral reasons or pursuit of the common good but purely on terms of reassessment of risk adjusted

[4] https://www.nytimes.com/2025/03/10/business/tesla-stock-market-elon-musk.html

returns. It was however very impactful and effective showing how strong can be the impact of the instrument also in terms of check and balances of modern democracies. The force and the coordination of the vote with the wallet becomes more difficult when, in ordinary times, there is not the perception of an immediate financial danger and such a strong link between short-term and long-term benefits and the seven barriers matter more. I will discuss the problem in what follows.

2. The Vote with the Wallet as a Multiplayer Prisoner's Dilemma: A Non-Mathematical Synthesis

As shown above the concept of "voting with the wallet" refers to consumers making purchasing decisions that align with their ethical, social, and environmental values. This means choosing products and services from companies that prioritize corporate social responsibility (CSR), fair labor practices, and sustainability. However, despite the growing awareness and willingness of consumers to buy responsibly, there is a fundamental challenge concerning point 3 (coordination failure) of our seven above mentioned obstacles to the success of the "vote with the wallet" theorem: the collective impact of these choices is hindered by what economists call the coordination failure which the most likely outcome of what is called a **Multiplayer Prisoner's Dilemma (PD)**.

As it will be clear from what follows the vote with the wallet problem is a typical problem, first formalized by Mancur Olson in *The Logic of Collective Action* (1965), which describes how individuals often fail to act in pursuit of a common interest when personal incentives to free-ride exist. Scholars have since explored how group size, selective incentives, and social norms influence cooperation. Elinor Ostrom (2008 and 2010) notably challenged the inevitability of failure in collective action, demonstrating how commu-

nities can self-organize to manage shared resources. Game theory, especially the **prisoner's dilemma**, has provided a formal backbone for modeling these dynamics. Contemporary literature also connects collective action failures to global issues like climate change, vaccine uptake, and digital misinformation.

1. The Core Idea: A Prisoner's Dilemma in Consumer Behavior

The research frames the vote with the wallet responsible consumer choice as a multiplayer version of the classic **Prisoner's Dilemma**, a game theory problem where individuals fail to cooperate, even though collective cooperation would yield the best outcome. When consumers purchase ethically produced goods, they contribute to broader social benefits such as fair wages, reduced pollution, and better working conditions. However, these products often come with a price premium, leading some individuals to opt for cheaper alternatives.

This creates a **free-rider problem** – where individuals just looking at their short-term monetary payoff prefer to enjoy the benefits of a more responsible marketplace without contributing to it financially. If too many consumers choose lower-cost, less ethical options, socially responsible products struggle to compete, ultimately discouraging companies from adopting sustainable practices.

The coordination problem represents a typical problem of *homo economicus* failure and explains why the nobel price Amarthya Sen calls him a "social moron". The *homo economicus* maximises his own monetary payoff and finds it optimal to choose the cheaper non responsible product. If he and the other players would instead be able to coordinate and compel each other to choose the more

expensive responsible product they would be better off as social and environmental goals of the collective action would be fulfilled. But this would imply a form of superior social "we-rationality" and capacity of coordination they do not possess.

2. The Basic Structure of the Model

To outline in detail the theoretical model of the vote with the wallet coordination failure I follow Becchetti and Salustri (2019) and develop a game-theoretic framework in which consumers must decide between two options:

a) **Voting with the wallet (vR)** → Choosing a socially responsible (SR) product, which supports ethical labor, environmental sustainability, or corporate social responsibility.

b) **Buying conventionally (vS)** → Choosing a cheaper, non-SR product that does not contribute to positive social or environmental outcomes.

I conveniently assume in the model that each consumer's decision of type 1 generates positive externalities. This is because the responsible choice makes the economy more socially and environmentally responsible and this benefit is enjoyed also by the consumer that chooses to buy conventionally. However, SR products often cost more, making more economically convenient for consumers to opt for conventional products, which creates a free-rider problem – consumers choosing the conventional, less expensive product many enjoy the benefits of ethical consumption without participating in it. To make a real life example, the sky of Shenzen got clearer and different from that of Bejing when in the last years many local consumers made the choice of the socially responsible product and more than half of local cars became electric or hybrid. The sky of Shenzen is clearer and the air is cleaner also for owners of petrol or diesel cars,

despite their free-riding (less responsible) choices and thanks to the choices of more responsible consumers.

3. The Game as a Multiplayer Prisoner's Dilemma

In our research I model consumer choices using **a multi-player extension of the traditional PD**, which captures the following factors:

· **Public Good Effect (b):** When consumers choose SR products, they can generate positive (environmental) externalities and/or companies improve their ethical standards, benefiting all consumers.

· **Intrinsic Satisfaction (a):** consumers can experience personal satisfaction from making ethical purchases if they have other-regarding preferences (ie. they can be happier as they have other-regarding preferences, conform to some moral norms or because they have a taste for generativity and anticipate the benefits they can create on other people and enjoy doing it),

· **Extra Cost (c):** SR products often cost more than conventional alternatives.

The Payoff Matrix of the game in the Two-Player Case can be written as

Player 1 / Player 2	Buys SR (vR)	Buys Conventional (vS)
Buys SR (vR)	b + a - c, b + a - c	½b + a - c, ½b
Buys Conventional (vS)	½b, ½b + a - c	0, 0

· For both players the **dominant strategy** in this game (the choice that maximises their monetary payoff whatever the choice of the other player) is to buy conventional products (vS), even though the socially optimal outcome would be to buy SR products (vR) for both.

· This results in a **Pareto-inefficient (Nash) equilibrium** – a suboptimal situation where everyone would be better off if they had chosen the alternative cooperative choice.

We show in our paper how in a larger multiplayer setting, the problem intensifies. As the number of players (n) increases, the impact of each individual's choice decreases, making coordination of cooperative choices more difficult to hope or expect, and free-riding more likely.

3. Potential Solutions to the Vote with the Wallet Coordination Problem

It is possible to show the existence of potential solutions to this coordination failure, using different game-theoretic approaches.

A. Lowering the Extra Cost (c)

If policymakers or market forces reduce the cost of SR products, ethical consumption becomes more attractive. This can be achieved via government incentives (e.g., tax breaks, subsidies for ethical goods), government regulation (e.g. green or social procurement, non-mandatory financial reporting) or corporate responsibility initiatives reducing the cost gap between SR and conventional products.

B. Infinitely Repeated Games (Folk Theorem Strategies)

When the game is played repeatedly, both players can stick to the cooperative strategy and a cooperative equilibrium can emerge if players care about future payoffs (i.e., they are patient). This depends on the type of strategies adopted to punish players who did no cooperate. Two well known are :

· **Grim Trigger:** If any consumer defects (buys conventional products), all others permanently stop voting with their wallet.

· **Tit-for-Tat:** Consumers buy SR products unless others defect, in which case they temporarily stop and after restart cooperation if the others also cooperate.

These strategies introduce **long-term incentives** for cooperation, but they require a **high level of consumer patience (low discount rate δ)** to be effective.

Other potential solutions found by the same game players to the dilemma can come from evolutionary strategies. We can specifically refer to **memory-one strategies**, where consumers base their current decision on past outcomes. We highlight two of them:

· **Pavlov Strategy:** Consumers continue ethical purchasing if past cooperation was high but switch to conventional products if defection was widespread.

· **Proportional Tit-for-Tat (pTFT):** The likelihood of buying an SR product depends on how many others did so in the previous round.

These **behavioral strategies** can help sustain ethical consumption in **large markets**. A very interesting finding in this literature is that pivotal players can signal their trustworthiness to all other players by choosing repeatedly the cooperative strategy even if they must pay a cost for it (as it is the case when other players play noncooperative) (Hilbe , Wu, Traulsen and Nowak 2014; Steward and Plotkin, 2013). This signal however progressively creates a focus on the cooperative choice leading all other players to trust on the cooperative behavior of the pivotal player and to converge to it, thereby creating in the end a cooperative equilibrium. This finding is consistent with the idea that a gift (something that an agent accepts to "pay" without having guarantee of getting something back in return) can cause gratitude and trigger reciprocity progressively creating cooperation. The gift is in this case represented by the cost for the pivotal player of sticking to the cooperative choice even though the other players choose alternatively. It is very interesting to see here how the mathematical result of an evolutionary model in the lab matches finds results consistent with real life evidence in the stories of

several best practices where cooperation was fostered by the pivotal behavior of a charismatic leader.

The exploration of alternative solutions to the coordination problem shows that a coalition of committed SR consumers can enforce cooperation by:

a) **Publicly committing** to buy only ethical products.

b) **Organizing "Cash Mobs"** – large-scale, coordinated purchases of SR goods to signal demand to companies and their cooperative attitude to other consumers (see section 3.2).

c) **Applying selective punishment**, where defectors face reputational or social pressure to align with responsible purchasing.

By forming coalitions, ethical consumers reduce free-riding and increase the influence of SR demand.

Several other directions can be taken to avoid this coordination failure. One of them is regulatory support for CSR initiatives to reduce the cost gap between SR and conventional products. This is the road taken by the EU first with the introduction of mandatory non-financial reporting (which I will examine further in detail in section 3.3), then with the adoption of stricter rules for reporting social and environmental sustainability of product chains.

To conclude our reasoning, what we found in this chapter is that the vote with the wallet is an extremely powerful mechanism, but its effectiveness is limited by coordination failures. Tentative solution to the social dilemma can be found in a combination of strategies such as market-driven initiatives that make ethical consumption easier, consumer-driven efforts (role of pivotal actors, coalitions, social norms) and policy interventions that incentivize responsible behavior. Structural changes in both markets and public policy are necessary to make ethical consumption a dominant and sustainable choice.

1. The Balanced Budget Policy Solution

Together with Francesco Salustri and Vittorio Pelligra (Becchetti, Salustri and Pelligra, 2018) we explored how the multiplayer prisoner's dilemma of the vote with the wallet can be effectively addressed through a balanced budget policy. Our reflection started from the key obstacles that hinder individuals from adopting environmentally responsible behaviors (focusing on the environmental side of the vote with the wallet), such as free-riding incentives and short-term economic costs. In the absence of proper incentives, individuals may delay or avoid investment in green energy and sustainable practices, despite recognizing the collective benefits of ecological transition. The experiment we designed tested whether a policy mechanism that redistributes resources from non-cooperators to cooperators without creating fiscal deficits can correct these misaligned incentives and foster cooperation.

The essence and plus of the balanced budget policy is based on the principle that government intervention should remain fiscally neutral while encouraging sustainable behavior. With reference to our experiment the goal of was automatically achieved since we announced, after ten rounds of the standard vote with the wallet game described in chapter 2, that from the following round on we would have withdrawn a one-euro tax from all those choosing the opportunist non cooperative strategy that we would redistribute in equal parts among those choosing the cooperative strategy. Beyond the experiment, instead of relying on deficit spending or external subsidies, a balanced budget policy ensures that funds collected through environmental taxation or carbon pricing are immediately redistributed to support green investments or reward sustainable behaviors. The policy addresses two key psychological and economic

barriers to transition: the fear of financial burden and the concern that individual efforts will not significantly impact environmental outcomes. By ensuring that taxes collected from polluting behaviors are reinjected into the economy to incentivize sustainable actions, the balanced budget policy increases players' expectations about cooperative attitude of the others and aligns individual interests with collective welfare.

To test the effectiveness of the balanced budget mechanism we ran our experiment simulating decision-making in an ecological transition scenario, where participants voted with the wallet by choosing between environmentally friendly investments and maintaining the status quo. In the baseline scenario without policy intervention, participants exhibited classic free-rider behavior: they were hesitant to invest in sustainable initiatives unless a critical mass of cooperation was evident. This reluctance reflects real-world challenges, where individuals avoid costly green investments unless assured that others will do the same.

What actually happened in the dynamics of the experiment is that the share of cooperators before the introduction of the policy was very high at the beginning (see fig. 4).

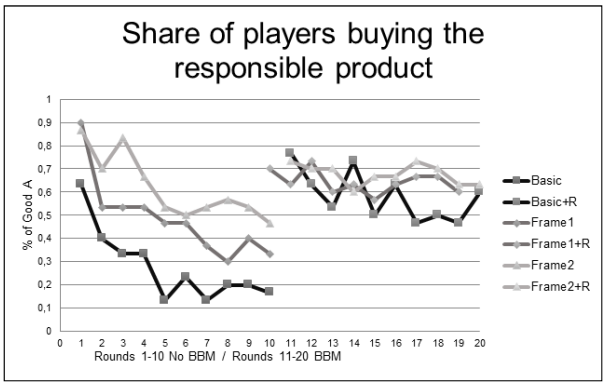

Figure 4 .Share of players voting with the wallet in the balanced budget policy lab experiment.

Share of players making the responsible choice on the vertical axis. The balanced budget mechanism (BBM) is introduced after the 10th round of the game: players choosing the conventional product pay one euro and the pool of resources is distributed in equal parts among players choosing the responsible product. In the Basic game characteristics of the two goods neutrally described to players, in Frame 1 and 2 games the two goods are explicitly described as environmentally and non environmentally responsible. Source: Becchetti, Salustri, Pelligra, 2018.

The players hence started in the first round their participation to the experiment by believing that the other would have followed the form of "social rationality" leading all participants to the highest outcome. When however after the first round they were informed about other players choices and they became aware that some players actually did not cooperate and behaved in an opportunistic manner, they also decided to be opportunistic following the logic of negative reciprocity (I reciprocate an unkind action with a similar behavior). As a consequence, the share of cooperators progressively declined across rounds, up to a minimum threshold of players who nonetheless decided to cooperate despite evidence of the large number of free riders. This behavior has been typically found in many other experiments revealing a common characteristic of human populations. A large portion of them is made by a majority of *conditional cooperators* (people who cooperate if they see that also the other do, and stop doing if they see that the other don't), and a minority by *unconditional cooperators* (that is "Kantian" individuals who are satisfied by compliance to a moral norm when cooperating and therefore not being affected by the behavior of other players in the experiment).

Under the balanced budget policy condition, however, the experiment revealed a significant shift in behavior. When, after the tenth round, participants knew that funds generated from environmental taxation were directly

redistributed as incentives for green investments, their willingness to cooperate increased. The policy effectively mitigated free-riding concerns and the redistribution mechanism created a reinforcing cycle where early adopters encouraged subsequent participants to join, leading to a tipping point in cooperation levels. The results demonstrated that, participants in the balanced budget condition reached a much higher rate of ecological investments compared to the situation in the ten rounds before the policy introduction.

A problem of this redistribution mechanism, implicit in its structure, is that it is extremely convenient for cooperators when free riders are many since the unit tax paid by each free rider creates a large pool, redistributed in equal parts among few cooperators. As far as the number of free riders fall (and that of cooperators rises) benefits for cooperators fall since a small amount is redistributed among many. Social and political sustainability of the mechanism need therefore to be verified by understanding what happens under the two extremes.

Our experiment provides strong empirical evidence that a well-designed balanced budget policy can overcome the social dilemma inherent in ecological transition. By aligning economic incentives with environmental goals, such policies reduce the financial sacrifice and make sustainable choices more attractive. The experiment results suggest that policymakers should focus on mechanisms that ensure immediate and visible redistribution of environmental taxes, thereby increasing public trust and participation. The advantage for the government budget is obviously that this occurs without worsening government accounts and public debt.

2. One of the Most Extraordinary Applications of the Balanced Budget Mechanism: The Packaging Tax and the Birth of the Recycled Paper Market in Italy

The Ronchi law in Italy is an interesting example of how the balanced budget mechanism can be applied. The law applied in Italy an EU directive on reuse and recycle and created in 1997 a packaging tax (akin to the penalty for players choosing the "non cooperative" non environmentally responsible choice in our experiment) which was bound to finance local administrations and productive plants transforming paper waste into a new input that paper industries buy to create recycled paper and cardboard. This mechanism replicated exactly what described in our experiment being at no cost for the government budget, collecting resources from less environmental friendly choices and redistributing them to support environmental choices.

An Italian market for recycled paper did not exist before the law since demand reservation price was lower than supply reservation price or the maximum willingness to pay of consumers was inferior to the minimum price at which producers were willingness to produce. The packaging tax revenues from the Ronchi law lowered significantly production costs thereby creating the recycled paper market in Italy leading the country to Early Achievement of EU Paper Recycling Targets, with an 87.3% recycling rate in 2020, exceeding the 85% goal set for 2035 (Comieco, 2023). The consortium's efforts have drastically reduced paper and cardboard waste in landfills, increasing per capita collection from 17 kg in 1998 to 57.2 kg by 2020. The activity of consortia managing the overall process (CONAI, COREPLA, COMIECO) adds value to the process with marketing investment that boosts the willingness to pay of final consumers, invest in creating a digital district among

producers creating knowledge externalities and fostering innovation in the industry.

A 2025 impact evaluation of the process finds that one euro of packaging tax "invested" in the recycling industry produces between 4 and 6 euros in terms of market revenues, job creation, consumer surplus and value of Co2 avoided.

3. Cash Mobs

A key factor that can help to solve the coordination problem (the third obstacle) at the root of the vote with the wallet Prisoner's dilemma is an organized coordinated action with the maximum possible communication impact that suggest to world consumers that the vote with the wallet can be politically powerful when chosen by many consumers. Cash mobs can play this role. If standard "mobs" are coordinated public actions with communicative goals, "cash mobs" add to the coordinated public action the distinctive characteristics of an act of purchase of a given product.

Cash mobs are therefore organized consumer actions following a predetermined plot where groups of people coordinate to support a specific local or ethical business by making purchases on a predetermined day. Their goal is to boost visibility, and create awareness and support for the cause of some ethical products of for some small businesses that may struggle to compete with larger corporations. These events often have a strong community-driven aspect, encouraging social interaction and fostering loyalty between consumers and local businesses. Unlike traditional forms of economic support, such as subsidies or government grants, cash mobs are entirely bottom-up processes that rely on voluntary collective action to generate economic impact.

If cash mobs at their origin were created to support local small businesss, the same structure of coordinated and communicated consumer action can be used to support ethical causes and/or companies/products of strong social and environmental impact.

In an historical perspective cash mobs emerged in the early 2010s as a response to the increasing dominance of large retail chains and e-commerce giants, which were driving many small businesses out of the market. A first widely recognized cash mob was organized by Chris Smith, a blogger from Buffalo, New York, in August 2011. His idea quickly became popular, inspiring similar actions across the United States and beyond. By 2012, cash mobs had spread internationally, with events taking place in countries such as Canada, Australia, and the United Kingdom. These movements often leverage social media platforms to coordinate participation, making them highly adaptable and scalable. An important feature of the web and social media is in fact its capacity of reducing coordination costs and therefore reducing the third problem to the vote with the wallet described in section 1.3.

Our point is that Cash mobs, beyond the goal of supporting small local business for which they are born, can be a useful tool for making consumers aware of the power of their vote with the wallet, thereby creating a focal point on the cooperative strategy helping to overcome the coordination problem. Cash mobs therefore represent a compelling solution to the prisoner's dilemma in the vote with the wallet game by reshaping consumer behavior through coordinated action.

The public nature of a cash mob also strengthens cooperation by introducing social incentives. When people participate in a cash mob, they become part of a community effort, where their actions are noticed and reinforced by others. Social pressure and reputational considerations

make it more difficult for individuals to defect since they feel accountable to their peers. The temporary nature of a cash mob also lowers the perceived cost of participation. While committing to permanently supporting an ethical business might seem daunting, joining a single event feels manageable, which in turn increases participation. This initial involvement can often serve as a gateway to longer-term behavioral changes, as consumers who engage in a cash mob may develop habits of supporting ethical businesses more regularly.

Beyond psychological and social incentives, cash mobs also serve as an economic signal that ethical consumption is viable, as in the example of the Slot-Mob campaign we launched in Italy a decade ago (fig. 5). When businesses experience an influx of customers through a cash mob, they gain the financial boost necessary to stay competitive in the market. More importantly, competitors take notice of these events and may adjust their practices to align with the values that attract consumer support. This process can create a ripple effect in the market, encouraging more businesses to adopt ethical policies in response to shifting consumer expectations. In essence, cash mobs alter market dynamics by demonstrating that cooperation among consumers can yield meaningful economic consequences.

In addition to changing immediate purchasing decisions, cash mobs cultivate trust and reciprocity within a community. When consumers witness the success of a cash mob, they become more inclined to support future efforts, reinforcing a cycle of cooperative behavior. Over time, this can shift market norms, making ethical consumption the default rather than the exception. What initially begins as a short-term intervention evolves into a longer-term movement that alters the way consumers perceive their role in shaping markets. The repetition of cash mobs fosters a cultural shift where cooperation is seen as both achievable and beneficial,

reducing the incentives for individuals to defect in the vote with the wallet game.

Figure 5. Italian cash mob campaign with consumer groups voting with the wallet in cafeteria without slot machines to campaign against gambling.

With Maurizio Fiaschetti and Francesco Salustri (Becchetti, Fiaschetti and Salustri, 2021) we try to replicate the effect of cash mobs in the lab. We start from the standard framework of the multiplayer Prisoner's dilemma illustrated in chapter 2 and introduce the possibility for a subgroup of players of revealing their cooperative choice to the other players. In this sense we introduce a single elementary change in the structure of the game replicating the essence of cash mobs, that is the choice of groups of doing the cooperative choice and communicating it to the rest of the market. Our results show that this change raises significantly the share of cooperators in the game, do not rejecting the hypothesis that cash mobs are entirely grassroot mechanisms that can

make cooperation focal thereby increasing the willingness of other players to cooperate.

4. Mandatory Non-financial Reporting

Beyond balanced budget policies such as those described in section 3.1 other regulatory policy with no costs for the government budget can boost the vote with the wallet. In this direction, with Sara Mancini and Nazaria Solferino (Becchetti, Mancini and Solferino, 2024) we investigated the role of the global diffusion of mandatory non-financial reporting (NFR) and its impact on corporate social responsibility (CSR) practices, particularly environmentally sustainable investment.

The research hypothesis we tested was that non-mandatory financial reporting could give a positive boost to corporate social and environmental responsibility. The issue is relevant given the growing adoption of mandatory NFR regulations across various countries, driven by increasing awareness of sustainability issues, regulatory pressure, and the demand for corporate transparency. While voluntary sustainability reporting has existed for decades, recent years have seen a shift toward legal mandates requiring firms to disclose environmental, social, and governance (ESG) information. The European Union has been a pioneer in this domain, implementing the Non-Financial Reporting Directive (NFRD) and later expanding it with the Corporate Sustainability Reporting Directive (CSRD). Other regions, including North America, Asia, and Latin America, have followed suit, albeit at different paces and with varying levels of enforcement.

The diffusion of NFR has been influenced by international organizations such as the Global Reporting Initiative (GRI), the Task Force on Climate-related Financial Disclosures

(TCFD), and the International Sustainability Standards Board (ISSB). Countries with strong legal institutions and active civil societies have been quicker to adopt mandatory disclosure requirements. Meanwhile, emerging economies have been slower in implementation, often citing compliance costs and institutional challenges. Nevertheless, globalization and market integration have encouraged multinational corporations to align with these evolving standards, even in jurisdictions without strict legal mandates.

To test our hypothesis, and to solve the identification problem, we use a discontinuity design. This because, as is well known, correlation is not causation and the simple positive relationships between CSR engagement and non-mandatory financial reporting can depend on direct causality, reverse causality or endogeneity (a third omitted variable causing both). The opportunity for a discontinuity design was given by the legal corporate size threshold for mandatory non-financial reporting in Italy (500 employees). We had data for the universe of Italian companies above 250 employees and with tens of thousands of observations we could see whether being very close (on the left and the right side) of the 500 employee threshold made the difference. The implicit assumption of this approach is that two companies just above or below the threshold are very similar and the only difference among them is the mandatory/non-mandatory financial reporting. One of the paper's key findings do not reject our research hypothesis by showing that mandatory NFR significantly enhances corporate CSR engagement, particularly in terms of environmentally sustainable investments. More specifically we find empirical evidence that companies subject to mandatory NFR show a measurable increase in green investments, emissions reductions, and broader commitments to sustainable development.

Our interpretation is that, by requiring firms to disclose their ESG performance, these regulations create incentives

for businesses to improve their sustainability practices to meet stakeholder expectations. The mechanisms behind this impact can be of three types. First, mandatory disclosures increase transparency, making it easier for investors, consumers, and regulators to assess corporate sustainability performance. Second, firms with weak environmental records face greater scrutiny and potential reputational risks, motivating them to adopt greener policies. Third, financial markets increasingly integrate ESG factors into investment decisions, meaning companies that fail to align with sustainability expectations may experience reduced access to capital. As a result, firms under mandatory reporting regimes tend to proactively enhance their sustainability strategies, not just to comply with regulations but also to maintain competitiveness in the evolving financial landscape.

Our research highlights sectoral and regional differences in the effectiveness of mandatory NFR. Firms in industries with high environmental impact, such as energy and manufacturing, tend to exhibit the strongest response to mandatory reporting. Meanwhile, companies in countries with weaker regulatory enforcement may initially comply only superficially, though long-term trends suggest a gradual shift toward genuine CSR commitment.

Our results and the similar ones of others in the literature provides compelling evidence that a global spread of mandatory NFR could shape corporate behavior in meaningful ways. By fostering transparency and accountability, these regulations drive businesses toward more sustainable investment practices, reinforcing the role of corporate governance in addressing environmental challenges. While challenges remain – such as ensuring the reliability of disclosed information and addressing compliance burdens in emerging economies – the overall trend suggests that mandatory NFR is an effective policy tool for enhancing corporate sustainability efforts.

If our reflection works, we must therefore wonder what the effects in terms of CSR of the new anti-ESG wave of the Trump administration will be. Even if it is hard to anticipate what will happen, first empirical evidence shows that non-US markets accelerate and take the leadership in ESG regulation, while companies in the US continue on their stance consistent with ecological transition by adopting the opposite strategy of "green shushing" to avoid potential conflicts with US regulators. A recent piece of news can be a sign of hope and strength of financial markets in spite of political turmoil. Shareholders of the Apple assembly voted 97% against an anti-diversity, equity and inclusion (anti-ESG) initiative submitted by conservative think tank the National Center for Public Policy Research (NCPPR). Citizens' vote (in a shareholders assembly) demonstrated again to be an effective counterpower.[5]

[5] https://www.complianceweek.com/boards-and-shareholders/shareholders-back-apple-sticking-to-dei-goals-as-trump-blasts-move/35862.article

4. Voting with the Wallet as a Challenge to the Old Economic Paradigm

Theoretical research and empirical findings on the vote with the wallet and on the dilemma and solutions for collective action are of paramount importance in the economic literature as they challenge reductionist views of (old) mainstream economics. According to them individuals are *homines economici* caring only about their own monetary payoffs (anthropological reductionism), companies (do and need to) maximise profits without considering potential negative social and environmental externalities (corporate reductionism), GDP growth is a sufficient condition for higher life satisfaction and political economy is just a top-down process which does not requires active citizens participation.

Theory and empirical evidence of the vote with the wallet is a practical demonstration that this is not the case. Revealed choices (purchases) of responsible consumers and investors voting with the wallet demonstrate that they have other-regarding preferences (Bruni, 2004; Pelligra, 2011; Zamagni, 2006) beyond *homo economicus* opening the way to the novel theories arguing that generativity (the beneficial impact of one's own action) is a crucial driver of subjective wellbeing (Becchetti, Buso, Corazzini and Pelligra, 2024). Socially or environmentally responsible companies acting

in this field demonstrate to be "more ambitious" than mere profit maximisers by looking at (social and environmental) impact beyond profits. Responsible consumer and investor choices operate by themselves bottom-up policy actions rejecting the hypothesis that only political leaders can produce political effects.

Going more in depth on the first limit of the old view of mainstream economics (anthropological reductionism), standard economic theory assumes that individuals act as *homo economicus*, maximizing personal financial benefits since their utility function includes as arguments only their own monetary payoffs. However, empirical research in behavioral economics strongly contradicts this assumption. Empirical findings from lab and field experiments using Ultimatum Games, Dictator Games, Gift Exchange Games, and Trust Games (see among others Fehr and Schmidt, 1999; Fehr and Falk, 2002; Camerer 2003; Andreoni, 1990; Andreoni and Miller, 2002; Rabin, 1993; Fehr and Gacther, 2000; Berg, Dickhaut and Mc Cabe, 1995) show that individuals consider pure altruism, warm glow, fairness, reciprocity, inequity aversion, and social welfare when making economic decisions. Real-world evidence parallels these findings by rejecting the hypothesis that consumer behavior is myopically self-interested. The increasing market share of ethical products, even when they cost more than conventional alternatives, demonstrates a willingness to vote with the wallet for social and environmental causes. To be more precise, it is the same concept of self-interest that needs to be modified. This is explained very well by a sharp say of Antonio Genovesi when he says "*Work hard for your own interest, no man could do otherwise, as he would be less human by not doing so: but do not work for the misery of others and, if possible, work out how to make them happy. The more you are self-interested, the more you must be virtuous if you are not fool. Is a natural*

law that you cannot make your own happiness without making that of other human beings" (Genovesi, *Autobiografia e lettere*, p. 449).

The dichotomy between self and other regarding interest (egoism and altruism) is replaced by that between long-sighted and short-sighted self interest. As it is natural to be, all human beings pursue their own self-interest, but those who are longsighted and can look deeply insight themselves know that their self-interest coexists and discover that it consists of making other people happy. This is consistent with recent empirical evidence on the key role of generativity (positive impact of one's own actions on other human beings) on life sense and satisfaction (Becchetti and Conzo, 2021). Something corresponding to the intuition of one of the founders of mainstream economics, John Stuart Mills, when he says that *"Those only are happy, I thought, who have their minds fixed on some object other than their own happiness, on the happiness of others, on the improvement of mankind, even on some art or pursuit, followed not as a means, but as itself an ideal end. Aiming thus at something else, they find happiness by the way"* (John Stuart Mill, 1893, p. 117).

Voting with the wallet is also linked to concepts in public goods and externalities theory. Ethical consumption is a positive externality – when consumers buy fair-trade or eco-friendly products, they generate social benefits beyond their own consumption. However, as seen above when describing the social dilemma of the vote with the wallet, market failures, such as asymmetric information and free-riding, often prevent widespread responsible consumption. Game theory models, particularly the Multiplayer Prisoner's Dilemma, illustrate the problem: if enough consumers choose ethical products, companies will adopt responsible practices. However, each indi-

vidual consumer faces an incentive to defect by buying cheaper, unethical products, leading to suboptimal social outcomes.

Several studies analyze whether consumers follow through on ethical preferences. Hiscox and Smyth (2010) conducted a field experiment in a New York store, attaching CSR-related labels to certain products. Sales of labeled items increased by 20-40%, showing that ethical claims influence buying decisions. In another study, Hiscox et al. (2011) ran an eBay auction experiment where bidders paid a 45% premium for polo shirts advertised as ethically produced. However, there is often a gap between stated preferences (survey responses) and actual behavior. Many consumers express interest in ethical products, but their willingness to pay a premium diminishes in real-world settings due to price sensitivity and information barriers.

With Francesco Salustri and Pasquale Scaramozzino (2019) we present a randomized field experiment designed to examine how making corporate social responsibility (CSR) information salient affects consumer behavior in supermarkets. Specifically, we test whether publicizing CSR performance through a large, school report-style scorecard, based on Oxfam's "Behind the Brands" campaign, could influence purchasing choices. The scorecard displayed social and environmental responsibility scores for the ten largest global food companies and was placed at the entrances of selected supermarkets in Italy (Fig. 6).

Figure 6. The vote with the wallet field experiment based on the Oxfam "Behind the brand" campaign.

We find that the presence of the CSR scorecard had a measurable impact on consumer behavior. Companies ranked at the top of the CSR list experienced a significant increase in their market share, with the best-performing brand gaining around 6%. Conversely, companies ranked at the bottom saw significant reductions in their market share. Even companies not included in the ranking experienced slight losses, suggesting that consumers may have negatively perceived their absence from the list. These results indicate that visibility and perceived responsibility affect purchasing choices, even when no changes are made to product prices or availability.

Our conclusion is that providing such information to consumers could help address the cost-benefit imbalance faced by companies considering CSR initiatives. If more responsible behavior leads to higher sales, businesses may be more motivated to improve their social and environmental performance. This mechanism could allow for the promotion of social goals without government expenditure by simply increasing the information available to consumers, pushing the market closer to the textbook model of perfect information.

However, we caution against overgeneralizing these findings, as the experiment was conducted on a limited scale in a specific context – during a prolonged recession in Italy. This makes the results especially notable, as price sensitivity would be expected to dominate during economic hardship. Yet CSR still had a measurable effect. Limitations include the challenge for consumers to link specific brands to their parent companies, and the potential for pre-existing brand perceptions to mediate the treatment effect, as seen in cases like Nestlé and Coca-Cola.

Finally, we highlight a key policy implication: improving public access to reliable CSR information can shape consumer behavior in meaningful ways. But it also warns of

the risks associated with misinformation and the need for robust, credible systems for scoring and communicating CSR performance. Further research on this point is encouraged to explore long-term effects, broader application, and consumer cognition in more detail.

Beyond consumption, voting with the wallet also occurs in financial markets through ethical finance. Ethical banks prioritize social and environmental impact, as seen in microfinance institutions and cooperative banks. Socially Responsible Investment (SRI) funds exclude industries regarded as unethical, favoring sustainable businesses instead. Additionally, shareholder activism enables investors to influence corporate behavior through proxy voting and engagement with company boards. SRI has grown significantly in recent decades, with socially responsible assets in the US increasing from $639 billion in 1995 to $3.07 trillion in 2010 (Social Investment Forum Report). However, studies on SRI portfolio performance are mixed, showing no consistent underperformance or outperformance compared to traditional investments (Bauer et al., Becchetti & Ciciretti, 2009).

The main part of generativity of the act of responsible consumption/investment lies in the fact that companies are increasingly adopting Corporate Social Responsibility (CSR) strategies in response to ethical consumerism. The literature identifies two key drivers of CSR: market pressure from ethical consumers and investors, as well as regulatory and reputational risks associated with unethical behavior. CSR adoption is therefore partially endogenous; when ethical consumption reaches a critical threshold, profit-maximizing firms are incentivized to partially imitate ethical pioneers. To make an example following market entry of fairtrade pioneers selling food products, multinational corporations such as Nestlé and Starbucks have adopted fair-trade prac-

tices for part of their production (partial imitation), while others engage in corporate greenwashing, exaggerating sustainability claims to attract ethical consumers.

This is what I'm going to investigate more in depth in what follows.

5. An Historical Example of Vote with the Wallet Effects: The Birth of Fairtrade Pioneers and Partial Imitation of Incumbent Multinationals

Ropi is a village situated in Southern part of Ethiopia, at 320 km from the capital and 70 km from Shashemane town in Ethiopia. Ropi farmers produce wheat in the wet season which they individually sell below the seasonal (low) market price to the unique organisation of local intermediaries which brings the product to Shashemane. In the dry season Ropi farmers run out of wheat and must buy it from the same traders at the seasonal market prices which usually double with respect to those of the wet season. This story is strikingly like that of many other marginalised producers around the world such as Kenyan farmers in Meru Central and Tharaka, approximately 200 km from Nairobi, on Mount Kenya's eastern slopes (Becchetti and Costantino, 2010), or handicraft producers in the District of Juliaca (Department of Puno) located around the Titicaca lake.

Fair trade schemes created by socially responsible importers from the North have been created to address these problems. They use consumption and trade in an aim to promote inclusion of poor farmers in global product markets through a package of benefits which include anti-cyclical mark-ups on prices, long-term relationships, credit facilities and business angel consultancy to build producers' capacity.

The Fair Trade movement was founded in the Netherlands in the late 1980s, with Frans van der Hoff and Nico Roozen playing key roles in its development. They established the first fair trade certification initiative, **Max Havelaar**, in 1988, ensuring better wages and working conditions for small-scale coffee farmers in Mexico. This initiative laid the foundation for the global fair trade movement.

According to **IFAT**, a key fair trade certification organization, the principles of fair trade include:

- Creating opportunities for economically disadvantaged producers.
- Transparency and accountability.
- Capacity building.
- Promoting Fair Trade.
- Payment of a fair price.
- Gender Equity.
- Working conditions. *(healthy working environment for producers. The participation of children – if any – does not adversely affect their well-being, security, educational requirements and need for play and conforms to the UN Convention on the Rights of the Child as well as the law and norms in the local context.)*
- The environment.
- Trade Relations.

Fair Trade Organizations trade with concern for the social, economic and environmental well-being of marginalized small producers and do not maximise profit at their expense. They maintain long-term relationships based on solidarity, trust and mutual respect that contribute to the promotion and growth of Fair Trade. Whenever possible producers are assisted with access to pre-harvest or pre-production advance payment.

The Fairtrade movement can be considered the historical pioneer of the vote with the wallet. Its birth, existence and action made citizens and other corporations aware of the enormous potential of responsible consumption and investment.

Fairtrade is therefore an economic and social movement that aims to promote equitable trading conditions for small businesses and producers in the South of the world, tackling the problem of their low market power with respect to large corporations and retail chains. It seeks to ensure that small enterprises receive fair financial support, greater visibility, and enhanced consumer awareness. By fostering a strong community-driven approach, Fairtrade encourages social interaction and loyalty between consumers and ethical businesses. Unlike traditional economic support mechanisms such as subsidies or government grants, Fairtrade relies on voluntary consumer action and social incentives to generate economic impact.

The emergence of Fairtrade as a global movement can be understood in the context of growing concerns about the dominance of large retail chains and e-commerce giants, which have made it increasingly difficult for small agricultural raw material producers to thrive. Historically, small-scale producers have struggled to compete against major corporations that benefit from economies of scale, lower production costs, and wider market reach. In response, Fairtrade was established to create a more level playing field, investing in productivity skills of small marginalised producers and supporting their market access. They did so by offering them an additional trade channel under the form of long-term relationships and contracts with high income country importers which reduced the monopolistic power of local intermediaries who were in most case the unique channel of market access for them.

The definition of the fair price has been generally considered the most important content of the relationship between marginalized producers and fairtraders. By observing the dynamics of market and fairtrade prices we observe that the fairtrade price acts as a countercyclical mark-up on market prices. Prices of agricultural raw materials are

in general highly volatile due to climatic shocks hitting supply or shifts in consumer tastes hitting demand. When the market price peaks the fairtrade price can just follow and adapt, while when the market price falls, the fairtrade price does not follow below a given minimum decent price threshold. In this sense the fairtrade price acts as a sort of insurance that avoids negative income shocks for farmer households that can lead them to poverty of to use child work as a resource to avoid it.

The relationship between fairtrade importers and marginalized producers is however much richer. In Faitrade principles we find anticipated financing for working capital (seeds, machinery) that addresses the problem of farmers financing constraints, and investment in local public goods such as health and education.

Despite the benefits, Fairtrade is not a guaranteed solution for long-term business survival. Success depends on several factors, including social engagement, media coverage, and community commitment. Businesses and producers must actively work to maintain consumer interest and ensure that their ethical commitments remain visible. However, by fostering a culture of conscious consumer participation, Fairtrade demonstrates that grassroots economic initiatives can shape market dynamics and strengthen local economies. The movement continues to highlight the power of collective consumer action in supporting sustainable trade practices and promoting a more just economic system.

In our paper with Palestini, Solferino and Tessitore (2014) we highlight that one of the positive effects of Fair Trade pioneers was that of triggering partial imitation by profit-maximizing companies by analyzing the strategic interaction between ethical firms and conventional firms operating in the same market. The key argument is that Fair

Trade pioneers, motivated by ethical and social concerns rather than pure profit, introduce new business practices that appeal to a growing segment of socially conscious consumers. This shift in consumer preferences forces profit-driven companies to adapt by partially imitating Fair Trade practices, even though their primary objective remains maximizing financial returns rather than adhering fully to Fair Trade principles.

One of the central mechanisms of the model is the role of consumer demand in shaping corporate strategies. Fair Trade pioneers establish a new benchmark for ethical consumption, demonstrating that there is a market for products made under fair labor conditions and sustainable practices. As a result, mainstream consumers become more aware of these issues and begin to incorporate ethical considerations into their purchasing decisions. However, rather than switching entirely to Fair Trade-certified products, many consumers remain price-sensitive and prefer to balance ethical concerns with affordability. This creates an opportunity for conventional profit-maximizing firms to engage in partial imitation – adopting selected Fair Trade practices that appeal to consumers while avoiding the full costs associated with certification and rigorous ethical commitments.

The theoretical framework used to model competition between fairtrade pioneers and profit maximising incumbent is that of horizontal product differentiation. Harold Hotelling (1929) uses for the first time this model to study competition between two ice-cream sellers on a beach segment where consumers are uniformly distributed and want to buy only one ice-cream, walking the minimum distance. The two ice-cream sellers are assumed to sell ice-cream of the same quality and price and therefore compete only on the strategic variable of location. The equilibrium in the model is that of minimum differentiation since ice-

cream sellers find it optimal to locate both at the center of the segment where each of them conquers half of the market. The same theoretical approach, used also for political competition, can be used for competion on ethical responsibility by assuming that location on the segment represents the willingness to support marginal agricultural producers as fair trade does. We show in the model how the entry of the fairtraders leads them to conquer part of the market (represented by more responsible consumers who are closer to him in the segment of ethical responsibility find it optimal to buy from them). The optimal reply of the profit maximising incumbent is to react partially in prices and partially in location since, given reasonable parametric assumptions on ethical consumer preferences, its best reaction is to partially imitate the entrant by increasing their ethical stance.

The model suggests that partial imitation occurs because it allows mainstream firms to capture some of the benefits of ethical consumerism without incurring the same costs as Fair Trade pioneers. Instead of fully committing to Fair Trade principles, these firms may implement limited ethical sourcing, adopt fair labor policies selectively, or use marketing strategies that emphasize sustainability without fully adhering to Fair Trade standards. This strategy enables them to attract ethically conscious consumers who are unwilling or unable to pay the full price premium for certified Fair Trade products. In doing so, profit-maximizing firms create a form of "ethical dilution," where they appear to align with Fair Trade values while maintaining flexibility in their cost structures.

Another aspect of the theoretical model highlights the competitive dynamics between Fair Trade pioneers and mainstream firms. While ethical businesses prioritize long-term social impact, profit-maximizing firms operate with short-term financial objectives. As ethical consumption

grows, mainstream firms face increasing competitive pressure to respond. If they completely ignore Fair Trade, they risk losing a segment of the market to ethical businesses. However, by adopting partial imitation, they can retain customers who demand some level of ethical commitment while still prioritizing cost efficiency and profitability.

The model also accounts for strategic signaling, where mainstream firms use selective Fair Trade practices as a way to build a responsible corporate image. Even if their commitment is limited, engaging in partial imitation allows them to enhance brand reputation, differentiate themselves from less ethical competitors, and maintain customer loyalty. In some cases, this can lead to "greenwashing" or "fairwashing," where companies exaggerate their ethical commitments for marketing purposes rather than implementing substantial changes in their supply chains. If they however do so, they risk their reputation and therefore they must balance the potential green washing benefits with this risk and expected cost. More in general the experience tells that consumers hardly recognise the difference between a 100 percent pioneer fully dedicated to its ethical cause and a partially imitating profit maximising incumbent which replies by following the ethical approach for a small part of its production. The marketing capacity of the profit maximisers is such to convince the consumers that this difference does not exist and the fairtrade pioneers has much more limited resources to say the contrary.

Despite all these problems, the above described theoretical literature on the oligopolistic competition in corporate responsibility explains how Fair Trade pioneers acted as catalysts for broader changes in the market. Their generativity therefore is not univocally determined by their market shares but also by the partial imitation they trigger on profit maximising incumbents. Part of their success, depending on the sensitiveness of ethical consumers, consists of the same

ethical competition they cause in their profit maximising competitors. A question we wonder in another theoretical research on the issue (Becchetti *et al.* 2014) is whether partial ethical stance of profit maximising companies would have surged in any case, even in absence of market entry of fairtrade pioneers. The answer is negative, provided that pioneers' entry reveals the exact dimensions of the potential of ethical sales that was previously unknown to profit maximising incumbents. In addition to it, without fairtrade entry, profit maximising incumbents have no interest in ethical competition, provided that it is not just washing and implies transfers of part of their profit margins to promote market access and public goods (health, education) to marginalized producer households.

The welfare paradox of fairtrade is that, in the perspective of marginalized producers in poor or emerging countries, the oligopolistic competition between fairtraders and profit maximising imitators produces more welfare than intervention planned by high income country governments. In terms of the model the two producer locations in the oligopoly equilibrium provide more support to marginalized producers than when the high-income country government chooses such location. This is the case because the high-income country government does it only in the interest of its voters (consumers) while not considering that of marginalized producers.

The recent evolution in this competition is surprising. In our models, starting from the observation of the reality, we always conceived fair trade pioneers and profit maximising incumbents as separate and not cooperating entities. The most recent history has revealed instead a cooperative equilibrium: profit maximising multinationals have directly asked to fairtrade pioneers to work together in following and certifying the sincerity of their partial imitation by monitoring and verifying quality of their portion of more ethical production.

To provide an example, Ferrero has collaborated with Fairtrade for the sourcing of sustainable cocoa. Through its partnership, Ferrero has committed to improving the livelihoods of cocoa farmers by integrating Fairtrade-certified cocoa into its supply chain. The company has also been involved in initiatives to improve social and environmental standards in cocoa-producing regions. Nestlé has engaged with Fairtrade in the past, particularly through its sourcing of Fairtrade-certified cocoa for some of its chocolate products, such as KitKat in the UK. While Nestlé later moved to its own sustainability certification, the initial collaboration helped introduce Fairtrade principles into mainstream confectionery markets. Unilever has integrated Fairtrade certification in various products, particularly within brands like Ben & Jerry's, which has sourced Fairtrade-certified ingredients such as vanilla, cocoa, and bananas. The company has been involved in sustainability initiatives aligned with Fairtrade's mission.

If the goal we have in mind is the victory of 100% pioneers, this outcome is not what we would have seen. If more realistically, and also more generatively, the goal is that of the progressive transformation of the market toward corporate social responsibility, these forms of cooperation also contribute to the right direction.

6. The Vote with the Wallet in Ecological Transition: "What About China and India?"

The ecological transition, a pressing global challenge, is increasingly analyzed through the lens of game theory, specifically as a multiplayer prisoner's dilemma. In a paper with Francesco Salustri (Becchetti and Salustri, 2025) we explored how cooperation among various actors – individuals, firms, and states – is necessary to mitigate environmental degradation. However, despite the shared benefits of sustainability, self-interest and short-term incentives often lead to inaction, mirroring the classic (vote with the wallet) dilemma presented in chapter 2 where rational agents fail to cooperate, resulting in collective harm.

At the core of the ecological transition dilemma is the tension between individual rationality and collective well-being. Each participant in the system – whether a nation considering emission reductions, a company evaluating green investments, or a citizen adjusting consumption habits – faces the choice of either cooperating (adopting sustainable practices) or defecting (prioritizing immediate gains over long-term sustainability). The cooperative choice has higher cost for the player, but it creates a positive externality on all other players so that the highest equilibrium in terms of social and also individual wellbeing is the one where all players choose the cooperative choice.

This is because, in the ideal cooperative scenario, all actors benefit from cleaner air, stable climates, and resource security. However, because each party bears an individual cost when taking eco-friendly instead of conventional actions, while benefiting from others' efforts regardless of their own behavior, free-riding becomes a dominant strategy. This dynamic leads to a Nash equilibrium in which all actors defect, trapping society in an environmentally destructive status quo. Again, it is coordination failure that prevents players to reach the highest equilibrium, and coordination problems get higher the higher the number of participants as it is the case in the game of global ecological transition.

The resolution of this specific multiplayer prisoner's dilemma of ecological transition depends, as in the more general case examined in the first part of the book, on several critical factors. First, institutional enforcement and regulations can play a decisive role. Policies such as carbon taxes, subsidies for renewable energy can alter the payoff structure by making sustainable choices more economically viable. Such policies do not need to be necessarily costly for the government since not only our balanced budget example described in section 3, but also green procurement rules and mandatory non-financial reporting can contribute to the outcome with government expenditure. More in general, when governments impose stringent regulations and create legal obligations, defection becomes costly, shifting the equilibrium towards cooperation. Second, **social norms and peer influence** significantly impact behavior. If sustainability becomes a widely accepted societal norm, individuals and firms may experience reputational benefits from cooperation or social penalties for defection. Behavioral economics suggests that visibility and collective pressure can steer decision-making towards pro-environmental choices.

Another crucial factor is **economic incentives and market dynamics**. Green technology investments often face high upfront costs, but long-term savings and competitive advantages can make sustainability profitable. When financial incentives align with ecological goals – through tax breaks, lower operating costs, or consumer demand for ethical products – cooperation becomes the dominant strategy. Moreover, **trust and reciprocity mechanisms** influence outcomes. According to the conditional cooperation principle examined in section 3.1 and verified in most behavioral experiments, if actors believe that others will also contribute to the ecological transition, they are more likely to cooperate, leading to virtuous cycles of sustainability. International trust, in particular, is vital, as unilateral environmental policies can be undermined if major polluters do not participate.

Finally, **uncertainty and risk perception** shape decision-making. If the consequences of environmental collapse are perceived as distant or uncertain, defection seems rational. Clear scientific communication and scenario modeling can reduce ambiguity, reinforcing the urgency of collective action.

Evidence from the European Social Survey confirms these assumptions. In a work with Gianluigi Conzo and Francesco Salustri (2024) we find that, on a large sample of individuals from more than 30 European countries, the willingness to act for ecological transition depends strongly on two factors. The first is the perceived urgency of global warming, while the second is the expectation on whether the other countries will also act in that direction. The positive and significant impact of the second factor is an indirect proof of the importance of the coordination problem (obstacle 3 in our chapter 2 introduction to the success of the vote with the wallet theorem). When we vote with the wallet, we know that the political effect of our action depends on the actions of many other actors, but we do not actually

know what they will do and formulate expectations about that. The more pessimistic our expectations are, the less we will be willing to vote with the wallet since we anticipate that the political effect of our action will be negligible. A real-life example of it is the typical sceptical comment "what about India and China?" that we receive from those who feel the burden of believing to be the only one taking environmental action.

The consequence of that result is that our personal moving to positive action has an important positive externality in that, insofar it is known and observed, it increases the likelihood that all the other players will revise their expectations more optimistically and choose to cooperate. At the same time, any government changing its attitude in a more pro-environmental direction produces the same positive externality, making expectations on the behavior of others more optimistic and thereby increasing the likelihood of pro-environmental actions.

1. A Solution to the Prisoner's Dilemma in Ecological Transition: The Role of Renewable Energy Communities (RECs)

Renewable Energy Communities (RECs) are citizen-driven energy systems that facilitate decentralized renewable energy production and consumption. These communities have emerged as an alternative to traditional energy markets, which are typically dominated by centralized utilities with limited local engagement. The fundamental principle behind RECs is collective ownership and shared decision-making, where members, including individuals, businesses, and municipalities, collaborate to generate, store, and distribute renewable energy within a defined local area. By prioritizing democratic governance and reinvesting benefits within the

community, RECs foster energy self-sufficiency while promoting sustainability. RECs members derive three potential economic benefits from their membership. First, they do not have to buy the energy that they produce and self-consume. Second, they can sell to the grid the surplus of produced energy not consumed locally. Third, RECs receive a subsidy in most countries proportional to their self-consumption share to remunerate the contribution they give to avoid congestion of the grid. RECs are also strategic to foster grassroots participation to ecological transition since, by sharing revenues from renewable energy production with local community, they reduce the likelihood of a NIMBY (Not In My Backyard) attitude.

RECs rely on locally produced energy from renewable sources such as solar, wind, and biomass, reducing dependence on fossil fuels, thereby moving to a form of energy production that has a much lower impact in terms of carbon emissions, contributing to mitigation. As a consequence, through self-consumption and energy-sharing mechanisms, members not only ensure affordable and stable electricity prices but also contribute to tackle global warming.

The European Union, fully aware of this potential, has played a crucial role in promoting Renewable Energy Communities (RECs) through legislative frameworks, financial incentives, and policy integration. A first important step in this direction has been the *Clean Energy for All Europeans* package, which introduced clear legal definitions and rights for RECs under the Renewable Energy Directive (RED II) and the Internal Electricity Market Directive (IEMD). These directives acknowledge the principle of bottom-up participation to energy production and recognize RECs as key players in the energy transition, granting them the right to produce, consume, store, and sell renewable energy while ensuring fair access to the grid. The Directive asks Member states to create proper regulatory frame-

works that support the formation and operation of RECs, removing barriers such as excessive bureaucracy and restrictive energy market regulations. The creation of a REC is in effect a complex process starting from the creation of the community of prosumers and passive consumers, the decision about the governance, its management and sharing rules among members. Bureaucracy can make things easier or more difficult, especially when it comes to authorise and operate their connection with the grid and forms of payment of government subsidies (direct net metering reducing energy bills in proportion to consumed self-production or, alternatively, in form of reimbursement in general with long delays). In addition to legal recognition, the EU has allocated substantial financial resources to support community energy projects. Programs such as Horizon Europe, LIFE, and the Just Transition Fund provide financial assistance for renewable energy initiatives, while the European Investment Bank (EIB) offers low-interest loans to community-led projects. National governments have also introduced subsidies and tax benefits to incentivize participation in RECs, making them a more accessible alternative to conventional energy sources.

The expansion of Renewable Energy Communities is not limited to Europe but is gaining momentum worldwide and is considered even more strategic to address the problem of energy poverty and energy distribution in countries not covered by a national electric grid. In the United States, community solar programs have emerged as a decentralized energy model, allowing residents to collectively invest in solar projects and share the benefits. Several states, including California, New York, and Minnesota,[6] have implemented policies that facilitate community energy ownership and

[6] https://www.theclimategroup.org/sites/default/files/2020-11/under2_coalition_case_study_etp_minnesota.pdf.

provide financial incentives for participation. In Canada, indigenous communities have taken a leading role in developing renewable energy cooperatives,[7] often as part of broader efforts toward energy sovereignty and sustainability. In Latin America, countries such as Brazil and Chile are exploring

[7] https://www.cer-rec.gc.ca/en/data-analysis/energy-markets/market-snapshots/2023/market-snapshot-indigenous-ownership-canadian-renewable-energy-projects-growing.html

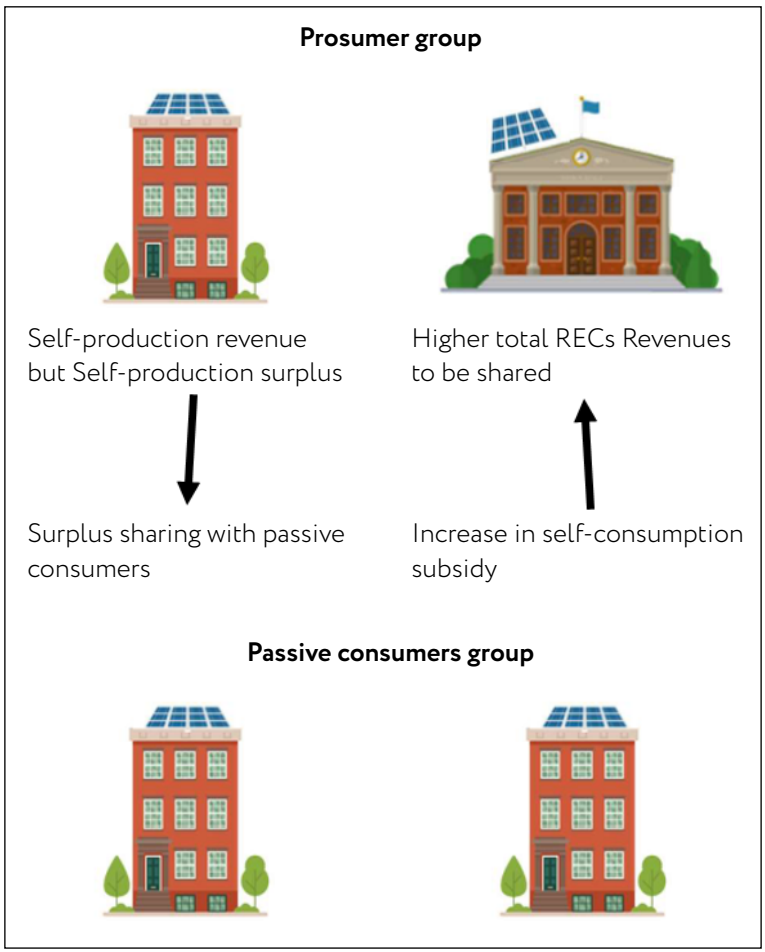

Figure 7. Why Renewable Energy Communities can be a cooperative game.

community-based renewable energy projects, particularly in remote areas where traditional grid infrastructure is insufficient. Africa has also seen a rise in community energy models, with microgrid systems providing reliable electricity in rural regions of Kenya, Tanzania, and South Africa (for research on community participation to renewable energy projects in poor or emerging countries see, among others, Cantarero, 2020; Makai and Popoola, 2024; Gezahegn, Gebregiorgis, Gebrehiwet and Tesfamariam 2018; Thapar, Sharma and Verma 2017). These initiatives often receive support from international organizations such as the World Bank and the United Nations, which recognize the potential of decentralized renewables to improve energy access and reduce carbon emissions.

Asia has witnessed growing interest in RECs, particularly in Japan, where citizen-led energy cooperatives have emerged in response to the Fukushima nuclear disaster. South Korea has introduced policies encouraging local energy generation, while India is implementing decentralized solar projects to address energy poverty. Australia has also embraced community energy, with cooperatives playing an essential role in the country's transition to renewables. Overall, the global expansion of RECs reflects a broader shift toward democratizing energy production, reducing dependence on centralized utilities, and accelerating the transition to a sustainable energy system.

2. How Recs Foster the Shift from Prisoner's Dilemma to Stag Hunt or Straightly Cooperative Games

Back to our vote with the wallet dilemma we learned that the transition to a renewable-based economy presents a social dilemma in which individual short-term interests often conflict with long-term sustainability goals. One of

the main barriers to this transition is the initial investment required for renewable energy infrastructure, which discourages individuals and small businesses from making the shift despite its long-term advantages. Business models that can overcome this problem usually see the start of the community from corporations having excess supply of renewable energy from their roofs and therefore having interest to find local partners to increase their share of self-consumption and therefore remuneration related to this subsidy. Another promising direction is the willingness of large companies to finance RECs to use their expenditure for a dual purpose: getting green certificates to sell in Environmental Trading Systems in countries an sectors where it applies and compensating their production emissions to achieve their declared net zero goals.

In the model developed with Francesco Salustri (Becchetti and Salustri, 2025) we explain how Renewable Energy Communities offer a promising solution to this dilemma by aligning individual and collective interests through local cooperative energy production models. More specifically, we outline conditions under which the standard Prisoner's Dilemma of ecological transition can be transformed into a Stag-Hunt game or into a Cooperative REC Game, thereby making the cooperative choice the dominant strategy and solving the dilemma. This is because the standard simultaneous Prisoner's dilemma illustrated in chapter 2 and adapted to ecological transition in chapter 4 becomes, in the case of the creation of a REC, a sequential game where, under reasonable parametric conditions, the optimal choice of both players is cooperation (Figure 7). Back to the example of the initial corporate prosumer with surplus solar energy production, the corporate prosumer is the first player starting the game and having a direct private interest to operate the plant. At the second stage the entry of RECs partners under the form of other prosumers or even

passive consumers (hence their cooperation to the project) becomes the best reply in the game since self-consumption subsidies remunerate the growth in the self-consumption share of the community. In this respect the cooperative strategy becomes the dominant strategy for both players in the sequential game. As it is clear from this example "smart subsidies" play again a crucial role to ensure that the system works.

> *Prosumers have a self-production revenue but also a self-production surplus (difference between instantaneous production and consumption) that can be not wasted and remunerated at best if shared with passive consumers that increase the share of self-consumed production that is remunerated by government subsidy. Prosumers and passive consumers bargain on the division of the higher revenues generated.*

RECs also have an interesting potential in terms of relational and social dividends in that they foster trust and social engagement by promoting democratic governance and transparent decision-making. Participants feel a stronger sense of ownership over their energy resources, reinforcing community cohesion and long-term commitment to sustainability. Educational initiatives within RECs also enhance energy literacy, making individuals more aware of their consumption patterns and the benefits of renewable energy.

This structure encourages reciprocity, where individuals see tangible advantages in contributing to the collective effort. Social norms can further reinforce this behavior, as visible participation in an REC establishes sustainable energy consumption as an expected practice within the community. At a broader level, the emergence of RECs helps democratize the energy market by reducing the monopolistic control of large corporations. By decentralizing

energy production, these communities give individuals and local governments greater control over their energy needs, making them less vulnerable to external price fluctuations and supply disruptions. The decentralization of the energy grid also strengthens resilience against energy crises, reinforcing the economic and environmental advantages of transitioning to renewables.

Alexander Langer used to say that "ecological transition will be successful if it will be socially desirable". Beyond their local impact, RECs have the potential to accelerate the broader ecological transition by increasing their social desirability. Their decentralized nature allows for scalable and replicable models that can be adapted across different communities, gradually forming a larger network of renewable energy producers. Successful RECs also play a role in influencing policy, as they demonstrate the viability of citizen-led energy solutions and provide evidence for regulatory reforms that favor decentralized renewable initiatives. Ultimately, RECs contribute to a more sustainable and inclusive energy future by making renewable energy more accessible, fostering economic resilience, and strengthening social cooperation. Their continued growth and success will depend on sustained policy support, technological advancements, and widespread community participation.

7. The Success of Green Finance in the Vote with the Wallet

"Leveraging investors power to catalyze social change" was the sharp and synthetic motto of ICCR (Interfaith Center for Corporate Responsibility), one of the first networks of ethical investors operating in the US (Fig. 8).[8]

Figure 8. Vote with the wallet motto in finance – The old ICCR website.

[8] https://www.iccr.org/

For more than twenty years, I have been trying to "sow" (together with many other friends and fellow travelers) the concept of *voting with your wallet*. Where have we arrived? How much fruit have we borne?

The evidence is mixed. To summarize, *voting with your wallet* has made great strides in green finance, while it has lagged much further behind in consumption, social issues, and labor rights. Let's try to explain why.

In finance, a beautiful adventure began twenty-three years ago in Italy with the birth of *Etica SGR*, an investment fund that decided to *vote with its wallet* in the financial sector. That is, the fund chose to use the money entrusted by savers to invest in companies that met a certain threshold of social and environmental sustainability. The fund was created through a partnership between *Banca Etica*, the network of cooperative credit banks (*BCC*), and some *popular banks* (such as the Banca Popolare di Milano, Banca Popolare dell'Emilia-Romagna, and Banca Popolare di Sondrio). At beginning 2025, the fund had about 450,000 clients and managed around 7 billion euros in assets.

But the most remarkable achievement is that its idea of *voting with the wallet* promoted by pioneers such as *Etica sgr* – at least regarding environmental sustainability – has been embraced by nearly the entire financial sector, even if only partially through imitation. Nowadays, almost all asset management companies offer *green, climate impact* and *ethical* funds alongside traditional ones. One of the greatest satisfactions from this seed that has borne so much fruit is a letter written in late 2018 by Larry Fink, the founder and CEO of *BlackRock*, the world's largest investment fund. In his letter to the CEOs of the world's leading multinational corporations, he wrote:

• *Without a clear purpose, no company, whether public or private, can achieve its full potential. Ultimately, its key stakeholders will revoke its license to operate.*

· *It will succumb to the pressures that push it to redistribute short-term profits, and in doing so, it will sacrifice investment in worker training, innovation, and capital expenditures – essential for long-term growth.*

· *It will remain vulnerable to activist campaigns driven by a clearer goal, even if that goal is narrow and lacks broader vision.*

· *In the end, such a company will offer very modest returns to investors who have entrusted their money to it, hoping to finance their retirement, buy a home, or pay for their children's higher education.*

Essentially, Larry Fink argues that, even from purely self-interested and not altruistic motivations, he too intends to *vote with his wallet*. That's because socially and environmentally unsustainable companies risk *crashing* – entering into conflicts with society and various stakeholders – ultimately harming the returns of his investment funds. And, in the perspective of ecological transition, they risk increasing their exposure to climate risk. This, in turn, would jeopardize the interests of those who have entrusted him with their savings, expecting to finance their family's healthcare and education with the returns.

To explain this concept to students with a clear example, I always refer to two steel-producing companies located in urban centers: *Ilva* in Taranto and *Voestalpine* in Linz. While *Ilva* paid little attention to the environmental consequences of its production (with the results of triggering protest and reactions of local stakeholders and going bankrupt), *Voestalpine*, many years ago, began a dialogue with local stakeholders to create a production process that minimized pollution risks. Where would you have invested ten years ago? According to *voting with the wallet* – but also according to Larry Fink's reasoning about minimizing conflicts with stakeholders – the answer would be *Voestalpine* and not *Ilva*. And you would have been right.

If I have to judge progress and relative success of the vote with the wallet theorem in the recent economic history I

must agree that the course of action has been impressive in one field (finance and environmental sustainability), while more modest in another (consumption and social responsibility). This is a straightforward consequence of our model and the seven barriers to it (see again chapter 2). The third barrier of coordination is much less binding in finance than in consumption since investment choices are dominated by actors (such as investment funds) which pool savings of a large number of small investors therefore reducing by far the problem of coordination. Ethical investment funds do not face coordination problems, as they have received a fiduciary mandate from savers to manage their funds. When *Etica SGR* or *Larry Fink* decide to *vote with their wallet*, they don't need to call every individual saver to convince them. Awareness (first barrier) and information asymmetry (second barrier) are also not a problem since investment funds are aware of their vote with the wallet potential and purchase from ESG rating agencies all the information they need to evaluate corporate responsibility companies they hold in their portfolios. The fourth barrier (the price difference between responsible and conventional products) is also not working since many empirical findings demonstrate that socially and environmentally responsible investment funds have risk adjusted returns not significantly different from those of conventional funds. Hence, in the case of financial investment, there is no "price" difference (in terms of expected reward) between ethical and conventional financial products.

Empirical evidence confirms what considered above. With Ciciretti, Dalò, and Herzel (2015), investigated the performance differences between socially responsible investment (SRI) funds and conventional investment funds, particularly in the context of the global financial crisis. The primary expectation in the financial literature is that ethical or socially responsible funds may underperform,

compared to conventional funds, due to constraints in their investment choices. Since SRI funds exclude certain industries, such as tobacco, gambling, and fossil fuels and worst-in-class companies in other industries eligible for their portfolios, they operate with a restricted investment universe, potentially limiting diversification and access to high-yield assets. Additionally, ethical investment funds must buy information on ESG ratings and are forced, based on their rules, to exclude companies that lose their ethical characteristics even when it could not be profitable to do so. Last, ethical investment strategies often prioritize long-term sustainability and corporate governance, which may not always align with short-term market performance. On the other hand, proponents of SRI argue that companies adhering to environmental, social, and governance (ESG) criteria may exhibit lower risk, greater resilience in financial downturns, and better long-term profitability due to improved risk management and stronger stakeholder relations.

Our empirical findings challenge the assumption of systematic underperformance of SRI funds. We conduct a comprehensive performance comparison between SRI and conventional funds using multiple risk-adjusted return measures, including the Sharpe ratio, Jensen's alpha, and Carhart's four-factor model. Our results indicate that, on average, SRI funds do not significantly underperform relative to their conventional counterparts. More importantly, during the global financial crisis of 2008, SRI funds exhibited greater resilience, suffering smaller losses compared to conventional funds. This suggests that socially responsible investment strategies may provide a form of downside protection in periods of market turbulence. Our study attributes this resilience to the governance and ethical considerations that underpin SRI funds, which may contribute to more stable corporate practices and reduced exposure to ESG risk consisting in higher transaction costs

due to litigation with stakeholders (the *Vestalpine* versus *Ilva* case is a good example of it) or higher transition and climate risk that exposes them more to costs and consequences of global warming.

The recent empirical evidence highlights that the outperformance of SRI funds during the crisis does not necessarily translate into consistent superior returns in normal market conditions. In stable economic periods, conventional funds historically achieved similar or slightly better performance due to their ability to invest freely across all sectors. However, when controlling for risk factors, the performance gap between SRI and conventional funds narrows significantly, suggesting that ethical investment does not come at a clear financial cost. Instead, SRI funds provide competitive returns while offering additional non-financial benefits, such as alignment with investor values and lower exposure to reputational and regulatory risks.

These empirical findings are consistent with theoretical predictions. To sum up, SRI funds potentially incur in three additional costs vis-à-vis conventional funds. The first, is the reduced set of investable stocks when they use not just engagement but also active portfolio selection. The second is the purchase of ESG information and the third is the potential cost when they must exclude from their portfolio a stock that lost its ESG characteristics. However, we show that the first cost is negligible if the set of investable stocks is large enough so that excluded stocks cannot create additional benefits from diversification. The second cost is cancelled by the fact that also conventional stocks need nowadays ESG information to evaluate stock exposure to ESG risk. The third cost is limited by exclusion rules that usually include a sufficiently large time window to reduce the potential cost of selling in a non-convenient period.

In conclusion, our findings challenge the traditional view that SRI funds are financially inferior to conventional

funds. While ethical investment strategies impose certain constraints, these do not necessarily lead to lower returns. Instead, SRI funds appear to offer a more stable and resilient investment profile, particularly in times of financial distress. These findings suggest that investors do not need to sacrifice financial performance to invest ethically, and in certain market conditions, ethical investment may even provide an advantage. They contribute to the broader discussion on the role of ESG considerations in financial markets, highlighting that social responsibility and financial performance are not necessarily at odds but can coexist as part of a robust and sustainable investment strategy.

These considerations explain why impact finance, particularly through green and social bonds, has gained significant momentum in the last decade as investors increasingly prioritize environmental and social considerations alongside financial returns. This shift marks a departure from traditional finance, where investment decisions were primarily driven by risk and return. The growing demand for sustainable financial instruments demonstrates that investors are now incorporating broader ethical, social, and environmental concerns into their decision-making processes.

Needless to say, the golden era of ESG in the US, signed by the Larry Fink speech has passed. The same BlackRock has officially reduced its commitment anticipating what is happening with the second Trump mandate and the political offensive against ESG in the US. This new phase will be an extraordinary tough stress test on responsible business that will tell us whether we will survive the storm (especially in the US since other countries will continue their regulatory effort to promote ESG criteria). My guess is that we will since generativity is the main principal component of life satisfaction and our drive for generativity will push in such direction finding new ways and equilibria to solve the problem.

1. The Rise of impact finance with Green and Social Bonds

Socially responsible investment funds described in the previous section can be located under the larger umbrella of impact finance. Impact finance is an example of the success of the vote with the wallet in finance since it could never have existed without the vote with the wallet of investors looking not just at risk adjusted returns but also to generativity and social and environmental impact of their choices. It represents a powerful evolution in the world of capital, aiming to generate measurable positive outcomes for society and the environment while also delivering financial returns. Emerging from early forms of ethical investing in the 1960s, it gained definitional clarity around 2007 through the efforts of institutions like the Rockefeller Foundation. Since then, and especially following the global adoption of the United Nations Sustainable Development Goals (SDGs) in 2015, impact finance has become a mainstream force, aligning investments with long-term sustainability objectives. By 2023, global impact investment assets surpassed $1.2 trillion, reflecting a consistent annual growth rate of 15 to 20 percent and signaling growing investor confidence in the sector. The positive effects of this movement are increasingly evident. Environmentally, impact investments have contributed to significant outcomes, such as the avoidance of over 60 million metric tons of CO_2 emissions annually through renewable energy and sustainable infrastructure projects. Socially, impact funds have enabled improved access to healthcare for more than 100 million people and expanded financial inclusion for over 2.3 billion previously unbanked individuals, particularly across emerging and underserved markets. Gender equity and inclusion are also focal points, with many funds incorporating gender-lens strategies to promote women's entrepreneurship and leadership, as well as the upliftment of marginalized communities. The mecha-

nisms driving impact finance include green and social bonds that direct capital to specific sustainability goals, blended finance structures that mitigate risk and attract private sector engagement, and outcome-based contracts like Social Impact Bonds, where returns are contingent upon achieving predetermined social objectives. However, the field also faces critical challenges. The lack of standardized metrics for impact measurement continues to complicate comparisons and transparency, while the threat of greenwashing – where environmental or social claims are exaggerated – poses reputational and regulatory risks. Moreover, the ongoing debate about potential trade-offs between impact and financial returns persists, although an increasing number of studies suggest that well-structured impact investments can match or even outperform traditional investments in terms of profitability. Overall, impact finance has matured into a vital instrument for transforming capital markets toward a regenerative, inclusive, and sustainable global economy. As the world confronts ecological collapse, social inequality, and institutional fatigue, impact finance offers a pragmatic yet visionary path forward, mobilizing resources not only for survival, but for the flourishing of both people and the planet.

2. Investor Preferences and the Shift Beyond Financial Returns

Empirical research on life satisfaction has recently shown that generativity, the expected effect of one's own action in terms of social and environmental impact, is one of the main drivers of subjective wellbeing.

The development of impact finance is an example of how generativity is entering economic choice as it highlights that investors are increasingly considering the environmental and social impact of their financial choices, moving beyond

traditional return-risk assessments. This evidence shows that investors, particularly institutional long-term investors such as pension funds and sovereign wealth funds, are integrating Environmental, Social, and Governance (ESG) factors into their portfolios. This shift is driven by multiple factors, including regulatory pressure, changing societal values, and empirical evidence suggesting that ESG investments can offer competitive returns with lower long-term risks.

One study, *The Puzzle of Sustainable Investment: What Smart Investors Should Know* (Pomorski, 2024), reveals that the demand for green and social bonds continues to rise, even when their yields are lower than conventional bonds. This "greenium" (green bond premium) literature evaluates whether investors are willing to accept slightly lower financial returns in exchange for the positive environmental and social impacts generated by their investments, even though the difference in prices and returns of green bonds and their conventional equivalents does depend mainly on movements of demand and supply. Additionally, impact investing strategies are no longer confined to niche markets but have become mainstream, influencing corporate decision-making and capital allocation on a large scale.

The growth of impact "generative" finance has been accompanied by the emergence of a vast market of information intermediaries, ranging from standard setters, data aggregators, ESG rating agencies, specialized data providers, labels, and ESG risk evaluators. One of the most interesting examples of the latter is RepRisk a society providing scores about reputational risk of companies with a wide search on all languages in the web. Their service is in high demand since evaluation of reputational risk is an important criterion adopted by all investment funds when taking their investment decisions.

The evolution of impact finance through green and social bonds illustrates a fundamental shift in investor behavior,

where financial considerations are increasingly intertwined with sustainability concerns. The rising popularity of these bonds, coupled with growing regulatory frameworks and improved transparency, has reinforced the legitimacy of impact investing as a mainstream financial strategy. As markets continue to evolve, the balance between financial returns and social-environmental impact will likely shape the future of sustainable finance, fostering greater alignment between investment capital and global sustainability goals.

8. The Vote with the Wallet in the Historical Challenge between Cooperation and conflict: Conclusions and directions for Future Research

Collective action problems and social dilemmas are the core of the complexity of human relationships. The difference between cooperation and conflict depends on their solution. With a game theoretical approach, we focused in this book on one of the main of them, by showing how the vote with the wallet that can bring to the solution of our problems is a multiplayer Prisoner's dilemma.

The question between cooperation and conflict has been viewed also in an evolutionary perspective which shows how, beyond the legend of the individualistic struggle for Darwinian selection, the cooperation choice was the key for survival and evolution both in biological and social life.

For centuries, the prevailing narrative in evolutionary biology centered around individualism, competition, and the "survival of the fittest." This Darwinian lens, while not entirely obsolete, is increasingly challenged by emerging scientific frameworks that emphasize symbiosis, cooperation, and mutualism as more foundational forces in the development of life (Kropotkin, 1902; Margulis, 1981; Nowak, 2006). From the earliest moments of biological organization to the complexity of human societies, cooperation has proven to be not only a viable strategy but arguably the most effective one for survival, flourishing, and meaning (Nowak and Highfield, 2011).

The assumption that competition is the default driving force in evolution simply does not hold up when examined through the lenses of modern biological research and philosophical reflection (Lewontin, 1970; Sapp, 1994).

The endosymbiotic theory, pioneered by Lynn Margulis, exemplifies how collaboration among life forms birthed complexity itself (Margulis, 1981; Sagan, 1967). Long before the emergence of animals or plants, early prokaryotic cells – bacteria and archaea – engaged in relationships that defied the zero-sum logic of competition. Rather than destroying one another, some of these organisms entered into cooperative, mutually beneficial unions. A large host cell absorbed a smaller, energy-efficient bacterium, not as a meal but as a partner. Over evolutionary time, this relationship gave rise to mitochondria, the powerhouse of modern eukaryotic cells (Margulis and Sagan, 2002). Similarly, chloroplasts – responsible for photosynthesis in plants – originated from cyanobacteria that entered into symbiosis with early plant ancestors. These transformations were not accidents of war, but results of peace treaties written in DNA.

This biological evidence reshapes our understanding of evolution. Symbiogenesis, the fusion of different life forms into cooperative wholes, has emerged as a primary evolutionary engine (Margulis and Sagan, 2002). Horizontal gene transfer among bacteria, which enables the rapid spread of useful traits across populations, further proves that evolutionary success is less about isolated advancement and more about interconnectedness (Woese, 2004). The Gaia Hypothesis, developed by Margulis and James Lovelock, extends this idea by suggesting that Earth itself behaves as a living, self-regulating system where life collaborates to sustain habitable conditions (Lovelock and Margulis, 1974; Lovelock, 2000). In this context, nature is not red in tooth and claw – it is more often green, thriving through networks of mutual care.

The superiority of cooperation is not just evident in the molecular realm. Evolutionary Game Theory (EGT) provides compelling mathematical and behavioral support for the persistence and success of cooperative strategies (Axelrod and Hamilton, 1981). While models like the Prisoner's Dilemma show how individual rationality leads to mutual defection, as shown in section 3, the introduction of repeated interactions – where memory, trust, and reciprocity play roles – completely alters the outcome. The Tit-for-Tat strategy, for instance, in which an agent begins with cooperation and mirrors the opponent's previous move, consistently outperforms purely selfish tactics (Axelrod, 1984). These findings suggest that organisms that can build trust and punish betrayal while remaining open to future cooperation, enjoy greater evolutionary stability and reproductive success.

Group selection furthers this point. Cooperative tribes of early humans likely outcompeted more individualistic counterparts (Wilson and Wilson, 2007). Tribes that shared food, raised children communally, and protected the weak, hunted great mammals more successfully, survived longer and reproduced more successfully than those that were internally divided. Kin selection also played a pivotal role-genes that promote altruistic behavior toward relatives thrive because they ultimately help the gene pool as a whole (Hamilton, 1964). Evolution, then, rewards those who contribute to the collective, even when it means personal sacrifice.

But if cooperation is so evidently advantageous, why is conflict still so prevalent – among both bacteria and humans? The answer lies in the dual nature of "we." The first step of acknowledging that "we" is better than "I" is not difficult and achieved by the most part of human beings. Cooperation often flourishes within groups but can simultaneously produce antagonism between them, the "war of

we" (Bowles and Gintis, 2011). Nationalism, tribalism, and war are all expressions of internal cooperation leveraged against external rivals. The logic of "us" can be mobilized to destroy "them." This is not a failure of cooperation per se but a failure to expand its scope – to create what philosopher Emmanuel Levinas might call "bridge relations," in which the good of the third party is included in our moral and practical horizon (Levinas, 1969). True cooperation evolves when it moves beyond reciprocity and includes generosity, inclusivity, and the desire for shared meaning. Again, not understanding that the "we" must cooperate is foolish and highly inefficient in globally integrated world economies facing global public good and global common (climate, health) challenges. In our globally interconnected world, we are like climbers roped together on a steep rock face. Quarreling and pulling each other is sheer madness – it risks dragging us all into the abyss together.

This evolution of cooperation toward broader inclusion, however, is not automatic. It requires what the ancients called *virtù* – moral strength, formation, and discipline. In our digital age, where instant gratification is the default and spiritual life is often neglected, the virtues necessary to sustain high-level cooperation are in decline (MacIntyre, 1981). The spiritual life – when alive and integrated – can offer the "fuel" to keep the virtues burning. Yet, as lamented, too many no longer go to the "gas station." They no longer replenish their moral energies through deep community, tradition, or inner life. Without intentional cultivation, the natural tendency of cooperation risks devolving into insular tribalism or passive inertia.

Still, the evidence from biology, game theory, and human history converges on one point: cooperation is not an anomaly in evolution – it is its cornerstone. Competition may yield short-term gains, but cooperation builds civilizations. From the merging of ancient cells to the construction of

global societies, life thrives when it works together (Nowak and Highfield, 2011). As we face ecological crises, social fragmentation, and spiritual fatigue, rediscovering the evolutionary superiority of cooperation might not only help us survive – but truly live.

……

I started in the introduction by mentioning that Trump's tariff policy triggered an extraordinary reaction of the vote with the wallet bringing to the forefront of global public opinion its power potential.

I can conclude our book back where I started .

The Angus Reid Institute in March 2025 reports that an overwhelming 85% of Canadian consumers were actively boycotting American products, signaling a drastic shift in cross-border economic interactions.[9] This movement was not confined to individual purchasing choices but extended to institutional decisions, as Ontario and other provinces had removed American products from public stores and canceled multi-million-dollar contracts, including Starlink services by Elon Musk. The impact of this large-scale boycott was visible in the travel industry, with bookings for trips to the U.S. plummeting by 40% compared to the same period in 2024. Additionally, Canadian supermarkets reported a significant decline in sales of American goods, indicating a broader trend toward domestic and alternative sourcing.

These events reflect a broader transformation in global markets, where consumption and financial decisions are becoming deeply intertwined with political, ethical, and environmental considerations. Whether in the form of impact investments or consumer-driven economic shifts, capital is no longer neutral – it is a force actively shaping the future of sustainable and equitable development.

[9] https://angusreid.org/shopping-shift-tariff-threat-buy-canada/.

The greatest and most crucial battle at stake in this historical moment is the balance of power between popular sovereignty and leadership. In a fully realized democracy, sovereignty should rest in the hands of the people, allowing them to prevent – at any moment, not just through electoral choices – abuses of power or dangerous ventures. We are learning that achieving this goal requires much more than simply casting a political vote. We can vote every day through our choices in consumption and savings, co-design welfare policies with local administrations through shared governance, and become energy producers in a new, more widespread and decentralized balance such as that of renewable energy communities. If we succeed, even the storm of the recent times will help us build a world where the calm strength of the vast majority of citizens ensures the necessary conditions to prevent future conflicts and wars. This is a monumental challenge, and we must face it together.

Along this path a fascinating but daunting problem remains. We can definitely rely on the short term survival instinct of the people defending their interests (as it seems to have happened with the market reaction to Trump's tariffs), but can we rely on their vote with the wallet stretching on a more longsighted and wise perspective understanding connections between private and common good ? There is a giant education and communication mission if we want the vote with the wallet to be generative and produce its maximum potential. This book wants to be a humble small contribution to it.

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By “voting with the wallet” consumers and investors, through ethical and responsible choices, exert daily influence on markets and democracies. While traditional democratic systems have failed to mitigate rising inequalities, economic decisions can serve as real-time corrective mechanisms, often more immediate and effective than electoral votes. The “vote with the wallet theorem” posits that collective consumer demand for socially and environmentally responsible products can reshape corporate behaviour and policy agendas. Yet, widespread adoption is hindered by barriers such as awareness deficits, information asymmetry, coordination failure, price sensitivity, behavioural inertia, marketing imbalances, and status-driven consumption. Through theoretical modelling, game-theoretic analyses, and experimental data, the book frames ethical consumerism as a multiplayer prisoner’s dilemma, solvable through institutional mechanisms like balanced budget policies, mandatory non-financial reporting, and grassroots actions like “cash mobs.” It examines historical and recent episodes – such as the Fair-Trade movement, Trump-era consumer boycotts, and Tesla’s sales backlash – as real-world validations. The “civil economics” approach underlined by the vote with the wallet challenges reductionist economic paradigms, advocating for a participatory model where everyday economic behaviour complements political action to make democracy more equitable and sustainable.

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