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# Beyond ESG: Reforming Capitalism and Social-Democracy

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# BEYOND ESG: REFORMING CAPITALISM AND SOCIAL-DEMOCRACY

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**Abstract:** Several voices are rising to demand an in-depth reform of capitalism in the wake of the increase in income and wealth inequalities of the last four decades, the climate urgency in a local global world, and the financial crisis of 2007-2010. At the forefront of this movement are different groups aiming at redefining the role of businesses around socially responsible stakeholders' governance. There is a real danger that governments will be put under pressure from misinformed constituencies and will want to play Goethe's sorcerer's apprentice: too often, good intentions are but a paved road to hell. In this document, I analyze various reform projects, I discuss the concepts of ethics and equity (environment, water, life, remuneration, inequalities, ESG) and I propose projects for in-depth reforms of capitalism and social-democracy.

**Keywords:** Collective Intelligence, Competition, Social-Democracy, Capitalism, Value, ESG, Ethics, Equity, Environment, Water, Fair and Equitable Remuneration, Trust

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## 1. Introduction

Several voices are rising to demand an in-depth reform of capitalism in the wake of the increase in income and wealth inequalities of the last four decades, the climate urgency, the perceived increase in environmental and industrial disasters, the intensification and expansion of global trade, the internationalization of cultures, the financial crisis of 2007-2010, and the emergence of the global village of Marshall McLuhan into a local global whole.

We must first understand how these phenomena came to be and what they really mean before imagining solutions if necessary. We already know two of the main sources of the crisis of 2007-2010: the economic policy of easy credit and the pressure of Congress on parastatals Fannie Mae and Freddie Mac in favor of subprime mortgages, which brought these companies not so much to underestimate the risk of the underlying financial transactions, but rather to have to turn a blind eye to these risks.

While it is necessary to make certain reforms to the functioning of capitalism, we must be careful not to throw out the baby with the bathwater, a real risk that should not be overlooked. There is a danger that governments will put themselves, under the pressure of more or less well informed groups, into wanting to play the sorcerer's apprentice of Goethe,<sup>1</sup> too often with good intentions on the way to hell.

The market economy, the freedom to undertake and to challenge the established economic order, and responsible capitalism remain the best guarantees of development and growth in living standards and therefore, among other things, of the development of representative diversity, the eradication of poverty, and the reduction of inequalities in consumption and inequalities of opportunity. The concept of value, of “true value” to use the expression of the World Business Council for Sustainable Development (WBCSD), is at the heart of this desire for reform.

### 1.1 The ESG movement

The World Business Council for Sustainable Development (WBCSD) is an organization of over 200 large companies from all regions of the world dedicated to developing governance rules focused on the pursuit of “real value” rather than solely financial returns. Pursuing real value

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<sup>1</sup> Karl Marx and Friedrich Engels, *Manifesto of the Communist Party* (1848 <http://www.yorku.ca/comninel/courses/4090pdf/manifest.pdf>), chapter 1: « Modern bourgeois society, with its relations of production, of exchange and of property, that has conjured up such gigantic means of production and of exchange, is like the sorcerer who is no longer able to control the powers of the nether world whom it has called up by his spells », a reference(?) to *The Sorcerer's Apprentice* (1797) of Johann Wolfgang von Goethe <https://www.lesauterhin.eu/lapprenti-sorcier-une-ballade-de-goethe/>

means promoting value creation that takes into account long-term environmental impact and both personal and social well-being; it relies on prices integrating all externalities in both costs and benefits. It is also (re)orienting capitalism towards the pursuit of this true value, focused on the protection and enhancement of natural, social and financial capital rather than towards the pursuit of financial profits and economic efficiency.

The environmental, social and governance (ESG) criteria are a set of standards that investors use to filter potential investments, qualified as sustainable investments, responsible investments, impact investments, socially responsible investments, or ethical investments.<sup>2</sup> ESG criteria can also, beyond any ethical concern, allow the identification of companies whose practices could signal a risk factor for industrial or environmental disaster.<sup>3</sup>

The environmental criteria relate to energy consumption, waste management, in particular hazardous waste, pollution, preservation of natural habitats, management of industrial and environmental risks. The social criteria relate to the company's relations with its suppliers (do they have ESG policies?), the local community (charitable donations; volunteerism of its employees), its workers (total compensation; health and safety), and its customers (quality of customer service). The governance criteria relate to transparency of accounting methods, respect for shareholders, management of conflicts of interest, political contributions known as cronyism or undue or even illegal lobbying. All of these ESG criteria also refer to compliance with laws and regulations, in particular strict, shared or extended liability rules.<sup>4</sup> I will come back in more details to ESG approach in section 2.7 below.

### *Caveats to keep in mind*

The US Department of Labor published new regulations in late October 2020 that could limit the use of ESG criteria in pension plan investment choices.<sup>5</sup> The authorities say that “Protecting retirement savings is a fundamental mission of the United States Department of Labor and one of the primary public policy objectives of our country. This regulation will ensure that pension plan trustees focus on the financial interests of plan members and beneficiaries, rather than on other non-monetary or political goals. Our goal is to ensure that pension plan trustees have a

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<sup>2</sup> <https://www.investopedia.com/terms/e/environmental-social-and-governance-esg-criteria.asp>

<sup>3</sup> Examples are the Deepwater Horizon (British Petroleum) disaster in 2010, the scandal of emissions (Volkswagen), and the AZT explosion in Toulouse in 2001.

<sup>4</sup> The World Economic Forum of Davos, in collaboration with Deloitte, EY, KPMG and PwC, has promoted an important ESG movement in 2020 with the publication of a report on measuring and consistent information reporting on ESG policies by firms: *Measuring Stakeholder Capitalism: Towards Common Metrics and Consistent Reporting of Sustainable Value Creation* (September 2020). <https://www.weforum.org/reports/measuring-stakeholder-capitalism-towards-common-metrics-and-consistent-reporting-of-sustainable-value-creation>

<sup>5</sup> <https://www.dol.gov/newsroom/releases/ebsa/ebsa20201030>

clear focus on the financial interests of participants to receive secure and valuable pension benefits. Plan trustees should never sacrifice the interests of participants to promote other non-financial goals."

The Department notes that the analysis of so-called ESG investments raises important and substantial questions regarding the rigor exercised and the prudence and reliability demonstrated. The regulation obliges pension plan trustees to choose investment strategies that are essentially or even entirely based on financial performance.

Boyer and Laffont (1997)<sup>6</sup> show that expanding the sphere of liability for environmental disasters must also account for the existence of imperfect and incomplete information within financial markets themselves, so that environmentally hazardous but otherwise socially useful activities are adequately financed. The absence of complete information at all times and in all places may justify limiting the imposition of extended liability.

The CEO of Roviant Sciences, Vivek Ramaswamy, claims in a recent op-ed in the *Wall Street Journal*<sup>7</sup> that expecting business leaders to make a stand and push for environmental and social programs (the ESG approach) gives them too much power. This authority and power should be left to governments: "My main problem with stakeholder capitalism is that it strengthens the link between democracy and capitalism at a time when we should instead disentangle one from the other. Speaking as a CEO and a citizen, I don't want American capitalists to play a larger role in defining and implementing the country's political and social values. I think the answers to these questions should be determined by the citizenry—publicly through debate and privately at the ballot box. I believe the reason many corporate executives are speaking up in favor of stakeholder capitalism is that they think they will gain popularity at a time when it is unpopular to be perceived as a pure capitalist. The crux of the populist concern about capitalism is not that companies serve only their shareholders, but rather that capitalism has begun to infect our democracy through the influence of dollars in buying political outcomes. The answer is not to force capitalism into an arranged marriage with democracy. What we really need is a clean divorce."

## 1.2 The notion of value

Determining the value of a good, a service, an investment, an hour of labor, a public good or asset, a permanent work such as a sculpture, a song or a sound recording, is one of the most important issues in economics, and also in sociology, philosophy, psychology, and numerous

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<sup>6</sup> Marcel Boyer and Jean-Jacques Laffont (1997), "Environmental Risk and Bank Liability," *European Economic Review* 41, 1427–1459.

<sup>7</sup> Vivek Ramaswamy, "The Stakeholders vs. the People", *Wall Street Journal*, Feb. 12 2020.

other fields of humanities and social sciences. The distinction between total value, average value and marginal value, as developed in the second half of the 19th century, is crucial and essential to the understanding not only of economic phenomena but also and above all of the notion of value itself.

In many ways, economists are the scientists of the value, including the value of labor, of human capital, of intellectual, physical or financial capital, of natural resources, of the environment (space, air, water), of businesses, of infrastructures, of health, of education, of life, etc.

A fair and equitable price is a competitive price, therefore a price which respects both the interests of the suppliers or producers, namely the suppliers of labor, skills, human capital, intermediate goods and services, and providers of physical, financial and intellectual capital, and the interests of demanders, buyers, users or employers of these goods and services, in a context where both the suppliers and the demanders act voluntarily or willingly, a context of "willing buyer - willing seller", therefore a context of free or competitive exchange.

The best guarantee that suppliers will be adequately or fairly remunerated for their goods and services, including their labor, lies in the competition between those seeking goods and services, including those seeking labor. And the best guarantee that demanders will be called upon to pay an adequate price or remuneration lies in the competition between suppliers of goods and services, including labor. Thus, a competitive price is fundamentally synonymous with a fair and equitable price because it respects the freely expressed interests of both suppliers and applicants.

At competitive equilibrium, the price of a product, good or service, is equal to its opportunity cost or value, that is, to the value, as estimated by buyers, that the product could generate in the best available and accessible alternative use, including in consumption, in leisure or in the production of other goods and services. It is also equal to its marginal cost of production which measures the value of all kinds of resources used for its production. Thus the competitive equilibrium price is both fair and equitable for the supplier / seller and the demander / buyer.

The value of the goods or services that I offer or sell is determined by my fellow citizens who freely estimate what my products bring them in terms of utility, well-being or potential and by the opportunity cost or value of resources, labor and others, incorporated into my products. The difference being the profit I can get from producing and selling an additional unit (marginal value) of goods or services. For the last unit sold, this marginal value is zero, but for all previous units (infra-marginal), it is normally positive, while for all additional units, by definition non-produced, it is negative.



In this context, the competitive prices, which measure the marginal value of things, goods and services that I produce, would only increase if I can produce goods and services of greater value for my fellow citizens.

There is nothing more stressful and demoralizing than being told or discovering that one's work and efforts do not produce anything interesting, useful or valuable for one's fellow citizens and therefore prove to be of no value, or at least that one's work and efforts do not produce anything comparable or better than what other fellow citizens produce and offer. Furthermore, in all fairness and equity, I cannot force my fellow citizens to remunerate skills and finance operations if these skills and operations do not generate anything useful or valuable for them. But at the same time it can be a source of motivation to change the skills portfolio and the basket of goods and services that one produces or helps to produce. Also, as a consumer or buyer, the other party sends a message like this when he/she decides not to buy a certain product, good or service.

Hence, competitive markets, or surrogate institutions or mechanisms including regulation that emulates competitive markets, are the essential element in bringing out the fair and equitable social value of things.

I return later (section 2) to the notion of value, to the value of the environment, to the value of water, to the value of life, to fair and equitable remuneration, to the value of the work of children, and to the strict and / or extended corporate responsibility for environmental and industrial disasters.

### 1.3 The role of firms, entrepreneurs, and competition

A firm can be understood as being a transformation institution, process or mechanism that fruitfully or efficiently blends factors of production, namely human labor, materials, natural resources, technologies, borrowed capital and equity capital, to generate goods and services that are useful to its fellow citizens, end users or businesses as clients, in such a way that the total value of its products is larger or at least not-smaller than the total cost of all factors used when the latter are paid or compensated at the value of their best alternative use. If that is the case, the firm is clearly generating net value and creating wealth. How to make sure that it does? Through competition and willing buyer willing seller exchanges.

Consider four types of enterprises: the capitalist enterprise, the socialist or cooperative enterprise, the labor enterprise, the idea-based enterprise. In each case, the residual decision-making power, other than those provided for by contract, will belong to the group paid last, namely financial capital (capitalist company), human capital (labor company) or intellectual

capital (idea-based company). The four types considered and described below are abstract and generic. In reality, companies can depend partly on one type and partly on another.

The capitalist firm pays in priority all its factors other than equity capital, which is paid last, that is, compensated by the residual value, namely the total value of the products minus the total cost of the priority factors. This residual value is typically uncertain, may be positive or negative, and will in expected or average terms represent also the value of the best alternative use of equity financial capital. More generally, compensation of all factors and the value of their best alternative uses are done or calculated on a risk-adjusted basis.

The socialist or cooperative enterprise will generally distribute the total value of its products among all factors or partners in a more egalitarian order of priority without being completely egalitarian, making the compensation of all factors or partners uncertain or risky and variable over time. But these compensations must represent on average or in expectation the value of the factors in their best alternative use. More generally, the compensation for all factors and the value of their best alternative uses must be done or calculated on a risk-adjusted basis.

The labor company will pay in priority all its factors other than labor, which will be paid last, that is to say compensated by the residual value, i.e. the total value of the products less the total cost of the priority factors, including suppliers and borrowed capital (the Labor company is financed by assumption at 100% by borrowing at market conditions). This residual value will generally be uncertain, can be positive or negative, variable over time, but must represent on average or in expectation the value of the work in its best alternative uses. More generally, the compensation of all factors, including borrowed capital and labor, and the value of their best alternative uses should be done or calculated on a risk-adjusted basis.

The idea-based company will pay in priority all its factors other than the idea-owners (holders of intellectual property), which will be paid last, that is to say compensated by the residual value, which is the total value of the products minus the total cost of priority factors, including suppliers and borrowed capital (the idea-based company will hypothetically finance itself 100% by borrowing at market terms). This residual value will generally be uncertain, can be positive or negative, variable over time, but must represent, on average or in expectation, the value of ideas or of the intellectual property (or of the efforts that have generated this intellectual property) in their best alternative use. More generally, the compensation for all factors and the value of their best alternative uses must be done or calculated on a risk-adjusted basis

The entrepreneur is in each case the innovator by excellence, the master cook who blends the ingredients to raise social wellbeing. In modern businesses, this entrepreneur is personified by the CEO as the leader ultimately responsible for the success and growth of the firm or organization. The Corporate Finance Institute states that the roles and responsibilities of a CEO

vary from one company to another, depending in part on the organizational structure and/or size of the company but the typical duties, responsibilities, and job description of a CEO include, among others: leading the development of the company's short- and long-term strategy; maintaining awareness of the competitive market landscape, expansion opportunities, and industry developments; assessing risks to the company and ensuring they are monitored and minimized; and setting strategic goals and making sure they are measurable and describable.

In other words, the CEO personifies first and foremost the design, development, and management of the firm's real options:<sup>8</sup> the recognition that uncertainty creates opportunities and value; the recognition that such value requires adequate decisions in order to materialize, including the determination of the scale and scope of the firm; the identification of the sources of uncertainty and the collection of information; the identification of the decisions (options) that promote exposition to favorable developments and/or reduce exposure to unfavorable ones; the design of optimal decision rules and their delegation throughout the firm. The real options approach is mostly a way of thinking and adjusting one's behavior accordingly. Its application throughout the firm is a responsibility of the CEO.

Of course, there is no reason preventing the CEO from playing, as a concerned citizen, an active role in his/her community, but the role as citizen and the role as CEO must be properly differentiated.

Moreover, how can we make sure that firms generate net social value and create wealth? By subjecting them to competition. Competitive intensity will favor the emergence of efficient firms and the closing of inefficient ones. Competitive markets for factors of production and for end products, goods and services, favor the proper value accounting, making sure that firms compensate their factors at their best alternative use and commercialize valuable goods and services for end consumers and businesses. When all factors of production are directly or indirectly priced at their competitive value, and all end products are sold directly or indirectly at competitive prices, the firms, competing with each other including forthcoming new innovative firms, will be forced either to use the optimal blend of factors properly compensated at their best alternative value (opportunity cost) to produce an appropriate set of end products thereby generating a net social value and creating wealth, or go out of business or go bankrupt.

This is the gist of Friedman's assertion that the social responsibility of corporations is to maximize profits. Profit maximization is an efficiency measure that serves all of the firm's

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<sup>8</sup> See Marcel Boyer, "CEO pay in perspective", *Journal of Leadership, Accountability and Ethics* 18(3), 2021, 36-73 <https://artlegateway.com/index.php/JLAE/article/view/4407/4189> ; CIRANO 2019s-33, 52 pages. <http://www.cirano.gc.ca/files/publications/2019s-33.pdf> (Also TSE WP 1059 [https://www.tse-fr.eu/sites/default/files/TSE/documents/doc/wp/2019/wp\\_tse\\_1059.pdf](https://www.tse-fr.eu/sites/default/files/TSE/documents/doc/wp/2019/wp_tse_1059.pdf)).

stakeholders. Competition prevents a company in a competitive situation and surrounded by competitive markets, from exploiting its workers, cheating its suppliers, and / or deceiving its customers. Competition prevents the company from generating durably supra-competitive profits and therefore prevent it from compensating equity holders beyond the best alternative value of capital.

Competition, properly understood, measured and regulated, is the cornerstone of this socio-economic organization model.

#### 1.4 Collective intelligence and trust

People may disagree on the appropriate goals and objectives for a society. They may differ in their views on how efforts should be allocated between creating and redistributing wealth. They may even argue about the relative efficiency of different ways and means available for pursuing shared goals and objectives.

But when there is confusion between goals and objectives, on the one hand, and the ways and means available for achieving them, on the other, the debate becomes spurious. Thus, while debates about goals and objectives are societal in nature, debates about ways and means are technical—or at least they should be.

In extreme cases, there is no confusion. To a large extent, a goal must be socially shared, in that we all agree on it or at least have a way to build a consensus around it. This could involve an open and transparent electoral process, for instance.

How to achieve goals and objectives? This is where the discussion about ways and means comes in. This discussion should be more technical. What resources and technologies are available? How can they further the objective? And how much do they cost?

Any discussion about ways and means is essentially concerned with relative efficiency and relative costs. Achieving a consensus on goals and objectives requires an efficient, competitive political process with candidates vying for electoral support (basically democratic election rules and institutions). Achieving a consensus on ways and means requires an efficient, competitive economic process (basically competitive markets, competitive processes, and competitive prices).

The New Competition-based Capitalism (NCC) and the new Competition-based Social Democracy (CSD) models described and advocated in Sections 4 and 5 below are offshoots of a conception of economics as the study of mechanisms of coordination, motivation,

specialization, regulation, and management of exchanges that condition and entrench developments of collective intelligence in human society.<sup>9</sup>

Humanity can thus be compared to a social organism constantly evolving, thanks to increasingly efficient and effective resources allocation mechanisms, to ever increasing levels of collective intelligence. The cerebral cortex of this organism, essentially consisting of institutions, markets, and competitive prices, is itself evolving into more complex, sophisticated, and resilient forms. This organism and its cerebral cortex is vulnerable to a variety of illnesses, of greater or lesser severity and duration, which are, however, curable with a better understanding of human behaviour, at both the individual and the social, or interactive, level.<sup>10</sup>

In this broad program, Economics prides itself in forging enriching interactive links with Mathematics and Computer Science as well as other Humanities and Social Sciences, especially Experimental Psychology, Sociology, Political Science, Business Administration, and Law.

At the World Economic Forum in Davos in January 2003, to which I was invited as a guest speaker, one of the main topics of discussion was the restoration and fostering of trust, both within the business community and in society at large.

The reason for this interest at that time was twofold: First, a wave of large-scale bankruptcies and financial scandals had shaken confidence within and towards the business world and, second, “trust” is the most important social capital because it can significantly reduce transaction costs of all kinds within a society. The 2007-2010 crisis in financial markets, which is fundamentally a crisis of confidence within the banking sector in general, brings the issue of trust to the forefront.

Trust is both private and social capital and, as such, developing and maintaining it poses difficult problems of organization and therefore coordination and incentives. It is private capital because a company will benefit from the confidence of its partners. But the trust thus privately created has a positive impact on trust across all firms. This social effect is sufficiently important for public authorities to have a particular responsibility to ensure that trust capital is fostered and sustained.

Trust is a capital that is built up with difficulty over the medium and long term and easily destroyed in the short term—in the private, public, and social spheres. The manipulation and

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<sup>9</sup> Here I am taking inspiration from Matt Ridley (2011), *The Rational Optimist*, All Day Publishing.

<sup>10</sup> To quote Matt Ridley: “Human civilization is a collaborative achievement, not a product of individual intelligence or innate capacity. It came about because we networked our brains, not because we improved them. We had very primitive lives for a quarter of a million years despite having modern IQs. There may be a lesson here for artificial intelligence.” <http://www.rationaloptimist.com/blog/collective-intelligence-on-the-edge.aspx>

falsification of information transmitted by organizations, particularly with regard to risk measurement, is a first pernicious factor in the destruction of social capital. A second comes from the complacency of watchdogs responsible for regulated companies—the cases of Fannie Mae (Federal National Mortgage Association - FNMA) and Freddie Mac (Federal Home Loan Mortgage Corporation - FHLMC) come to mind as being particularly egregious. A third comes from flaws in performance incentive mechanisms, which too often neglect to correct for reckless risk-taking.<sup>11</sup> A fourth one revolves around formulaic application of the mark-to-market accounting rule in a setting in which evaporating confidence makes the relevant markets disappear and exacerbates the contagion of non-confidence completes the picture.<sup>12</sup>

Trust is an especially important type of social capital. Consequently, the *loss of confidence* in the financial system in 2007-2010, and particularly in interbank financial relations, helped precipitate the financial crisis and then the economic recession. After an interim period of quasi-stability in financial markets, we may be heading back toward chaos in the financial markets with a resurgent risk of *loss of confidence* in sovereign debt of important countries and its impact on bank liquidity and solvability, a sign of this being the increasing role of central banks as lenders of last resort for governments.

To re-establish and/or maintain confidence, four issues must again be addressed now:

- First, refocus the role of governments. Governments should focus their efforts on rebuilding and maintaining confidence in addition to developing conditions favourable to creative destruction, as job losses are a necessary component of job creation and growth. To do so, governments must accept a new role and redefined means of intervention, tailored toward taking the economy out of a bad but stable equilibrium. This requires a concerted effort by all agents, mainly private and public corporations, but including also governments.
- Second, governments need to favour the development of new institutions and instruments, mainly finance and insurance based, aimed to facilitate adjustments by firms and individuals to endogenous and exogenous shocks in their socio-economic environment. Governments should also favour the inclusion of clauses in mortgage or other contracts to allow for continuous adjustments to economic conditions in case of

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<sup>11</sup> Raghuram G. Rajan (2010), *Fault Lines: How Hidden Fractures Still Threaten the World Economy*, Princeton University Press, claims that private institutions, assuming that Freddie and Fannie's involvement in the subprime market would significantly reduce the risk of high-risk loans, ended up taking too much risk by extending cheap credit. The problem is not with the economics and financials of the banking sector per se, but with the faulty incentive schemes promoted by government interventions in favor of cheap credit.

<sup>12</sup> During the financial crisis and recession of 2007–2010 these factors were dominant.

recession or crisis, thereby avoiding sudden, cascading adjustments that only aggravate poor economic conditions needlessly.

- Third, various micro prudential and macro prudential regulatory rules should be implemented over the coming years. I develop elsewhere<sup>13</sup> some of the rules that could make the regulation of the financial system more efficient and allow for somewhat automatic adjustments and reorganizations for a better control of systemic risks.
- Finally, governments must resist the temptation of resorting to protectionist “buy local” measures intended to artificially spur demand for local products and services to the detriment of living standards and the general well-being of the population. This raises a problem of coordination among governments. There exists a real danger of seeing a vicious circle crop up during crises and recessions with protectionism responding to protectionism, plunging economies into a more serious slump. Thus, contrary to pursuing protectionist policies, governments should seek to protect the movement toward globalization and the liberalization of markets. The substantial growth of international trade in the last half-century has been a major factor in enhancing collective economic well-being as well as cultural and social development. This increase in trade has led to important gains with regards to wealth creation, economic growth, social progress, with above all a significant eradication of poverty.

Growing out of recessions and spurring innovation and growth would benefit in the longer run also from fiscal reforms and new roles for the government sector and the competitive sector, as well as from reformed relationships between those sectors.

Regarding fiscal reforms, a general switch from awkward hybrid taxation system toward a system centered on consumption taxes, hence toward abolishing income taxes on individuals and corporations, would contribute significantly to a more efficient economy.

The core roles (and competencies) of the *public/governmental sector* should be first, the identification of citizens’ needs in terms of public and social goods and services, both in quantity and quality; second, the design of proper mechanisms through which conflicts between different baskets of such goods and services and between different coalitions of citizens will be arbitrated; and third, the management of contracts and partnerships with private/competitive sector organizations for the production, distribution and delivery of the chosen basket of public

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<sup>13</sup> See “Growing out of Crisis and Recessions: Regulating Systemic Financial Institutions and Redefining Government Responsibilities,” Chapter 24 in Marcel Boyer et alii (2017), *Advanced Methods of Investment Evaluation*, CIRANO Monograph (2 volumes), 601 pages <http://cirano.qc.ca/files/publications/2017MO-03.pdf> (Volume 1) and <http://cirano.qc.ca/files/publications/2017MO-04.pdf> (Volume 2). For an insider view of the crisis, see Ben S. Bernanke, Timothy F. Geithner, and Henry M. Paulson (2019), *Firefighting: The Financial Crisis and its Lessons*, Penguin Press.

and social goods and services. The core competencies of the *private/competitive sector* should be to produce, distribute and deliver the public and social goods and services as well as private ones by making use of the best forms of organization and the most efficient combinations of factors, human resources and technologies.

More fundamentally, the emergence and omnipresence of competitive prices and processes throughout the economy, in the public and social goods and services sectors in particular, would represent significant forces aimed at avoiding waste while generating and implementing innovative solutions to social problems and challenges. In that regard, the emergence and omnipresence of competitive prices and processes must be understood as significant factors in achieving long term economic growth and increases in individual and social well-being.

The renewed relationships between the public and private or competitive sectors cover not only the contractual arrangements for the production, distribution and delivery of public and social goods and services but also the development of a New Competition-based Capitalism NCC (see Section 4 below). This NCC calls for implementing ESG-type programs based on the promotion/development/maintenance of competitive prices and markets by inducing firms to include in the formulation of their mission their desire to avoid doing business with “heavily” subsidized firms, whether suppliers or clients, or at least voice their hesitation/opposition to doing so, and for implementing strict constraints on the power of business to intervene in politics and the power of politicians to intervene directly in businesses in order to separate/dissociate business and politics as well as separate/dissociate capitalism and the process of electoral expression in democracy.

## 2. Ethics and Equity

Environmentalist Joan Roughgarden (2001)<sup>14</sup> writes:

*“Economists are not about to cede the moral high ground to ecologists just because humanity is contained in a giant ecosystem. In principle, economics deals with ‘ethical efficiency’ — trying to achieve the most good for the most people given a ‘budget constraint’ of either time or money. Of course, matters may not work out so ideally, but it’s important to realize that the ethical starting points for both ecologists and economists are equally noble.”*

For purposes of our discussion, five topics will illustrate the complexity of the relationship between on the one hand the competition and capitalism compact and on the other hand the

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<sup>14</sup> Joan Roughgarden (2001), “Guide to Diplomatic Relations with Economists,” *Bull. Ecol. Soc. America* 82, pp.85–88.



ethics and equity compact: the fair and equitable or ethical value of the environment, of water, of life, of behaviour underlying collaboration, concertation and competition, of compensation, and of investment (socially responsible investment and ESG economy).

## 2.1 Environment (Externalities)

In his landmark speech to the Environmental Grantmakers Association<sup>15</sup> in 2001, Bill Moyer, commentator on PBS, said:<sup>16</sup>

*“If you want to fight for the environment, don’t hug a tree, hug an economist. Hug the economist who tells you that fossil fuels are not only the third most heavily subsidized economic sector after road transportation and agriculture but that they also promote vast inefficiencies. Hug the economist who tells you that the most efficient investment of a dollar is not in fossil fuels but in renewable energy sources that not only provide new jobs but cost less over time. Hug the economist who tells you that the price system matters; it’s potentially the most potent tool of all for creating social change. Look what California did this summer in responding to its recent energy crisis with a price structure that rewards those who conserve and punishes those who don’t. Californians cut their electric consumption by up to 15%.”*

Ecologists and environmentalists sometimes seem to believe that using and degrading natural ecological systems is inherently wrong and immoral. Economists disagree. Rather, they consider that using ecological or environmental systems is socially fair and ethical if it is the outcome of decisions by institutions or mechanisms, including regulation, emulating competitive markets.

Environment protection poses complex problems due to the fact that environmental degradation is an externality for economic agents, consumers, companies, and others. Moreover, this externality is not local but global, which induce more free-riding and wasting behaviors. In general, since the costs of environmental degradation are not directly borne by economic agents, they tend to overuse environmental resources. Economists refer to this

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<sup>15</sup> On this association’s website (<https://ega.org/>) we read: “The Environmental Grantmakers Association (EGA) was formed in 1987 with twelve member foundations from across the United States. Today, our members represent over 200 foundations from North America and around the world. Recognizing the importance of diverse perspectives, the organization values ecological integrity, justice, environmental stewardship, inclusivity, transparency, accountability, respect and balancing pragmatism with idealism. EGA will strive to “walk the talk” with all of its resources and focus. The ultimate goal of EGA and its members is a world with healthy, equitable, and sustainable ecosystems, communities, and economies.”

<sup>16</sup> Bill Moyer (2001), Keynote speech, Environmental Grantmakers Association (Brainard MN). [http://www.pbs.org/moyers/journal/blog/2008/09/bill\\_moyers\\_after\\_911.html](http://www.pbs.org/moyers/journal/blog/2008/09/bill_moyers_after_911.html).

phenomenon as the tragedy of the commons:<sup>17</sup> If a common good or asset or common property is not adequately priced, economic agents, whether cooperatives, private or public firms, trade unions, consumers, governments, NGOs, or religious organizations, tend to overexploit it, thereby threatening its survival.

Two other dimensions of the environmental problem are the inertia of climate change which can only be modified over time, and the uncertainties about the accumulation of GHG (Greenhouse Gases), about the impacts, about technological changes, and the "value" today of future events. Net GHG emissions (emissions minus removals) accumulate and their impacts are felt over several years or decades. Uncertainties in the processes of accumulation, of impacts, of technological changes and others, require a recourse to the precautionary principle, to option valuation, to discounting of the future. We are talking about a "GHG stock" with "poorly understood common bio-social impacts" that must be "managed in the fog" so that it does not increase above a "level considered acceptable or catastrophic". This is why, at the national level, the government has a crucial role to play in finding ways to protect society from inefficient use, present and future, of this common, crucial and planetary asset that is the environment.

#### *Competitive markets at the service of the environment*

The design of any economic policy involves two phases: The first is devoted to defining goals and the second to choosing the instruments, mechanisms, and processes by which the goals will be pursued, the methods for evaluating the results, and the potential corrective measures to take. There are two main types of instruments, those of the "command and control," or prescriptive, variety, on the one hand, and "market- or incentive-based instruments," on the other. Whatever the policy retained and the objectives pursued, it is imperative that the means implemented pass the test of efficiency.

While the stage of defining policy and its objectives may be the subject of legitimate differences of opinion between various groups with divergent views, it is surprising to find so much discord at the policy implementation stage, as if the means of achieving a policy could itself be subject to any criteria other than efficiency.

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<sup>17</sup> Garrett Hardin (1968), "The Tragedy of the Commons", *Science* 162 (3859), 1243-1248. Hardin writes (page 1244): "Adam Smith... contributed to a dominant tendency of thought that has ever since interfered with positive action based on rational analysis, namely, the tendency to assume that decisions reached individually will, in fact, be the best decisions for an entire society. If this assumption is correct it justifies the continuance of our present policy of laissez-faire in reproduction. If it is correct we can assume that men will control their individual fecundity so as to produce the optimum population. If the assumption is not correct, we need to reexamine our individual freedoms to see which ones are defensible. The rebuttal to the invisible hand in population control... We may well call it 'the tragedy of the commons'."

The following belong to the class of prescriptive instruments: regulated design specifications, mandatory use of specific production or abatement technologies, and caps on how much pollution an identified source, whether corporate or otherwise, may emit or release.

In the category of market instruments we find: taxation and pricing of pollutants, such as pricing or taxation of garbage and waste water; refundable deposits on plastic or glass products, batteries, tires, etc.; user fees in the case of gasoline and motor oil, heavy vehicles, trucks and trailers; liability insurance taxes on hazardous products to finance *Superfund*<sup>18</sup>; the pricing of operating permits for polluting activities; differentiated negative taxation (subsidies) on less polluting products such as methanol, natural gas, ethanol, wind power generation, public transit, etc.; the reduction or abolition of subsidies to polluting industries such as the coal and fossil fuel industries, intensive agriculture, industrial livestock farming, forestry, commercial fishing, industrial chemicals, etc.; more recent mechanisms for allocating tradable pollution permits; even more recent regulatory mechanisms for informing the public about the risks that companies' products and operations pose to their workers and citizens, thus impacting the reputation of polluters positively or negatively. In terms of mechanisms for regulating pollution through public information, we draw attention to the United States Environmental Protection Agency's (EPA) announcement in February 2002 of the launch of the "climate leaders" program, which has evolved in 2012 into the Center for Climate Leadership, "a comprehensive resource to help organizations of all sizes measure and manage GHG emissions."<sup>19</sup> This program, based on voluntary participation, seeks to challenge companies to reduce their greenhouse gas emissions (carbon dioxide, methane, nitrous oxide, fluorinated hydrocarbons, fully halogenated fluorinated hydrocarbons, and sulphur hexafluoride). The EPA publicly recognizes companies that work with it to develop aggressive, efficient, and credible programs to reduce greenhouse gas emissions. This public recognition, coupled with the public naming of major polluters, is intended to encourage reputation-conscious companies to implement cost-effective control programs.

These mechanisms require public access to information (Internet) on self-protection (reducing the likelihood of a company causing a major industrial accident) and self-insurance (reducing the human and material costs that would result from a major industrial accident) programs. They promote managerial responsibility and accountability in companies. They promote also the creation of new markets thanks to new information and communications technologies such as complex, combinatorial auctions with several dozen or even hundreds of steps, making it possible to provide effective market solutions to the traditional problems posed by

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<sup>18</sup> « *Superfund* » is the name given in the USA to the *Comprehensive Environmental Response, Compensation, and Liability Act* (CERCLA) of 1980, a federal law aimed at facilitating the clean-up of dangerously polluted sites.

<sup>19</sup> <https://www.epa.gov/climateleadership>

complementarities and externalities. They encourage the search for and emergence of innovative and more effective solutions by ensuring maximum transparency, such as rules of strict, shared or extended liability for all partners in the polluting activity, particularly in cases where liability for environmental disasters could lead to the bankruptcy of the company concerned.<sup>20</sup>

Boyer and Porrini (2001)<sup>21</sup> develop a formal analytical framework that incorporates a political economy analysis to use in comparing different environmental policy instruments. The first is the application of a strict, retroactive, and joint liability regime for the owners and operators, possibly extended to their financial and technological partners, of companies responsible for a major environmental disaster. The second is a sophisticated regulatory system based on a menu of incentive contracts but vulnerable to capture by regulated companies. Boyer and Porrini (2004)<sup>22</sup> derive a series of results showing under which conditions each of these instruments dominates the other.

At a conference at the University of Perpignan in October 2001 a participant asked me whether we should not protect consumers, especially the poorest, from the first type of market instrument: taxes and tariffs on polluting products. I replied that, on the contrary, they should not be protected, since the purpose of the policy is precisely to reduce the consumption of products the production of which is particularly polluting. In some cases, the fiscal revenues thus generated are returned to citizens on a basis that is independent of their consumption of polluting goods.<sup>23</sup>

This allowed me to point out the distinction between the issue of income and wealth distribution and the need for static and dynamic efficiency in the production and consumption of those goods and services that contribute to the population's wellbeing. The pervasive

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<sup>20</sup> For further discussion, see Marcel Boyer and Jean-Jacques Laffont (1996), "Environmental Protection, Producer Insolvency and Lender Liability," in *Economic Policy for the Environment and Natural Resources* edited by Athanasios Xepapadeas (Edward Elgar Pub. Ltd.); Marcel Boyer and Jean-Jacques Laffont (1997), "Environmental Risk and Bank Liability," *European Economic Review* 41, 1427–1459; Marcel Boyer and Jean-Jacques Laffont (1999), "Toward a Political Theory of the Emergence of Environmental Incentive Regulation," *Rand Journal of Economics* 30, 137–157; Marcel Boyer, Tracy Lewis et W.L. Liu (2000), "Setting Standards for Credible Compliance and Law Enforcement," *Canadian Journal of Economics* 33, 319–340.

<sup>21</sup> Marcel Boyer and Donatella Porrini (2001), "Law versus Regulation: A Political Economy Model of Instrument Choice in Environmental Policy," in *Law and Economics of the Environment*, edited by Anthony Heyes (Edward Elgar Pub. Ltd.)

<sup>22</sup> Marcel Boyer and Donatella Porrini (2004), "Modeling the Choice between Liability and Regulation in terms of Social Welfare," *Canadian Journal of Economics* 37(3), 590–612.

<sup>23</sup> This is precisely the principle underlying the Government of Canada's program announced in December 2020: A generalized carbon tax whose tax proceeds will be redistributed to citizens on a basis independent of their carbon-generating activities.

confounding of these issues of distribution and efficiency is an ongoing source of fruitless debate that undermines the prospect of genuine environmental protection.

As for tradable permit systems, several real-world experiments using permits for air pollution, toxic products, chlorofluorocarbon emissions (Montreal Protocol), and sulphur dioxide and nitrogen oxide emissions (acid rain), and others have yielded promising results.

Another participant asked me whether these pollution permit markets would not benefit the wealthiest countries at the expense of the poorest. I replied once again that, on the contrary, efficiency in attaining a level of environmental protection can only benefit poorer countries for whom the squandering of resources, environmental or otherwise, is particularly costly. Here again, it is important to separate efficiency issues from issues of wealth redistribution. Development assistance and the search for efficient (and therefore less costly) instruments for implementing policies must be two sides of the same coin, each finding an ally in the other.

It is important to bear in mind a major finding of the economic analysis of instrument choice. In a full-information situation, i.e. a situation in which all partners have the same information, however incomplete it may be, market-based and command and control instruments can in theory achieve the same level of pollution abatement and the same level of innovation in pollution control technologies. In this sense they can be considered equivalent. However, they may differ in the relative cost of achieving the targets set by the environmental protection policy, in their relative capacities to effectively capitalize on all the relevant information and expertise available, and in their respective risks of missing or exceeding these objectives.

The main difference between these two types of instruments is that the former do not explicitly tell the polluting companies what to do. They are regulatory tools that change behaviour via price signals rather than through explicit instructions on methods and levels of pollution control. Decisions on the level of pollution abatement and the technologies to be used to achieve it are left to the companies themselves.

Pollution abatement is expensive. Thus, a firm will have to incur a certain level of disbursements on labour, materials, and capital to reduce its pollution by one unit, whatever actual amount that unit represents. This minimum level of expenditure represents the marginal cost of pollution abatement to the firm. A first criterion for the efficient allocation of resources devoted to pollution abatement is that the pollution levels of individual firms should be such that the marginal cost of a further reduction of one unit of pollution is the same for all firms.

Indeed, if two firms have different marginal costs of pollution control, it would be efficient to redistribute pollution (or pollution abatement) levels by requiring the firm with the lower marginal cost to reduce its pollution more and the firm with the higher marginal cost to increase

its pollution, so as to save resources and reduce the total social cost of environmental policy while keeping the pollution level constant. Thus, if this first efficiency condition is not satisfied, the chosen instrument may be described as inefficient because it wastes scarce social resources that could be used in a different place or activity to increase social wealth.

In order to satisfy this first efficiency criterion, a command and control type instrument (such as a system of pollution caps) must be such that the distribution of these caps among the polluting companies ensures that the marginal costs of pollution abatement are the same for each. In order to achieve this, the agency responsible for setting and allocating these caps would clearly need to know the evolution of the marginal cost of abatement at the level corresponding to the cap for all companies—a quasi-impossible Herculean task.

On the other hand, a market-based instrument such as a tax per unit of pollution produced will ensure that each firm will have an incentive, in order to maximize its profits, to adjust its production and pollution level in such a way that the marginal cost of pollution abatement equals the tax imposed on the marginal unit of pollution. If the marginal cost in factors (labour, materials, and capital) of reducing pollution is lower than the tax payable on the marginal unit of pollution emitted, the firm will be able to increase its profit by reducing its pollution by one unit. It will have every incentive to reduce its emissions to the point where the marginal cost of abatement becomes equal to the tax payable on the marginal unit of pollution. Since all firms have an interest in performing these same calculations, equality of marginal costs is obtained in a decentralized manner, which can represent a significant savings, in terms of information gathering and computation, over prescriptive mechanisms.

On January 17 2019, the *Wall Street Journal* published what is one of the widest consensus among economists, namely the statement on carbon dividends initiated by the Climate Leadership Council <https://www.econstatement.org/>. The statement reads as follows:

*“Global climate change is a serious problem calling for immediate action. Guided by sound economic principles, we are united in the following policy recommendations.*

- *A carbon tax offers the most cost-effective lever to reduce carbon emissions at the scale and speed that is necessary. By correcting a well-known market failure, a carbon tax will send a powerful price signal that harnesses the invisible hand of the marketplace to steer economic actors towards a low-carbon future.*
- *A carbon tax should increase every year until emissions reductions goals are met and be revenue neutral to avoid debates over the size of government. A consistently rising carbon price will encourage technological innovation and*

*large-scale infrastructure development. It will also accelerate the diffusion of carbon-efficient goods and services.*

- *A sufficiently robust and gradually rising carbon tax will replace the need for various carbon regulations that are less efficient. Substituting a price signal for cumbersome regulations will promote economic growth and provide the regulatory certainty companies need for long-term investment in clean-energy alternatives.*
- *To prevent carbon leakage and to protect national competitiveness, a border carbon adjustment system should be established. This system would enhance the competitiveness of national firms that are more energy-efficient than their global competitors. It would also create an incentive for other nations to adopt similar carbon pricing.*
- *To maximize the fairness and political viability of a rising carbon tax, all the revenue should be returned directly to U.S. citizens through equal lump-sum rebates. The majority of families, including the most vulnerable, will benefit financially by receiving more in carbon dividends than they pay in increased energy prices.”*

It remains for the responsible government agency to set the right level of effort of pollution abatement, that is, the right level of carbon tax to implement, a difficult but much less resource-intensive task than that of directly controlling pollution emission standards across products and allocating pollution quotas to all companies. There is a wide range of proposed carbon tax levels.

In the underlying document *Climate Leadership Roadmap*<sup>24</sup> one can read: “Accordingly, the first pillar of our bipartisan plan is an economy-wide fee on CO<sub>2</sub> emissions starting at \$40 a ton (2017\$) and increasing every year at 5% above inflation. If implemented in 2021, this will cut U.S. CO<sub>2</sub> emissions in half by 2035 (as compared to 2005) and far exceed the U.S. Paris commitment. To ensure these targets are met, an Emissions Assurance Mechanism will temporarily increase the fee faster if key reduction benchmarks are not achieved.” A US\$40 a ton tax (2017\$) increasing every year at 5% above inflation will likely lead to a US\$100 or C\$130 a ton tax in 2030. This will most likely be insufficient to exceed the U.S. Paris commitment.

The Canadian government recently announced the setting of a C\$170 per ton carbon tax for 2030. This level targeted for 2030 may not be sufficient. The more rigorous studies carried out

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<sup>24</sup> Climate Leadership Council (2021), *Climate Leadership Roadmap*. <https://clcouncil.org/Bipartisan-Climate-Roadmap.pdf>

in France by the Quinet Commission (2019)<sup>25</sup> on the tutelary value of carbon led it to affirm that this value should be 250€<sub>2018</sub> (\$C<sub>2018</sub>375) in 2030:

*“Based on modeling efforts to date, the commission recommends – starting with the current shadow price of €54 in 2018 – adopting a social value of mitigation activities of €<sub>2018</sub>250 in 2030. This value is a great deal higher than the current baseline value outlined by the commission in 2008 (€<sub>2008</sub>100, so €110 in today's value). This mainly reflects the fact that we are behind schedule and the correlative increase in the level of ambition beyond the "Factor 4", both of which incur high abatement costs across several sectors of the economy, not least agriculture, some industrial sectors (cement, chemical industry or steel), and long-distance freight transport (by road, air or sea). The abatement costs also reflect the current inadequacy of the coordinated global response and the lack of international flexibility mechanisms available to the 2008 commission... Ultimately, the commission recommends adopting a €<sub>2018</sub>500 value in 2040 and a €<sub>2018</sub>775 value in 2050. These fall within the range of the most recent carbon values outlined in the IPCC's latest special report, dated October 2018.” (p.20-21)*

These numbers are likely going to change as we move toward 2030 and beyond, hence the statement by CLC: “To ensure these targets are met, an Emissions Assurance Mechanism will temporarily increase the fee faster if key reduction benchmarks are not achieved.”

Nevertheless, with regard to the first criterion for the efficient allocation of effort and resources (equality of marginal costs of pollution abatement across firms and activities), it appears that market instruments largely dominate command and control instruments. The cost savings that can be attained by market instruments compared to command and control instruments are considerable, amounting to as much as several billion dollars per year.

Several criticisms have been raised about these market mechanisms and in particular about the carbon tax. First and foremost, the difficulties of properly measuring carbon emissions, setting the level of the tax and putting it into practice at the scale of the economy. More often than

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<sup>25</sup> [https://www.strategie.gouv.fr/sites/strategie.gouv.fr/files/atoms/files/fs-2019-rapport-la-valeur-de-l'action-pour-le-climat\\_0.pdf](https://www.strategie.gouv.fr/sites/strategie.gouv.fr/files/atoms/files/fs-2019-rapport-la-valeur-de-l'action-pour-le-climat_0.pdf). See also Alain Quinet, “Quelle valeur donner à l’action pour le climat ? / What Value Do We Attach to Climate Action?”, *Economie et Statistique / Economics and Statistics* N° 510-511-512, INSEE, 2019 [https://www.insee.fr/en/statistiques/fichier/4253150/510\\_511\\_512\\_Quinet\\_EN.pdf](https://www.insee.fr/en/statistiques/fichier/4253150/510_511_512_Quinet_EN.pdf) and Christian Gollier, “The cost-efficiency carbon pricing puzzle”, TSE Working Paper, n. 18-952, September 2018 revised February 2020 <https://www.tse-fr.eu/publications/cost-efficiency-carbon-pricing-puzzle>



not, these critiques stem from a lack of understanding of basic economic mechanisms regarding the role of prices and incomes in the decisions of economic agents, consumers and producers.<sup>26</sup>

*Efficiency in Terms of Expertise and Information.*

It should be noted, however, that market instruments can be relatively inefficient when there is a desire to centralize information and expertise on optimal pollution abatement. This might be the case, for example, if the same information and expertise were used by a large number of companies. Sharing the costs of information and expertise requires a certain degree of coordination that is more difficult for market instruments than for command and control instruments to muster. At first, it seems that the latter instruments are more amenable to capturing the benefits of centralized information and expertise more efficiently than would be possible under the conflicting interests and competition between firms.

Market-based instruments provide greater incentives than command and control instruments for firms to research and implement technologically innovative pollution abatement systems. This is because they allow firms to capture a significant share of the benefits of these innovations. Thus, market instruments such as taxes on emissions and tradable pollution permits are generally more dynamically efficient than regulations and mandated pollution technologies and caps because they increase the intensity of incentives to innovate in pollution abatement. By increasing the incentives for firms to innovate in order to maximize not only their short-term profits but also their long-term valuations, market instruments are likely to lead to the emergence of more efficient and less socially costly “green” technologies (Jaffe and Stavins, 1995).<sup>27</sup>

In a recent blog, Matt Ridley (*National Review*, December 3 2020) writes:

*“In 2019 wind and solar between them supplied just 1.5 percent of the world’s energy consumption. Hydro supplied 2.6 percent, nuclear 1.7 percent, and all the rest — 94 percent — came from burning things: coal, oil, gas, wood, and biofuels... The world needs energy innovation if it is to reduce the use of fossil fuels... And although the efficiency of energy consumption is improving, it cannot solve the problem... Nuclear power could supply all our needs from a comparatively tiny footprint of land and*

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<sup>26</sup> An example among others is the commentary by Ellen R. Wald, « The Climate Leadership Council's Devious Plan to Distract American Carbon Consumers », *Forbes Magazine*, June 20 2017.

<https://www.forbes.com/sites/ellenwald/2017/06/20/the-climate-leadership-councils-devious-plan-to-distract-american-carbon-consumers/?sh=53f5a3ac6ad6>

<sup>27</sup> Jaffe, A.B. and R.N. Stavins (1995), “Dynamic Incentives of Environmental Regulation: The Effects of Alternative Policy Instruments on Technology Diffusion,” *Journal of Environmental Economics and Management* 29, 43–63.

*steel, but we have made innovation in nuclear all but impossible by massively increasing the cost and time required to license a new design... Molten-salt reactors will one day be more efficient, safer, and cheaper, but only if there is a revolution in regulation as much as one in technology. Keep your eye on Canada, which is trying to achieve this... Fusion energy is another innovation we promised but failed to deliver... There is renewed hope, however, that low-temperature superconductors and “spherical tokamak” designs may yet crack the problem of controlled fusion and that by 2040 we will have abundant, cheap, reliable energy on tap. If that were to happen, through molten-salt fission or through fusion, imagine what we could do. We could synthesize fuel for transport, dismantle wind turbines and oil pipelines, stop burning trees in power stations, desalinate enough water to supply the human race without touching wild rivers, and suck carbon-dioxide out of the air. Above all, we could raise the standard of living of the poorest on the planet. It is surely worth a try...”*

An important and often overlooked dimension of instrument choice is the analysis of the relative risks associate with different types of instruments. Indeed, whatever type of instrument is chosen, there is always a risk of falling short of the goals of the environmental protection policy, even if the instruments chosen would make it possible on average, or under normal conditions, to achieve these objectives.<sup>28</sup>

One of the objectives of instrument choice when implementing an environmental protection policy is to ensure that those who have the information are primarily responsible for the policy. Indeed, informational efficiency can lead to considerable savings given the issue’s complexity.

To illustrate, consider the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) passed in 1980 and amended in 1985 and 1996 by the United States Congress. This law holds the “owners” and “operators” of a company that causes an environmental disaster liable. Jurisprudence has evolved toward a growing recognition of the liability of the banks that finance the company on the principle that banks’ involvement in the company’s operations make them comparable to the “operators” recognized as liable in the law, despite the explicit

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<sup>28</sup> If the estimates of the marginal costs and marginal benefits of pollution control are subject to error, then paraphrasing and reinterpreting Martin Weitzman’s results (“Prices vs Quantities,” *Review of Economic Studies* 41(4), 1974, 477–491) allows us to state that, in the context of an environmental protection policy, command and control instruments (analogous to quota-based abatement) will be more likely to meet policy goals than market instruments (analogous to price-based abatement) if the respective rates at which the marginal cost and marginal benefit of changing the level of abatement are such that the former is higher than the latter. This condition is somewhat complicated and its details are beyond the scope of this document. However, it does shed some light on the complexity of the analysis of the choice of instruments for environmental protection.

recognition of the banks' right to intervene to protect their interests as creditors. It is useful here to cite the court's ruling in the case involving the financial institution Fleet Factors prosecuted under the CERCLA Act:

*"Our ruling today should encourage potential creditors to investigate thoroughly the waste treatment systems and policies of potential debtors. If the treatment systems seem inadequate, the risk of CERCLA liability will be weighed into the terms of the loan agreement. Creditors, therefore, will incur no greater risk than they bargained for and debtors, aware that inadequate hazardous waste treatment will have a significant adverse impact on their loan terms, will have powerful incentives to improve their handling of hazardous wastes. Similarly, creditors' awareness that they are potentially liable under CERCLA will encourage them to monitor the hazardous waste treatment systems and policies of their debtors and insist upon compliance with acceptable treatment standards as a prerequisite to continued and future financial support ... [W]e share the district court's conclusion that Fleet's alleged conduct brought it outside the statutory exemption for secured creditors. Indeed, Fleet's involvement would pass the threshold for operator liability. Fleet weakly contends that its activity at the facility from the time of the auction was within the secured creditor exemption because it was merely protecting its security interest in the facility and foreclosing its security interest in its equipment, inventory, and fixtures. This assertion, even if true, is immaterial to our analysis. The scope of the secured creditor exemption is not determined whether the creditor's activity was taken to protect its security interest. What is relevant is the nature and extent of the creditor's involvement with the facility, not its motive. To hold otherwise would enable secured creditors to take indifferent and irresponsible actions towards their debtors' hazardous wastes with impunity by incanting that they were protecting their security interests. Congress did not intend CERCLA to sanction such abdication of responsibility." (Extract of the 1990 ruling by Judge Kravitch of the Eleventh Circuit Court in the case US vs Fleet Factors)<sup>29</sup>.*

As one might expect, this ruling caused quite a stir, not only in the United States but also in Europe. For our purposes, it is sufficient to note that the rules governing liability in

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<sup>29</sup> <https://casetext.com/case/us-v-fleet-factors-corp-3>. See also Kathy E. B. Robb and Christopher Sheehey (1992), "Lender Liability for Contaminated Land", *Journal of Environmental Law*, 4 [1], pp 145-158.

environmental disasters can be treated as a market instrument. The judge in the above case wanted to extend liability to all partners of the company at fault in order to give the institutions and agents with the greatest access to information the right incentives to use their inside information in the most socially beneficial way.

To the extent that the banks that finance companies posing major environmental risks have inside information or are well positioned to obtain inside information on the operations of these firms, it may be socially efficient to make them jointly liable with their clients for the environmental damage that the latter may cause. Making banks and other financial institutions liable for environmental damage caused by their corporate clients can thus generate the right incentives for production, self-protection, and self-insurance at a lower cost.

### *The Challenge of Adopting Market Instruments*

In light of the clear relative efficiency of market instruments in terms of cost, information, R&D investment, risk management, etc., why is their adoption by various government bodies not more widespread? First of all, it must be acknowledged that these instruments are gaining currency, although the majority of those currently in use continue to be prescriptive in nature. As the understanding of economics increases among politicians and social leaders with a specific interest in implementing effective environmental policy, market-based instruments are making significant inroads.

This development is to be welcomed as the costs of increasingly aggressive environmental policies are likely to rise substantially in the coming years. Thus, it can be expected that the efficiency of instruments implemented to achieve environmental policy goals at the lowest cost will become a central preoccupation of policy makers.

On the other hand, we also need to reckon with pressure groups that may see these market instruments as a way for companies and governments to abdicate their responsibilities. They may prefer the status quo in environmental policy instruments and strive to block the quest for innovative and more efficient solutions to environmental protection. These pressure groups, both environmental groups and businesses that profit from the relative inefficiency of existing instruments, can derail the best intentions for environmental protection by their ignorance of the real challenges associated with combining economic growth with optimal environmental protection.

In concluding our discussion of competition and the environment, it may be worthwhile to reiterate that economic analysis is an important factor in environmental protection. Thus, it is misguided and misleading to present environment and economy, or environmentalists and economists, as being on opposing teams. In many instances, economists are strong and credible

advocates for the environment. Indeed, economists are first and foremost experts in system efficiency, whether the system is production, consumption, public policy, investment, or environmental protection. The role of economists is to analyze the characteristics of a system in terms of efficiency and effectiveness.

In the context of environmental protection, the approach of economists is to identify shortcomings that are attributable to the absence of markets, leading to overexploitation of environmental resources. This phenomenon is not new, nor is it limited to environmental issues. Economic theory provides a good explanation for environmental degradation when the absence of property rights, public or private, prevents free negotiation and thus the emergence of competitive equilibrium prices.

We should not downplay the challenges and barriers to the creation of markets and market institutions in a field like environmental protection. Current and recurring challenges and failures to reach an agreement on markets for carbon pricing and trading at the Madrid Conference of the Parties in 2019—which followed up on the conferences of the parties in Paris (2015) and Katowice (2017) and where the necessity of this type of agreement was highlighted—attest to the difficulties faced to date and going forward. Unfortunately, the economic solution to the difficulties, hurdles, challenges, and issues raised by environmental protection is ultimately sidelined by well-intentioned but idle and useless chatter among those on the forefront who, sadly, have no understanding of the issue.<sup>30</sup>

Moreover, the presence of significant information asymmetries is likely to give rise to endless posturing and bickering in which all try to derive strategic advantage from their private information. The solution therefore lies in the definition of tradable property rights on the one hand and the use of environmental resource pricing on the other.

In both cases, the goal is optimal environmental protection, and the best instruments and mechanisms for achieving it are primarily associated with free markets. These instruments and mechanisms make it possible to clearly define the concept of optimal protection (equilibrium) and to achieve this level of protection efficiently—i.e. by devoting the right level of social resources to it.<sup>31</sup>

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<sup>30</sup> On this subject, see Christian Gollier, *L'environnement après la fin du mois*, PUF, 2019.

<sup>31</sup> A recent example of ill-defined actions moved by good intentions but flawed analysis is the cancellation of the Keystone XL pipeline authorization by President Biden on the day of his inauguration. Rather than implementing a competitive prices approach through a carbon tax, the US government pursues the good policy with inadequate means, clearly a concession to its political base, more interested in symbolic gestures than true environmental protection. Contrary to implementing a proper carbon tax, stopping the Keystone XL pipeline will have no effect on the consumption of fossil fuels. Similarly, the criticism of the policy by Alberta Premier Jason Kenney is misplaced as

## 2.2 Protecting and Sharing Water

Water is probably the resource with the greatest importance to humanity. From a relatively abundant resource in ancient times, water has become a scarce resource with the explosive growth of the world's population and the phenomenal development of the world's economies.

To the extent that the distribution of water resources differs from the distribution of the population and water intensive economic activities, there is a need to trade or even market water if we are to balance availability and needs. In a publication to be released in 2021,<sup>32</sup> Maria Kouyoumijian and I focus on two main sets of issues related to water economics.

First, the need to improve water management with efficient instruments and institutions based on competitive markets, including appropriate pricing and well-regulated trade. Socially responsible management of water resources has become a global challenge and represents a major opportunity for development and wealth creation for all.

Second, the need to use all available means to inform all stakeholders of the increasing value and cost of water: users, including individuals, households and businesses; public and private managers and operators of natural freshwater resources; commercial and industrial water and ancillary service providers; operators of water and wastewater treatment plants or centres; and developers of technologies and equipment for the exploitation, transportation, and management of water resources.

The greatest danger on the horizon is that, through a lack of understanding, leadership, and open communication, the international community of developed and developing countries will lag in designing and implementing the governance mechanisms needed to manage our freshwater resources, however abundant or scarce. Time is running out. The global water crisis is imminent and as critical as climate change if not more, but far fewer resources are devoted to it.

Clearly, water is both a human right and an economic commodity with very special characteristics: Its consumption momentarily destroys the good (the glass of water I drink is unavailable to anyone else, so water is a private good in the economic sense of the term), but the water consumed regenerates and eventually finds its way back into nature to be consumed again and again in an unending cycle. Identifying and delivering the right balance between these

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he pushes for the pipeline and against the carbon tax, a full scale crony policy. The proper policy mix is both the pipeline and the proper carbon tax.

<sup>32</sup> Marcel Boyer and Maria Kouyoumijian, *Water on Wall Street*, forthcoming 2021, ≈225 pages.

two necessarily complementary visions, water as a human right and water as a commodity with special characteristics, involves untangling a Gordian knot that humanity must address today.

It is precisely because access to water is a human right that appropriate markets and commercial arrangements (pricing and control) must be designed to make this right a reality for all, rather than just a pipe dream.

We must ask questions that some still find extremely disconcerting: If water is considered a shared endowment, how can we keep it from being over-exploited and over-consumed (the tragedy of the commons)? If water is assigned its due value, how can we avoid the opposite problem, in which it is underused because some rights holders withhold it from the market (tragedy of the anticommons)? How much should users pay for water (and wastewater treatment)? How to determine the “right” price? How is water scarcity managed in practice? How can trade facilitate the transformation of a water-poor country into a country capable of managing its local water in a sustainable if not self-sufficient manner?

Boyer and Kouyoumijian explore market instruments that can be developed and applied to water resources. This may be the most audacious challenge of all, as the creation of competitive water markets could be a first step toward a more prosperous era for everyone: individuals and the agricultural, industrial, and residential sectors of the economy. At the forefront are water management technologies that can support the value chain, including dikes and dams, transportation, and desalination plants.

Consumers of commodities, including water, respond to prices: Lower prices lead to higher demand. When water is free, there is no reason to conserve or minimize the amount of water used. Where water is scarce, providing water for free is a recipe for ensuring that demand exceeds supply.

Maintaining water markets can be difficult. Potable water distribution and wastewater collection systems are natural monopolies because it is not possible to build several parallel networks of pipes, as competition would require.<sup>33</sup> However, monopolies, whether private or public, do not work well. They are rarely efficient, effective, or sensitive to the wishes of their customers and may overcharge because there is no competition to set a market price.

But going to the other extreme, setting the price of water at zero or artificially low, also causes distortions. If there is no market to set the price, adequate regulation can ensure that the price

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<sup>33</sup> But this does not necessarily apply to the providers of drinking water or used water treatment.

reflects the opportunity cost and is thus the best possible approximation to the dynamics of supply and demand.

Whatever the case may be, the regulation of drinking water must be independent and free of conflicts of interest. In an ideal system, operation of water treatment plants and pipelines will be separated from systems oversight, which in turn will be separated from creation of the rules and standards with which the system must comply. We know how to do all of that.

But many books and documentaries, as well as political organizations, NGOs and lobbies, present an apocalyptic and ultimately dystopian vision of the use of market and commercial mechanisms (pricing and markets) to help alleviate the impending global water shortage. To these authors and leaders, this recourse to market mechanisms and the commodification of water is nothing less than the embodiment of evil, designed to enslave the whole world.

In Canada, for example, Maude Barlow and the militants of the Council of Canadians have taken it upon themselves to block any opening to market mechanisms by wrapping themselves in the flag and using (exploiting) many young children in their advertising campaigns, asserting that the right to water is certainly a universal human right, but not access to OUR Canadian water. As one of the members put it: "Water is best used where God put it."<sup>34</sup> Fortunately for Canadians, God put a lot of water in Canada!

They are oblivious to the fact that we are all increasingly in the same boat in the face of water shortages, and that the division should not be between those who have a surplus of water and those who suffer from shortages, but rather between those who advocate a reasoned use and an incentive-based protection of water resources associated with effective and equitable sharing (trade) and those who deny the reality of the urgent needs of humanity beyond their borders while proffering hollow platitudes.

The political lobbying of this self-righteous coalition borders on extreme forms of policy collusion and cronyism. It has no other solution to offer than to repeat clichés and falsehoods about competition and markets, caricaturing their limitations as reflecting their true nature, in order to virtually take over the water resources and in so doing create a tragedy of the anticommons that hurts citizens both here and abroad.

### 2.3 The value of life

Some people are shocked by the idea that you can put a price on a human life. But for economists, it is obvious that life has a price, not so much in absolute as in relative terms, as an

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<sup>34</sup> Paraphrasing *Chronic Disbelief* (10 April 2017) : "God doesn't exist. Engage with reality and fix your fucking water laws." <https://ifunny.co/picture/because-god-doesn-t-exist-engage-with-reality-and-fix-6PeVsvMj4>



extension of the notion of limited resources. A person who boards an airplane or leaves home for a pizza is aware that there is some chance that the plane will crash or that she will be struck by a car and die. If this person still takes the plane or decides to go out and get her favourite pizza, she is accepting the low but non-nil risk of losing her life. This indicates that, to her, the value of her life ( $V$ ) times the probability ( $p$ ) that she will lose it, in expectation  $p*V$ , is lower than the value ( $W$ ) of the plane trip or her consumption of a pizza: therefore  $p*V < W$  or  $V < W/p$ , where  $W$  and  $p$  are obviously functions of the activity considered. To the extent that the value  $W$  is based on competitive prices, the value of life, as revealed by our choices, is based on these prices and can therefore be qualified as a competitive value.

Economists Christian Gollier and James Hammitt (2020)<sup>35</sup> write (translation):

“Because we are not willing to sacrifice everything to increase our life expectancy, it means that our life has value, and that value is finite. Since consciousness is the art of decision-making, and since decision-making is the art of comparing values, human beings have no choice but to give a relative value to everything. There is simply no alternative. The sage who refuses to commit may be honourable, but he abandons the decision-maker to abyss of his choices. Many people associate the idea of the value of life with the idea of the commodification of life. Yet many things have value without being associated with a market or the possibility of trade. These include friendship, blood and organ donations, even admiring a beautiful landscape... In order to partially remove this ethical baggage, the Belgian economist Jacques Drèze and the American economist Thomas Schelling (Nobel Prize in Economics, 2005) have developed the concept of the ‘value of a statistical life’ (VSL), by examining not the value of life *per se*, but the value of reducing the risk of losing one’s life. If I am willing to pay 1000 euros to reduce my probability of dying tomorrow by 0.1%, this means that I impute a VSL of 1 million euros to my remaining life. Choosing a professional occupation that is less hazardous to one’s health or buying a home in a less polluted community are similarly part of this probabilistic reasoning. There are, of course, moral imperatives, such as justice and fundamental rights, which must transcend our individual preferences. The VSL of the rich is higher, but their euros also have a lower social value, so that all lives are valuable from the point of view of the community.”

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<sup>35</sup> Christian Gollier and James Hammitt (2020), “Coronavirus: Nous ne sommes pas prêts à tout sacrifier pour augmenter notre espérance de vie,” Tribune, *Le Monde*, April 3rd.

In public health an approach that has gained more currency than the value of a statistical life (VSL) is the value of a statistical year or quality-adjusted life years (QALY).<sup>36</sup>

We decide to earmark a certain amount of the government budget ( $B$ ) to healthcare because we believe that allocating  $B+\$1M$  to it, which would provide for a certain additional or “marginal” reduction in mortality, is worth less to society than spending the  $\$1M$  elsewhere, for example on education or support for the arts. Once again, these choices reveal a “competitive” or, in this case, rather a “public policy” value of human life.

This analysis can be applied in an intertemporal context. Consider pharmaceutical patents, for example. If they were abolished, drug prices would fall and lives could be saved today. However, this would potentially reduce the profitability of the research laboratories that represent the capacity to deal with the pandemics of tomorrow. Abolishing patents could undermine our ability to deal with a future pandemic. Saving lives today means letting more people die in the future when a pandemic hits. Nothing is more certain than the high probability of future pandemics! The choice: to save lives tomorrow, we must sacrifice lives today. Ensuring the protection of pharmaceutical patents (determining the budget for pharmaceutical research) is a trade-off between present and future lives.

Any discussion of budgetary allocations, in road infrastructure, education, foreign aid, etc., implicitly involves a financial valuation of human lives potentially saved or sacrificed.

Not realizing this, or refusing to consider it, is equivalent to burying one’s head in the sand. Choices must be made. These choices, both individual and collective, reveal the value “at the margin” of the alternatives, sometimes in terms of lives at stake. This is what economists fundamentally mean with allocating scarce resources to unlimited needs. It is in this light that the definition of economics as “the dismal science”<sup>37</sup> takes on its full meaning.

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<sup>36</sup> Martin Boyer (2020), “La valeur d’une vie: Covid-19 contre la SAAQ,” (French only) CIRANO, 2020PE-13. <https://cirano.qc.ca/fr/sommaires/2020PE-13>.

<sup>37</sup> Thomas Carlyle (1849). “Occasional Discourse on the Negro Question,” *Fraser’s Magazine for Town and Country*, Vol. XL., p. 672. [https://babel.hathitrust.org/cgi/pt?id=inu.30000080778727&view=1up\\_eq=692](https://babel.hathitrust.org/cgi/pt?id=inu.30000080778727&view=1up_eq=692). Also see <https://www.investopedia.com/terms/d/dismalscience.asp>.

## 2.4 Ethical Behaviour (Collaboration, Concertation, Competition)

Kantian economics<sup>38</sup> is another approach to the characterization of ethical behaviour in economics. Jean-Jacques Laffont (1975)<sup>39</sup> writes:

*“To give substance to the concept of a new ethics, we postulate that a typical agent assumes (according to Kant’s moral) that the other agents will act as he does and he maximizes his utility function under this new constraint... To induce people to behave in a “Kantian” way may be a very good solution to some problems, and the relevance of such a policy is connected to the existence of macro-economic constraints... We can expect to realize the positive aspects of Kantian behaviour even when the social interest is, to some reasonable degree, in conflict with private interest. The argument indicates why it should be possible with some hope of success to ask people to make non-financial sacrifices such as efforts to put rubbish in bins and to save energy.”*

Laurence Kotlikoff (2011)<sup>40</sup> proposed a three-point program to end the last recession (2008–2010) and possibly eliminate recessions. The program is, in a sense, derived from the Kantian economy, as presented or interpreted by Jean-Jacques Laffont. But before delving into it, we need to set the stage of that recession.<sup>41</sup>

Remarkable developments in modern finance have led to a significant decrease in the level of systematic risk we face. This reduction in risk has been achieved by increasing the scope for diversification as a result of the globalization of financial markets. It has also benefited from the development of novel risk management tools such as new insurance products, credit default swaps, and other derivatives. These developments have enabled economic agents to reduce the probability and severity of potential losses through more diversified and better targeted protection and hedging strategies, both prior and subsequent to problematic events. At the

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<sup>38</sup> Kantian economics can be encapsulated as an economy based on Kant's categorical imperative: "Act only according to the maxim that you can also want this maxim to become a universal law".

<sup>39</sup> Jean-Jacques Laffont (1975). "Macroeconomic Constraints, Economic Efficiency and Ethics: An Introduction to Kantian Economics," *Economica* 42 (168), pp. 430–437. For more information about Kantian Ethics, also see Mark White, *Kantian Ethics and Economics* (2011), Stanford Univ. Press; John E. Roemer (2012), "Kantian Economics, Social Ethos, and Pareto Efficiency," Cowles Foundation #1854; Ingela Alger and Jurgen Weibull (2013), "Homo Moralis – Preference Evolution under Incomplete Information and Assortative Matching," *Econometrica* 81(6), 2269–2302.

<sup>40</sup> Laurence Kotlikoff (2011), "Five Prescriptions to Heal Economy's Ills," *Bloomberg*, September 27, 2011.

<sup>41</sup> See Marcel Boyer (2015), "Growing Out of Crisis and Recessions: Regulating Systemic Financial Institutions and Redefining Government Responsibilities", CIRANO 2015s-01, 55 pages. <https://cirano.qc.ca/files/publications/2015s-01.pdf>

same time, these developments in modern finance have increased the potential severity of systemic risk, though its probability is now lower, because the interdependence of markets means that a potential crisis can only be global.

Various financial innovations have allowed institutions and businesses to hold securities (asset-backed commercial paper or other types) as profitable alternatives to traditional bank deposits. These are generally highly liquid and, as such, are treated as close to cash. Bank deposits as a percentage of GDP have declined rapidly around the world, from almost 18 per cent of GDP in 1965 to less than 5 per cent in 2005 in the United States. What appeared as substantial efficiency gains in financial intermediation camouflaged a significant increase in the severity of systematic risk in the event of a crisis of confidence.

When these securities lost their liquidity, a loss of confidence contagion spread and led to a devaluation of assets, which was in turn exacerbated by overly rigid mark-to-market rules. It was as if a large part of the money supply had suddenly disappeared, causing a liquidity crisis. This liquidity crunch resulted in a race for cash, and thus to a credit crisis and higher counterparty risk.

Robert Lucas, winner of the 1995 Nobel Prize in Economics, and Nancy Stokey (2011)<sup>42</sup> wrote:

*“What happened in September 2008 was a kind of bank run. Creditors of Lehman Brothers and other investment banks lost confidence in the ability of these banks to redeem short-term loans. One aspect of this loss of confidence was a precipitous decline in lending in the market for repurchase agreements, the repo market. Massive lending by the Fed resolved the financial crisis by the end of the year, but not before reductions in business and household spending had led to the worst U.S. recession since the 1930s.”*

The economic crisis was a crisis of confidence in one of the essential common infrastructures of our society, namely the financial system. Any company can be shut down, but it is hard to conceive of an economy without highways, communications systems, and an efficient and accessible financial system.

Despite the interventions of central banks, there was a widespread loss of confidence and fear that an economic collapse was imminent. Banks, like many other businesses, sought to consolidate their reserves and shore up their capital, tightening the terms of credit (higher

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<sup>42</sup> Robert E. Lucas and Nancy L. Stokey (2011), “Liquidity Crises - Understanding sources and limiting consequences: A theoretical framework,” Economic Policy Paper 11-3, Federal Reserve Bank of Minneapolis, May 2011.

borrowing costs and credit rationing) in a context where counterparty risk, and thus risk premiums, had risen considerably.

This crisis, which started with subprime mortgages, spread to all asset-backed securities, jeopardizing providers of insurance, or reinsurance, of municipal and real estate bonds. The final blow came when interbank lending—which is at the heart of the financial system—dried up as banks stopped trusting each other and started hoarding funds to stave off bankruptcy. Central banks reacted by injecting unprecedented sums into a record number of banks, accepting an unusually diverse spectrum of assets as collateral for loans.

The monetary base increased from a normal level of \$845 billion ( $10^9$ ) on September 10, 2008 to \$1.476 trillion ( $10^{12}$ ) on November 12, 2008 and \$1.742 trillion ( $10^{12}$ ) on January 14, 2009. Owing to the collapse of the repo interbank market, total reserves held at the Fed by deposit-taking financial institutions reached an astronomical 20 times their normal level between September 2008 and January 2009.

The big banks became wary of each other when their management realized that risks were as badly managed in other banks as in their own!

Trust is a particularly important type of capital in the financial sector, based primarily on promises and the rule of law: Bank deposits are not worth much unless depositors are convinced that they can withdraw their funds whenever they want. More generally, trust is the most critical form of social capital—making possible a significant reduction in a variety of transaction costs within a society. Trust is a form of both private and social capital. As such, fostering and sustaining it involves serious coordination and incentivization challenges.

Robert Shiller (2010), winner of the Nobel Prize in Economics in 2013, writes<sup>43</sup>:

*“Achieving the proper economic spirit does not mean cheerleading by government officials to try to boost confidence. It does not mean groundless promises that the economy will recover. It means instead creating the kinds of conditions that will give people a salient reason for confidence. It means making ready to give economic stimulus as needed, and only as needed, to rescue collapsing institutions. Economic stimulus must not be overdone so that it encourages bubble thinking. Achieving the proper economic spirit also means establishing regulations that ensure trust and cooperation, and*

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<sup>43</sup> Robert Shiller (2010), “Stimulus and Regulation to Promote a Renewed and Spirited World Economy,” United Nations, October 2010.

*in so doing, that encourage genuine inspiration. It means promoting an atmosphere of fair dealing in business.”*

To the extent that this social trust capital is the upshot of corporations' and individuals' behaviour in terms of their private trust capital, it is essential that its development be framed and fostered by appropriate regulations. The burden of these regulations will be lessened to the extent that managers embody and share values of honesty and intellectual rigour, not only in the production of goods and services but also in the production and transmission of information to all their partners. These values of probity will be all the more present and widespread as the regulations promoting them are effective and rigorous.

### *Exiting a bad Nash equilibrium*

More often than not, a recession is the result of what game theorists call a suboptimal Nash equilibrium: Each economic agent (firms, financial institutions, households, etc.) refrains from hiring, spending, producing, or investing as the best-response strategy to similar strategies adopted by other agents. Why should firms and households spend and invest if they cannot find buyers for their goods and services, when they limit their own spending and investment out of fear that their goods and services will not find buyers? The economy is thus mired in this perpetual vicious circle of a Nash equilibrium that is both suboptimal and stable, in which all agents are acting rationally.

Although the rational decisions of agents are all interrelated in this suboptimal equilibrium, there is another equilibrium in which firms and households spend and invest because they rationally believe that other agents, firms, and households will do the same. This optimal equilibrium cannot be attained by a simple unilateral change in strategy of a single agent or sub-group of agents. Only a concerted effort and simultaneous action by all agents can generate the kind of expectations and decisions desired by each, leading to expanded hiring and sustainable growth.

This is where Laurence Kotlikoff's three-point program comes into play. The goal is to help or stimulate a rapid exit from the suboptimal Nash equilibrium in which the economy is (rationally) mired in a recession. The three points are as follows:

Point 1: Banks may be reluctant to lend their available funds because they are concerned about the state of the economy and the ability of borrowers to make their payments. However, if the Central Bank could use a variety of instruments to convince banks to lend to businesses that would normally be able to meet their obligations without too many problems, they would collectively help to generate normal economic conditions. But Bank A will only cooperate if all banks do. This is a coordination problem that Kantian ethics can help resolve. Bankers (and

other financial players) are in the best position to identify companies and projects in which to invest. The Central Bank could play a major role in initiating and fostering the desired Kantian behaviour by encouraging banks to lend to these companies.

Point 2: Unemployment is very high in a recession. To reduce this rate to a level close to the normal observed when business conditions are sound, many jobs must be created or restored—as many as seven or eight per cent of total jobs. This, combined with the associated multiplier effect, would reduce the unemployment rate to its normal level. The Government could persuade workers and the shareholders and owners of medium and large businesses to voluntarily hire 7.5 per cent more workers and to do their utmost to maintain this level of employment. How to pay these new workers? Existing employees could be offered and accept a 7.5 per cent pay cut in exchange for shares (or equivalent) of equal value in their company. Existing workers would thus finance the new hires in a show of solidarity, but in the final analysis the business owners would foot the bill. All companies thus solicited, knowing that all other similar companies will recruit and considering the ripple effects on the rest of the economy, will rationally anticipate that there will indeed be a greater demand for the additional goods and services that their new employees will produce. *In the final analysis*, company valuations increase, allowing the owners to recuperate the values of their assets and securities, and everything returns to normal.

Point 3: In times of recession, big companies are usually sitting on large unused investment budgets (liquidity). They are waiting for the economy to improve before investing, but the economy will not improve until they all (or most of them) invest at the same (or almost the same) time. The Head of Government can help solve this problem by convening a meeting of the CEOs of the largest companies and persuading them to collectively commit to resuming or even doubling their investments over the next three years. If all or most of them commit to this type of program, they would immediately create much of the demand needed to make their investments worthwhile and profitable.

Kantian ethical behaviour, resulting from an appropriate coordination effort rationally adopted by individuals and companies in a context of competitive markets, is likely to enable the economy to move out of a bad Nash equilibrium. Properly regulated competitive markets help to restore and generate the trust capital that was undermined by the recession.

## 2.5 Fair and Equitable Compensation: the music industry

Fair and equitable compensation equals competitive wages and salaries—to wit, compensation that is consistent with the interests of both suppliers of labour or human capital services and the demanders or employers of these services—in a context in which both suppliers and demanders act without external constraint: “willing buyer, willing seller.” The best guarantee

that suppliers will be adequately remunerated for their labour lies in competition for these services. And the best guarantee that demanders will pay appropriate compensation lies in the competition between suppliers of labour services. Thus, competitive compensation is basically synonymous to fair and equitable compensation because it respects the interests of both suppliers and demanders of labour services.

At competitive equilibrium, compensation is equal to the marginal opportunity cost of work, i.e. the value that would be produced by the work provided if it were employed in the best available and accessible alternative activity, including leisure. In competitive equilibrium, compensation is also equal to the value of the marginal output generated by the effort provided. Equality of the value of the marginal opportunity cost of labour with its marginal productivity is the main feature of competitive equilibrium. This is what makes competitive compensation fair and equitable.

The value of my work is determined on markets by my fellow citizens, who estimate the contribution my work generates (in its best possible employment) in terms of utility or the value of goods and services. In this competitive setting, my competitive compensation would increase if and only if I could produce more with my work (productivity) or produce goods and services of greater value to my fellow citizens.

There is nothing more stressful and demoralizing than being told or finding out that our work and efforts are not producing anything of value or interest to our fellow citizens and are therefore valueless. However, this can also provide an incentive to change our portfolio of skills and the basket of goods and services we produce or contribute to producing.

Few sectors experience the same degree of scrutiny as the music sector. Let us take a look at this industry, where the compensation of authors, composers, performers, musicians, and producers poses significantly more complex challenges than we encounter in the vast majority of industries and markets. The advent of the digital age has transformed the industry to such an extent that some even claim that music is spearheading the development of the Internet.

Determining the competitive value of music copyright lies at the heart of these challenges. This is the most pressing issue facing industries based on intellectual property rights—copyright, patent, trademark—today.

Three principles govern the challenge of copyright pricing and compensation. First is the principle of fair competition, which states that all uses of musical works and sound recordings, in physical or digital form, should compete on a level playing field for their customers and consumers while accounting for users' and distributors' different business models: the same price for similar uses, different but compatible prices for different uses. Second is the principle



of competitive market value, or “willing buyer, willing seller,” which stipulates that compensation to the owners of the rights must be efficient and effective in order to achieve a fair and equitable balance for both users and the creators who own these rights. Third is the principle of efficient pricing of informational goods and assets, which says that users should have access to, if not consume, virtually all available musical works of both the present and the past, given that these musical works are permanent, i.e. not destroyed by consumption. Informational goods are public assets in the economic sense, but with a particular cost structure: A relatively high cost of the first copy and a low or zero marginal cost of additional uses through reproduction and dissemination.

Competitive copyright pricing in this context seeks to achieve a balance between the rights of copyright holders and the rights of users by providing appropriate compensation to creators for the assets they create and to professional users for the costs and risks they incur, all the while protecting consumer’s rights with appropriate, if not maximum, dissemination of musical creations. To achieve competitive prices, the currently prevalent heuristic approach needs to be replaced with a more thorough analysis. Although they dominate current approaches to determining royalty rates in virtually all institutional contexts, these historical heuristics are of little use for finding the competitive value.

They have the advantage of simplicity, to the point that it is easy to overlook their mostly arbitrary origins. They are fundamentally path dependent, meaning heavily reliant on historical values: What has happened in the past persists because of resistance to change—which in turn reflects the caution of decision-makers in the absence of information or in the presence of disruptive information—giving rise to a suboptimal equilibrium that persists despite the existence of better alternatives.

Current procedures for determining royalties are based primarily on rules of thumb whose foundations in theoretical and applied economics are relatively weak and clearly inadequate to meeting the challenges of assigning a competitive value to music copyright.

The two fundamental questions confronting us are: First, what is the competitive value of copyright in view of the “informational good” aspect of protected works (music and books) and the advent of digitization, which makes the emergence of competitive markets more difficult, if not impossible? Second, how can the right of creators to equitable (competitive) compensation and the right of users to the benefits of digital technologies be balanced at a time when digitization is bringing the cost of dissemination down to almost zero and, in so doing, making the conflict between the rights of users and right holders more pronounced than ever?

The fair value of music and the resulting fair compensation of creators corresponds to what would be paid on competitive markets. When considering whether to use a unit of an asset or

factor, consumers compare the (marginal) utility or value derived from the use of the unit to the market price and proceed with the purchase only if the former exceeds the latter. Similarly, sellers compare the (marginal) cost of producing the good and making it available with the market price, only agreeing to produce and sell the marginal unit only if this cost is less than or equal to the price. More generally, when there are several buyers and sellers, a competitive equilibrium is a situation (price and quantity) in which upward and downward pressures on both price and quantity cancel each other to the satisfaction of both buyers (demand) and sellers (supply), all of whom freely and willingly participate in the market.

Therefore, a price that corresponds to a competitive market price or a price properly negotiated between well-informed parties will necessarily balance the interests of creators and users, since all investments, costs (including opportunity costs), risks, and benefits derived will be incorporated into the demand and supply equations. Given this price, buyers derive maximum value from using the good or input and sellers are properly and fairly compensated for their costs, with each party being free to accept the transaction.

However, as mentioned above, musical works are different from standard products like apples or cars. They are informational goods. Differences in cost structures, i.e. the cost of entry and fixed and variable costs that depend on audience size, argue for differentiated royalty formulas across different industries, although these industries compete to some extent for subscribers and listeners' ears.<sup>44</sup>

## 2.6 Inequalities (income, wealth, consumption): their measure and their role

The nature of the links between the creation, distribution, and redistribution of wealth is a recurring debate in democracies, whether social democratic or not. These links are complex, but not necessarily incompatible, if we take care to understand their determinants.

Let us begin by recalling that wealth creation and increased productivity do not fall from heaven in divine bounty but are the result of the actions, research, and thinking of creators, innovators, and entrepreneurs who succeed in producing more goods and services of greater value with the available resources (labour, materials, environment, capital).

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<sup>44</sup> For more complete analyses of this issue, see Marcel Boyer and Anne Catherine Faye (2018), "Music Royalty Rates for Different Business Models: Lindahl Pricing and Nash Bargaining," In: Marciano A., Ramello G. (eds), *Encyclopedia of Law and Economics*. Springer, New York, NY. See also Marcel Boyer (2019), "The Three-Legged Stool of Music Value: Hertzian Radio, SiriusXM, Spotify," pp. 13–40 in Ysolde Gendreau (ed.), *Le Droit d'Auteur en Action : Perspectives Internationales sur les Recours / Copyright in Action: International Perspectives on Remedies / El Derecho de Autor en Acción: Perspectivas Internationales sobre los Medios de Protección*, Proceedings of the 2018 World Congress of ALAI (Alliance littéraire et artistique internationale), Éditions Thémis, Montréal, 490 pages (See <http://cirano.qc.ca/files/publications/2018s-32.pdf> for the most complete version of the working paper).

Let us also remember that the distribution of wealth is much more egalitarian in developed countries and it has become more egalitarian as the level of development increased between 1920 and 1980 (7 decades), before becoming more unequal after 1980 (4 decades). Although most of the media and public attention is focused on this last period (40 years), we cannot understand the reasons and offer an explanation for this increase if we do not also understand the reasons for the previous decrease over 70 years. If the reasons given to explain the increase in inequalities since 1980 (40 years) cannot explain the decrease over the period before 1980 (70 years), it is because the explanations suggested are incomplete or false.

Moreover, wealth that is created in an economy or society is distributed and captured by wages and salaries, corporate profits, interest and investment income, net farm income, and taxes minus subsidies (governments). Thus, we need to bear three important facts in mind: The share of labour compensation in Canada's gross domestic product (GDP) has fluctuated slightly around 50 per cent for several decades. In Canada, it went from 52 per cent (1986) to 51 per cent (1995), 50 per cent (2006) and 51 per cent in 2017. In that year it was 51 per cent in Alberta, 52 per cent in Ontario and 53 per cent in Quebec. Overall, in real terms, compensation to labour has therefore increased at the same rate as GDP—some 135 per cent between 1981 and 2017. Employment income is only one source of revenues for individuals and households, since businesses belong to them, too.<sup>45</sup>

The issue of the inequality in a society, as well as its determinants and evolution over time, is a recurring theme of major research efforts in academic and public policy circles. Along with calls for the reform of capitalism, this issue is the focus of persistent discussion in the opinion pages of newspapers and magazines and on social media platforms.

One galvanizing element is certainly the fact that in 2019 the mean (median) income of CEOs of large corporations is 281 (170) times the median income of their employees (see below). Similarly, in the arts and sports the income distribution has recently become more unequal.

In music, according to Thomson (2014),<sup>46</sup> the top 1 per cent of groups and solo artists derive 77 per cent of all revenues from recorded music. According to Kruger (2013),<sup>47</sup> the top 1 per cent of performers captured 26 per cent of all concert revenues in 1982 vs. 56 per cent in 2003, while

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<sup>45</sup> Particularly, portfolios of shares in public enterprises such as (in Canada) la Caisse de dépôt et placement du Québec, Canadian Public Sector Pensions, Alberta Investment Management Corporation and British Columbia Investment Management Corporation, as well as those of the Fonds de travailleurs (Fonds de solidarité FTQ and Fondation CSN) belong to taxpayers and workers who receive the dividends. It is similar in many countries.

<sup>46</sup> Derek Thomson (2014), "The Shazam Effect," *The Atlantic*, December 2014. The author writes also "Even when offered a universe of music, most of us prefer to listen to what we think everyone else is hearing!"

<sup>47</sup> Alan Kruger (2013), "Land of Hope and Dreams: Rock and Roll, Economics and Rebuilding the Middle Class," Rock & Roll Hall of Fame, Cleveland (OH), June 12 2013.

the top 5 per cent captured almost 90 per cent of all concert revenues. Lunny (2019)<sup>48</sup> states that in 2019, the top 1 per cent captured 60 per cent of revenues.

In sports, according to Zingales (2010),<sup>49</sup> the purse earned by the winner of the Masters golf tournament in 2008 equalled 103 times the annual salary of a groundskeeper, compared to 3 times in 1948. However, if this value is translated into expected earnings, it drops from 103 to 13 because the number of golfers has increased significantly and the competition has become global. Zingales adds: “The golf example is illuminating because the same two phenomena that are driving the rise in golf prizes—enhanced competition and the increased value of being at the top—have also occurred in the corporate world, roughly at the same time. Increased integration of the global market makes it more difficult for companies to survive. In turn, a lot of executives who would have earned a decent living running mediocre companies are wiped out. At the same time, the most efficient firms can apply their advantage over the entire world market now. The value of being the best has increased disproportionately, and companies – just like the Augusta Golf Club – are not going to run the risk of losing the jackpot to save a few dollars on the executives.”<sup>50</sup>

A possible contributor is the combined effect of an increase in the size and complexity of companies and the winner-take-all “tournaments” that have arisen under globalization: Where there used to be two, three, or more CEOs, there is now only one, and where there were more winners in more (local) tournaments, there are fewer winners in fewer large tournaments.

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<sup>48</sup> Oisín Lunny (2019), “Record breaking revenues in the music business, but are musicians getting a raw deal?”, *FORBES*, May 15 2019.

<sup>49</sup> Luigi Zingales (2012), *A Capitalism for the People*, Basic Books 2012, page 20–25. The data is from 2008. It probably kept increasing during the last decade and more.

<sup>50</sup> These developments in the magnitude of purses in the area of sports reminds us of Joseph A. Schumpeter’s (1942) “spectacular prizes,” *Capitalism, Socialism, and Democracy*, 2nd Edition (Kindle 1699–1710), Wilder Publications): “Prizes and penalties .... are not proffered at random; yet there is a sufficiently enticing mixture of chance: the game is not like roulette, it is more like poker. They are addressed to ability, energy, and supernormal capacity for work; but if there were a way of measuring either that ability in general or the personal achievement that goes into any particular success, the premiums actually paid out would probably not be found proportional to either. Spectacular prizes much greater than would have been necessary to call forth the particular effort are thrown to a small minority of winners, thus propelling much more efficaciously than a more equal and more ‘just’ distribution would, the activity of that large majority of businessmen who receive in return very modest compensation or nothing or less than nothing, and yet do their utmost because they have the big prizes before their eyes and overrate their chances of doing equally well.” Ejan Mackaay, Stéphane Rousseau, Pierre Larouche, and Alain Parent, *Analyse économique du droit*, Paris, Dalloz et Montréal, Éditions Thémis (3rd edition, forthcoming, 2020) write: “In the middle of the last century Schumpeter reviewed the conditions necessary for the innovative activity of entrepreneurs. He concluded that, owing to the great uncertainty inherent in inventive activity and the small number of successes, only windfall gains are likely to provide sufficient incentive. These profits must far exceed the returns that would attract merchants to regular business activities.” (Author’s translation).

As we read in Freeland (2012):<sup>51</sup>

*“The average tenure of a Fortune 500 CEO has fallen from 9.5 years to 3.5 years over the past decade. That’s true lower down the food chain, too. Thomas Philippon, the economist who documented the connection between deregulation and soaring salaries on Wall Street, also found that the jobs of financiers were very insecure. Nor does being your own boss protect you from the uncertainty of the markets. At a 2011 seminar at the Central European University in Budapest devoted to the psychology of investing, George Soros told the gathered academics that ‘the markets are a machine for destroying the ego’.”*

However, a closer inspection is in order before becoming too excited about the increase in income and wealth inequality. On this subject, Watson (2015)<sup>52</sup> writes:

*“Our preoccupation with inequality is an error and a trap. It is an error because inequality, unlike poverty, is not the problem it is so widely presumed to be. Inequality can be good, it can be bad, and it can be neither good nor bad but benign... Inequality is also a trap – not a trap anyone has set for us but one of our own making – because concern with it leads us to focus on the top end of the income distribution when our preoccupation should instead be the bottom where the bulk of human misery almost certainly resides.”*

Amartya Sen (2001)<sup>53</sup> asks us to remember that

*“Pervasive poverty and lives that were ‘nasty, brutish and short,’ as Thomas Hobbes put it, dominated the world not many centuries ago, with only a few pockets of rare affluence. In overcoming that penury, modern technology as well as economic interrelations have been influential. The predicament of the poor across the world cannot be reversed by withholding from them the great advantages of contemporary technology, the well-established efficiency of international trade and exchange, and the social as well as economic merits of living in open,*

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<sup>51</sup> Christina Alexandra ‘Chrystia’ Freeland (2012), *Plutocrats: The Rise of the New Global Super-Rich and the Fall of Everyone Else*, Doubleday Canada.

<sup>52</sup> William Watson (2015), *The Inequality Trap: Fighting Capitalism instead of Poverty*, University of Toronto Press.

<sup>53</sup> Amartya Sen (2001), “If It’s Fair, It’s Good: 10 Truths About Globalization,” *International Herald Tribune*, July 14, 2001.

*rather than closed, societies. What is needed is a fairer distribution of the fruits of globalization.”*

### *Consumption inequality*

In a recent working paper,<sup>54</sup> I outline the main features of the evolution of income and wealth inequalities over time (since 1920), and take issue with the current fixation on these inequalities rather than the more socially relevant consumption inequality. These consumption inequalities have shrunk considerably in recent decades, for which relatively reliable data exist, and probably for a much longer period of time.

Levels of income and wealth inequality declined between 1920 and 1980, but this trend reversed between 1980 and today (with recent signs of a possible correction). Consumption inequality, arguably the most socially relevant form of inequality, has most likely declined over this period, although data on a reasonably inclusive measure of consumption are lacking. However, we are beginning to see the emergence of this type of measure for a period spanning the last two decades, with Statistics Canada leading the way. An important factor has been the development of social transfers in-kind (STiK), which significantly top-up resources: equivalent to about 80 per cent of disposable income for the bottom quintile and about 10 per cent for the top quintile. Their impact on consumption inequalities is significant.

The key results can be summarized as follows. In Canada, employment income of the lowest (highest) quintile of households increased by 49.0 per cent (72.7 per cent) between 1999 and 2018. The ratio of the highest to the lowest employment income by household quintile increased by 21.3 per cent, indicating an increase in this measure of inequality.

Net transfers in dollars, which subtract taxes paid from transfers received, are positive for the poorest household quintile, having increased by 100.4 per cent between 1999 and 2018, and negative for the richest quintile, with net taxes growing 57 per cent over the same period. The difference between the lowest and highest quintile in terms of net transfers increased by 61.9 per cent from \$45 656 in 1999 to \$73 932 in 2018. This translates into a reduction in overall income inequality measured in a way that includes all income sources.

The total effect of changes in income (employment, mixed, and real estate) and net transfers in dollars means that, between 1999 and 2018, household disposable income of the bottom quintile increased by 62.8 per cent, while that of the top quintile increased by 74.9 per cent,

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<sup>54</sup> Marcel Boyer (2019), “Inequalities: Income, Wealth, and Consumption,” 44p., CIRANO 2020s-26 <https://www.cirano.qc.ca/files/publications/2020s-26.pdf>, (also TSE WP 1105 [https://www.tse-fr.eu/sites/default/files/TSE/documents/doc/wp/2020/wp\\_tse\\_1105.pdf](https://www.tse-fr.eu/sites/default/files/TSE/documents/doc/wp/2020/wp_tse_1105.pdf)).

resulting in a 4.8 per cent increase in income inequality as measured by the ratio of disposable incomes of the two quintiles.

Final consumption expenditures of households increased by 116.9 per cent for the bottom quintile and by 70.3 per cent for the top quintile, indicating a significant decline in final consumption inequality.

Social transfers in kind (STiK)<sup>55</sup> increased by 84.7 per cent for the lowest household quintile and by 80.8 per cent for the highest quintile between 1999 and 2018. The ratio of the highest to the lowest quintile's STiK remained close to one in absolute terms for the period 1999–2018.

Summing up household final consumption expenditures (HFCE) and social transfers in kind (STiK) gives household actual final consumption (HAFC). Between 1999 and 2018, this final consumption increased by 106.8 per cent for households in the lowest quintile and by 71.6 per cent for households in the highest quintile, translating into a significant decrease in consumption inequalities between these quintiles.

### *The compensation of CEOs*

In a recent article,<sup>56</sup> I discuss the relative earnings of CEOs, which, as mentioned above, is at the centre of discussions on inequality. From data on the 500 largest (S&P500) companies compiled by Bloomberg from company reports filed with the Securities Exchange Commission (SEC), we find that the mean income of CEOs of these large companies was US\$14.2 million, and the median income was US\$12.4 million, in 2018–19. The average CEO pay ratio, defined as the ratio of the CEO's compensation to the median salary of the company's employees, reached 281 last year. However, companies differ significantly in size and more representative ratios are the median CEO pay ratio, equal to 170, and the weighted average CEO pay ratio (measured as the

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<sup>55</sup> STiK (or social transfers in kind) correspond to expenditures made on behalf of households by governmental bodies or non-profit institutions serving households (NPISH). STiK complement concepts related to both consumption and income. We might want to conceptualize STiK as income in the form of services. Treating STiK as a supplementary form of income lets us calculate household adjusted disposable income (HADI)—this allows us to report household income in a different form. Observe that the concepts of HAFC (household adjusted final consumption) and HADI (household adjusted disposable income) are the internationally recommended measures of consumption and income.

<sup>56</sup> Marcel Boyer (2021), "CEO Pay in Perspective," *Journal of Leadership, Accountability and Ethics* 18(3), 2021, 36-73 <https://articlegateway.com/index.php/JLAE/article/view/4407/4189> ; CIRANO 2019s–33, 52 pages. <http://www.cirano.qc.ca/files/publications/2019s-33.pdf>, (also TSE WP 1059 [https://www.tse-fr.eu/sites/default/files/TSE/documents/doc/wp/2019/wp\\_tse\\_1059.pdf](https://www.tse-fr.eu/sites/default/files/TSE/documents/doc/wp/2019/wp_tse_1059.pdf)).

total salaries paid to all CEOs divided by the total of all median salaries for the S&P 500 companies), equal to 185.

While media coverage primarily focusses on the 281 ratio, it may not be the most informative and relevant measure of the gap between CEO compensation and the median salary in the company. Each of the 26 million employees at these 500 companies “contributes” an average of \$273 to their CEO’s annual income, or about one-half of one per cent of their respective salaries, which I will refer to as the B-ratio. Viewed from a different angle, if we were to distribute the CEO’s salary equally among all employees, the resulting annual salary increase would be \$273. Measured as a percentage of the employee’s salary, the resulting salary increase would be one-half of one per cent (0.50 per cent).

These measures—the CEO pay ratio, CEO pay per employee, and the B-ratio—vary across companies and sectors. There are various reasons for this variability, including the importance and specificity of the position and importance or impact of the CEO’s leadership and skills in designing, implementing, and managing corporate strategies and actions. The strategic exercise of the company’s underlying real options has a significant impact on the company’s performance, profitability, and growth and, by extension, on the general well-being of its employees, shareholders, and other stakeholders, including suppliers and customers. This is generally defined and delivered by the CEO. But the role and importance of the CEO may differ from one company, industry, or country to the next. Understanding how and why is essential.

### *The social role of inequality*

In a third working paper (forthcoming),<sup>57</sup> I discuss the social role of income and wealth inequalities. I show that income and wealth inequalities can be understood as responding to three social needs or imperatives: the need to ensure an adequate level of savings and investment, the need to enable appropriate creative destruction<sup>58</sup> through inventiveness, innovation, and entrepreneurship, and the need to foster the development and acquisition of new skills that are socially necessary but individually costly. These three social factors, which require a certain (optimal) level of income and wealth inequality, promote higher levels of productivity, economic growth, and prosperity for all.

In this forthcoming working paper I develop the nature of these three factors or social imperatives. I define the social role of higher income and wealth groups as “saving and

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<sup>57</sup> Marcel Boyer, “The Social Role of Inequalities: Why significant inequality levels in income and wealth are important for our prosperity and collective wellbeing” (forthcoming).

<sup>58</sup> For more on creative destruction, see the discussion of Philippe Aghion et al.’s proposals to reform capitalism in section 3.1 below.



investing.” This social role of the rich has perhaps become more important in recent decades—maybe since 1980. But who among us should be entrusted with this role, which comes with great responsibilities but also with considerable perks?

In the matter of wealth creation, a distinction must be made between the short and the long term. In times of accelerated wealth creation, the distribution temporarily becomes more unequal before reverting to a more egalitarian level. The new wealth is initially appropriated mainly by those who are primarily responsible for its creation. Next, a restructuring and reorganization of economic activities increases the productivity of human resources and promotes a more egalitarian distribution of wealth. Productivity is further enhanced by the development and acquisition of new skills, resulting in an even more egalitarian distribution. We may have reached a peak in income and wealth inequality in developed countries. Freeland (2012) reports that a group of economists interviewed by Alan Kruger in the mid-1990s cited technological change as the main factor in income polarization, followed by “unknown,” and globalization.

Incentives to creativity, innovation, and entrepreneurship are a principal and essential factor in economic development. They largely stem from the fact that the fruits of these talents and skills can be captured in the short term by those who are directly responsible for them, namely creators, innovators, and entrepreneurs. To capitalize on creations and innovations, human resources with superior training and skills are needed. In a phase of accelerated wealth creation such as the one we are currently experiencing, competitive pressure on these resources increases their value compared to the value of basic human capital, which is less well trained and therefore less skilled in the use of new production and organizational technologies. This is a powerful incentive to acquire these skills.

In designing and implementing socially responsible redistribution policies, it must be top of mind that redistributing income and wealth can only be achieved in an efficient and sustainable way by enhancing individuals’ skill portfolios to increase their value on labor markets, and thus to their fellow citizens. It is by implementing institutions and mechanisms that promote ongoing, rapid, and orderly adaptation of skill portfolios that governments can best combine wealth creation with responsible and incentivizing income redistribution. This policy places greater demands on individuals and is thus less politically palatable, but it is the only policy that is socially responsible and compatible with sustained economic development.

The best way to redistribute wealth is to encourage everyone to participate in its creation. It must also be borne in mind that the biggest and most relevant social inequalities are in consumption. Although good data have not been available for very long, we have observed that

consumption inequalities have decreased considerably in Canada, and probably globally, in the past two decades and most likely much longer.

One may argue that inheritance taxation could likely avoid impairing incentives to creativity, innovation, and entrepreneurship, and incentives to acquire skills that those changes value most.<sup>59</sup> Piketty (2020) argues in favor of a significant tax on private property in order to massively redistribute property to the bottom 50%, in particular to the young through “a system of capital endowment paid to every young adult (for example at the age of 25) and financed by a progressive tax on private property.” A similar argument is voiced to reduce the term of copyrights or patents on the basis that incentives to creation are likely not impacted by shortening terms of intellectual property, in particular when the impact is on heirs far in the future. I claim in Boyer (2021):<sup>60</sup> “Clearly the role and importance of heirs is not to be neglected. The desire to leave one’s children and grandchildren the possibility to benefit from of one’s posthumous popularity if any is an important source of motivation and runs against and transcends the simple discounting of the future.”

## 2.7 Socially Responsible Behaviors and Governance (ESG)

Let us examine the ESG (environmental, social, governance) principles for a socially responsible economy (SRE) combining the principles of socially responsible investment (SRI) and corporate social responsibility (CSR).

In July 2013, the *Association française de la gestion financière* (AFG) and the *Forum pour l’investissement responsable* (FIR) published a definition designed to clarify the role of SRI: “SRI (Socially Responsible Investment) is investment that strives to reconcile economic performance with social and environmental impact by financing companies and public entities that contribute to sustainable development regardless of their sector of activity. By exercising influence over governance and stakeholder behaviour, SRI promotes economic responsibility”<sup>61</sup> (author’s translation).

The association *Finance Durable et Investissement Responsable* (FDIR) “... finances and steers the work of the FDIR Chair (<http://fdir.idei.fr/>), created in the spring of 2007 on the initiative of the *Association Française de la Gestion Financière* (AFG), which plays an active role in its organization and development. The Chair promotes collaboration between asset management

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<sup>59</sup> See the discussion of Thomas Piketty’s proposals to reform capitalism / socialism in section 3.1 below.

<sup>60</sup> Marcel Boyer (2021), “Challenges and Pitfalls in Revising the Copyright Act”, *Canadian Intellectual Property Review* (forthcoming).

<sup>61</sup> <https://www.boursorama.com/bourse/actualites/l-afg-et-le-fir-donnent-une-nouvelle-definition-a-l-isr-7b9a4fd7c8cf2466e003dfc0e21a4d46>

professionals and researchers whose work contributes to the international reputation of Paris' financial centre on this essential topic" (author's translation).<sup>62</sup>

The Socially Responsible Investment (SRI) movement has given rise to a large industry with its managers and analysts, but also its problems of definition and criteria. Empirical data on the financial performance of SRI funds and on the impacts of corporate social responsibility, as implemented through the various mechanisms, policies, and strategies, remains difficult to characterize and measure, and therefore difficult to verify.

According to the last report of the US SIF Foundation, ESG funds reached about \$11,6 trillion (10<sup>12</sup>) in assets at the beginning of 2018, that is 25% of all assets under private management with a growth of 38% over two years.<sup>63</sup> Moreover, Jon Hale (Morningstar, 2020)<sup>64</sup> estimates that assets invested in ESG funds in the United States increased by 400 per cent in 2019. Leading asset managers have made significant commitments to ESG principles. BlackRock, the world's largest asset manager, has announced that ESG criteria will be its "new standard" and has urged corporate CEOs to recognize that "Climate change has become a defining factor" in the long-term prospects of their companies. State Street Global Advisors, the world's third largest asset manager, contacted boards of directors to inform them that the ESG approach is no longer just an option for a long-term strategy, announcing that SSGA would use its proxy voting power to ensure that companies identify and incorporate ESG principles or criteria into their long-term strategies. Goldman Sachs GS said it intends to put \$750 billion in ESG investments over the current decade. More and more investors are realizing that global warming is an impending crisis, accompanied by significant societal and financial risks, and that a long-term focus on creating value for all stakeholders will increase the value created for shareholders and society in the long term. The situation is similar in Europe.<sup>65</sup>

The about-face of Business Roundtable<sup>66</sup> is symptomatic of the changes that are occurring. Since 1978, Business Roundtable has periodically published principles of corporate governance, always reaffirming the primacy of shareholders. In August 2019, it changed course. It now affirms that the economy must enable everyone to thrive through work and creativity and to lead a life of meaning and dignity, and that the free market system remains the best way to

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<sup>62</sup> [https://www.afg.asso.fr/wp-content/uploads/2019/04/2019\\_04\\_10\\_CP-FDIR\\_Presidence-2019.pdf](https://www.afg.asso.fr/wp-content/uploads/2019/04/2019_04_10_CP-FDIR_Presidence-2019.pdf).

<sup>63</sup> US SIF Foundation, *2020 Report on US Sustainable, Responsible and Impact Investing Trends*. <https://www.ussif.org/files/US%20SIF%20Trends%20Report%202018%20Release.pdf>

<sup>64</sup> Jon Hale (2020), "Sustainable Funds - U.S. Landscape Report," *Morningstar*, February 14th.

<sup>65</sup> Eurosif (2018), *European SRI Study 2018*. <https://www.eurosif.org/wp-content/uploads/2018/11/European-SRI-2018-Study.pdf>

<sup>66</sup> Business Roundtable is "an association of CEOs of America's leading companies working to promote a thriving U.S. economy and expanded opportunity for all Americans through sound public policy."

achieve this, i.e. to create good jobs in a strong and sustainable economy, to foster innovation, to create a healthy environment and economic opportunities for all.

Those CEOs affirm now that they share a fundamental commitment to all stakeholders in their respective companies. They have committed to delivering maximum value added to their customers; investing in their employees (offering a fair total compensation package, promoting the acquisition of new skills, encouraging diversity and inclusion, dignity and respect); treating their suppliers fairly and ethically; supporting the communities in which their companies are active by implementing ESG practices; and generating long-term value for their shareholders, who are the source of the capital necessary for investment, growth, and innovation. They affirm that all of their stakeholders and partners are essential and that they are committed to generating value added for each one in order to ensure the future success of the businesses, communities, and the whole country.

ESG investment covers a whole spectrum of aspects that place the analysis of environmental, social, and governance criteria at the heart of the investment evaluation and portfolio selection process. The use of ESG criteria contributes to more in-depth financial analysis at a time when the company's performance is under closer scrutiny by a range of stakeholders. The ESG approach can encourage companies to reduce negative externalities and attract and retain a competitive workforce, thereby enhancing their intangible value and strengthening confidence in the overall financial system. ESG investment could also encourage direct investment in areas such as renewable energy and green technologies as the world moves toward a lower carbon economy.

Investment managers who emphasize ESG criteria in their investment processes do so in a variety of ways. Some use ESG criteria to perform a preliminary screening, and then apply more traditional investment analysis to the retained sectors or companies. Others incorporate ESG criteria into the set of factors considered throughout the process. Some focus on ESG sub-themes, particularly in areas such as climate change and diversity. Most fund managers applying ESG strategies actively engage with the companies and support or even sponsor resolutions at shareholder meetings.

Delineating the universe of sustainable funds is complicated, since a number of fund managers have articulated strategies reflecting their own vision of ESG investing. There are strategies that include various ESG criteria among other investment choices; and there are strategies in which ESG analysis and impacts are central and intentional features. Both of these strategies have become much more prevalent in recent years.

Corporate Social Responsibility (CSR) refers to companies voluntarily taking into consideration the social and ethical ramifications of their activities. Business activities are here understood in the broadest sense: economic activities, internal and external interactions.

Confronted by this significant shift on the part of large investment funds, two paradoxes stand out as meriting attention. First of all, why don't companies, which naturally want to maximize their value, spontaneously adopt an ESG policy? This would, in fact, amount to optimizing the long-term value of the company thanks to the social capital generated by the respect of its workforce, suppliers, and customers? Why this myopic vision focused on quarterly profits? Why these failures in terms of human rights (child labour)? Why this neglect of the environment (pollution)? Are these phenomena due to the absence of relevant markets, the inefficiency of markets for dealing with risk and uncertainty in the short term vs. the long term, a high level of risk aversion among managers (which would lead them to neglect the long term and even the medium term), inadequate training, or a lack of vision?<sup>67</sup>

Second, why don't buyers / consumers spontaneously value the goods and services produced by ESG-recognized or -certified companies? Does the jacket I am wearing today respect ESG principles? In other words, was it made by a company that strove to and succeeded in complying with these principles? Honestly, I hope so, but I have no idea. What would convince me?

Let us examine four propositions or trains of thought relevant to the ESG paradigm or shift.

- The first follows from key factors of quality improvement, so from the key ESG factors themselves;
- A second focuses on the respective roles of business and government in the development of ESG;
- A third is the coordination of human rights, and more specifically child labour, with the framework of an ESG policy;
- Finally, a fourth qualifies the company's level of ESG-compatible liability for industrial and environmental accidents and disasters to which it may have contributed.

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<sup>67</sup> Martin Boyer and Ksenia Kordonsky (2019), "Corporate Social Responsibility and Litigation Risk" (mimeo), show that companies' ESG policies and activities reduce the likelihood of facing securities class actions and that a higher ESG score reduces the magnitude of the market's abnormal reaction to news of suspected fraud. In both cases, ESG policies and actions contribute to the value of the firm. These results contradict the premise of Jean Tirole (2001), "Corporate Governance" (*Econometrica*, 69, 1–35) and Roland Bénabou and Jean Tirole (2010), "Individual and corporate social responsibility" (*Economica* 77, 1–19), who maintain that ESG activities are only the symptom of agency problems in the company and that they are carried out at the expense of shareholders.

In each of these cases, the results of the economic analysis may be surprising.

What are the “Fab 4” factors of quality growth and, by extension, the “Fab 4” of an ESG policy and, more generally, economy? There is a strong consensus among economists that the main factors explaining the differences in performance between countries and regions in terms of economic growth, collective wellbeing, and standard of living are the following: the quantity and quality of human capital, the capacity for invention and innovation, the quality and strength of incentive mechanisms, and the quality of mechanisms for allocating resources and coordinating private and public decisions. The last two factors define the general concept of well governed organizations and institutions. These four growth factors are highly complementary: an increase in one factor raises the incremental value of the others. This allows us to group societies into two large sets: those in which all these factors are well-developed and pervasive and those in which they are all lacking in quantity and quality.

The relative performance of societies differs less because of variations in their endowments in human and material resources and creative capacities than because of variations in the incentive structures and mechanisms for resource allocation and coordination of decisions under which their members, individual and organizational, operate.

The first factor: human capital. A society, country, or region’s levels of competitiveness and productivity—as well as of innovation and commercialization of innovations—and thus of quality of life improvements, depend on three main characteristics: first, on the capacity of its education sector in the broad sense of meeting industrial and social needs for skills of different types and levels both in quality and quantity; second, on the size and effectiveness of its investments in R&D and its capacity to transform new ideas into new processes, products, and services; and third, on the flexibility with which it can adapt to changes in its social, economic, and business environment and the willingness and determination it shows to meet the challenges posed by exogenous and endogenous changes.

The second factor: inventions and innovations. The ability and willingness to identify, adopt, adapt, implement, and commercialize inventions and innovations, whether technological, social, or organizational, is an indispensable precondition for economic growth. Inventions are numerous, innovations less so. This capacity and willingness is rooted in individual attitudes to change as well as in the ability of social, organizational, and political institutions to foster the necessary flexibility, reliability, and flexicurity.

The third factor: incentives (information, congruence, compatibility). Sufficiently strong incentive mechanisms require that individuals’ compensation (understood in the broadest sense) and companies’ profits be based on their yields or performance in fulfilling their missions. To the extent that too many compensation mechanisms in our societies, at the

individual, group, company, or organizational level, are weak or misalignment with private and social goals, the proliferation of free-riding and a growth-killing destruction of potential wealth are implicitly fostered at considerable social cost.

The fourth factor: efficient allocation and coordination mechanisms. Competencies and human capital and technological and organizational innovation are key determinants of growth and wellbeing. However, the rules of good governance that include incentive and resource allocation and coordination mechanisms, in both the private and public arenas, are even more important because they condition the first two.

Efficient resource allocation requires that good signals be sent to individuals and businesses about the relative scarcity of goods and services. Usually, the most effective mechanisms are those consistent with competitive markets, including auctions: among others those designed to curb the NIMBY (not in my backyard) syndrome. To the extent that too many prices are administered, manipulated, and controlled or fixed at levels that deviate from their competitive values, the ability of the economy to efficiently generate value and wealth for citizens is significantly undermined.

These administered prices cause distortions and losses due to over- or underproduction of goods and services. In general, these price manipulations are intended to support some consumer or producer groups or to give consumers an incentive to consume more of certain goods and services. Regardless of the rationale or goal of these price controls, there is always a better way to achieve the desired objective without unduly distorting the allocation of resources.

Consequently, the emergence of competitive prices and markets, including the creation of markets and improvements to their functioning, should be promoted in all sectors of the economy, including the public and social goods and services sectors.

In the case of energy prices, for example, the artificial suppression of prices always leads to misguided resource extraction policies that ultimately benefit only the groups specifically targeted while the benefits that could be generated by a socially optimal resource exploitation are forgone.

These policies necessarily and inevitably lead to collective impoverishment. The policy of suppressing prices always results in higher levels of taxation and indebtedness, which in turn lead to a deterioration of social services and infrastructure, thus undermining future economic development.

This is not only an inefficient subsidy to energy-intensive consumers, including both individuals and companies, but also a regressive transfer from low income households to those that are better off.

The case of agricultural prices is similar. The channels through which political assistance is provided differ from one region or country to the next: direct financial aid, supply management or production quotas, price floors, import restrictions (tariffs and quotas), etc. If farmers and ranchers need to be subsidized, it is best to do so through direct transfers, which should be offered through competitive incentive mechanisms without opaque price manipulations. In this way, the social cost of such support is minimized while any potential social benefits are maintained.

Similar analyses could be applied to education and healthcare, sectors in which price manipulation to the benefit of interest groups creates socially costly distortions in the allocation of resources and undermines collective wellbeing.

It is not low prices that generate growth and welfare, it is the right prices. Hence a first proposition on enhanced ESG:

**Proposition 1:** One objective of ESG should be procurement and investment policies that oppose price manipulations: for example, one criterion should be avoiding direct or indirect investments in companies and sectors that demand, promote, or benefit from price manipulations, including large and ongoing direct or indirect subsidies, and avoiding consumption of their products and services.

It would be interesting to develop an ESG price manipulation index by industry, sector, region or even country. Price manipulations, whether from the private sector (cartels) or the public sector, should be sanctioned by the SRI / SRE / CSR movement.

The true economic ethic is first and foremost an ethic of efficiency and effectiveness based on competitive prices.

*ESG is a central issue of the government or public sector*

By way of introduction to my second proposal, which is directly related to the first, let us consider Bill Moyer's above-mentioned speech to the Environmental Grantmakers Association in October 2001: "... I would like to make the following statement ... If you want to fight for the environment, don't hug a tree; hug an economist instead. Hug the economist who tells you that fossil fuels are the third most heavily subsidized economic sector after road transportation and agriculture. Hug an economist who tells you that the price system is potentially the most powerful tool for generating social change."



To the extent that ESG is concerned about the environment, it is significantly constrained by the absence of markets. Creating and developing markets—which are naturally (to wit, economically) nonexistent—with all the associated institutions and regulations to ensure their emergence and efficiency, is a vital and central job of the public or governmental sector.

Implementation of the right level of environmental protection can be achieved through competitive pricing of environmental services. If firms and individuals have to pay to use environmental services, such as air and water quality, they will rationally equate the marginal value, specifically the value of the marginal product, to the price.

Sound use of the environment, whether called degradation, destruction, or protection—which are basically different facets of the same prism—is socially efficient if it results from trades in a well-designed market system. Similarly, it is socially responsible for the firm to maximize its value (rather than its profit, which is a short-term or periodic measure).

When Milton Friedman wrote:<sup>68</sup> “The social responsibility of business is to increase profits,” he understood that the correspondence between ESG (or its equivalent at that time) and profit maximization is based on the existence of competitive markets and prices that reflect the marginal values of products and services to buyers / consumers and of factor prices that are linked to marginal opportunity costs (competitive prices) of the human, material, and financial resources used.

The modern capitalist firm is a formidable wealth creator, transforming assorted human, natural, material, and technological resources into products and services of greater value. However, this transformation must be based on reliable and appropriate indicators of relative values, first and foremost competitive input and output prices, generally set by competitive markets but sometimes by administrative mechanisms emulating competitive markets.

**Proposition 2:** ESG is primarily a government or public sector issue. It is in response to a failure of the government sector to create the conditions for the emergence of competitive markets and processes as well as competitive prices that ESG has become a business or private sector issue. What should have been and should be a case of “business as usual” has become an issue that generates divisions, diversions and misappropriation of mission for companies and citizens.

### *Human rights and child labor*

My third proposition concerns human rights, another core issue for ESG. I am thinking in particular of child labour in poorer economies.

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<sup>68</sup> *The New York Times Magazine*, September 13, 1970.

On the basis of 105 national household surveys, in collaboration with several national and international statistical agencies, the International Labour Organization estimates<sup>69</sup> that in 2016 some 152 million children aged 5 to 17 (58 per cent boys) were victims of child labour, nearly 50 per cent of them in Africa and 40 per cent in the Asia-Pacific region. Of these 152 million children, almost 50 per cent were aged 5–11, 28 per cent 12–14, and 24 per cent 15–17. Some 73 million of these children were engaged in hazardous work (62 per cent boys and 25 per cent under the age of 12). Child labour was found mainly in agriculture (71 per cent) but also in services (17 per cent) and industry (12 per cent), including mining. Nearly 69 per cent of child labour occurs in family-owned farms and businesses, while contract work and self-employment accounts for 27 and 4 per cent of these jobs, respectively.

The ILO (2017) report notes that 32 per cent of the child labourers do not attend school and that 68 per cent of children attend part-time but are educationally penalized because their work interferes with their ability to fully benefit from their presence in the classroom. Their dropout rate is high and their academic performance below expectations.

How can we define an ESG policy on child labour? In its 1998 Special Report on Human Rights and “The Power of Publicity,” *The Economist*<sup>70</sup> wrote: “In many circumstances too much pressure can be counterproductive, especially when it comes to labour standards. If western firms are persuaded by a torrent of criticism to reduce their investment or withdraw from low-wage countries, then local workers are the ones who suffer.”

Sam Vaknin (2002)<sup>71</sup> reminds us that the issue of child labour “... is all heartrending and it gave rise to a veritable not-so-cottage industry of activists, commentators, legal eagles, scholars, and opportunistically sympathetic politicians. Ask the denizens of Thailand, sub-Saharan Africa, Brazil, or Morocco and they will tell you how they regard this altruistic hyperactivity—with suspicion and resentment.”

It is difficult to put the lie to them when they say, and sincerely believe, that behind the arguments, which are certainly convincing in the abstract, lies a program of trade protectionism. The inclusion in international treaties of articles that impose strict or even impossible working conditions and environmental protection indiscriminately and across-the-board is, or could be, a form of protectionism—a trade policy designed to eliminate imports of products that intensify

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<sup>69</sup> ILO, *Global Estimates of Child Labour: Results and trends, 2012-2016*, Geneva, September, 2017. [https://www.ilo.org/wcmsp5/groups/public/---dgreports/---dcomm/documents/publication/wcms\\_575499.pdf](https://www.ilo.org/wcmsp5/groups/public/---dgreports/---dcomm/documents/publication/wcms_575499.pdf)

<sup>70</sup> *The Economist* (December, 1998). <https://www.economist.com/special-report/1998/12/03/the-power-of-publicity>.

<sup>71</sup> Sam Vaknin (2002), “Commentary: The Morality of Child Labor,” United Press International, <https://www.upi.com/Archives/2002/10/04/Commentary-The-morality-of-Child-labor/7691033704000/>.

the competition some well-established domestic industries and their political allies face from countries that appropriately rely on cheap labour. These interventions are not only anti-ESG but also ignore the benefits from international trade accruing to both partners.

Vaknin asserts that there are important nuances to be considered in the matter of child labour. There is a consensus that children should not be exposed to dangerous conditions and long working hours, be used as a means of payment, be physically punished, or be used as sex slaves. But in many poor communities, the work performed by children is a way to prevent the breakdown of the family unit. Depriving children of the opportunity to work and, in so doing, help raise their families out of malnutrition, disease, and famine is a height of immoral hypocrisy.

It should be remembered that child labour was common in the United States in the 19th century, and even until the middle of the 20th century.

Miriam Wasserman (2000)<sup>72</sup> writes:

*“At the beginning of the twentieth century, pressure for [US] federal legislation covering child labor was growing nationally, but especially in the North. It was greeted with resentment in many segments of southern society. They saw it as interference from a richer North which - after having benefited from child labor in its own industrial development - was trying to limit the South’s development... The plight of working children in the developing world today is not very different, and in some cases even less harsh, than that prevalent in countries such as the United States and England during the nineteenth and early twentieth centuries.”<sup>73</sup>*

Additionally, Paul (2017)<sup>74</sup> writes:

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<sup>72</sup> Miriam Wasserman (2000), “Eliminating Child Labor,” *Federal Reserve Bank of Boston Regional Review* 10(2). <https://www.bostonfed.org/home/publications/regional-review/2000/quarter-2/eliminating-child-labor.aspx>.

<sup>73</sup> For a collection of photographs of children’s workplaces, taken between 1908 and 1924 by Lewis Wickes Hine, on behalf of National **Child Labor Committee (NCLC)**, see the **Website of the US Library of Congress** <https://www.loc.gov/pictures/search/?sp=1&co=nclc t=grid>; for example [https://commons.wikimedia.org/wiki/File:Lewis\\_Hine,\\_Glass\\_works,\\_midnight,\\_Indiana,\\_1908.jpg](https://commons.wikimedia.org/wiki/File:Lewis_Hine,_Glass_works,_midnight,_Indiana,_1908.jpg): “The NCLC photos are useful for the study of labor, reform movements, children, working class families, education, public health, urban and rural housing conditions, industrial and agricultural sites, and other aspects of urban and rural life in America in the early twentieth century.”

<sup>74</sup> Catherine A. Paul, (2017). National Child Labor Committee (NCLC). *Social Welfare History Project*. <http://socialwelfare.library.vcu.edu/programs/child-welfarechild-labor/national-child-labor-committee/>. Also see US Bureau of the Census Historical Statistics of the United States, *Colonial Times to 1970*, Bicentennial Edition, Part 2 Washington, D.C., 1975. <https://www.census.gov/history/pdf/histstats-colonial-1970.pdf>.

*“In the late 1700’s and early 1800’s, power-driven machines began to replace hand labor for the making of most manufactured items. Factories sprung everywhere, first in England and then in the United States. The owners of these factories found a new source of labor to run their machines — children. Factory owners preferred hiring children because they were cheaper, less likely to strike, and more manageable than adults. However, factory work was grueling; a child working in a factory worked 12 to 18 hours a day, six days a week, for only one dollar. Many children began working as young as 7, tending machines in spinning mills or carrying heavy loads. By the mid-1800’s, child labor and its lasting effects on children’s health and education came under scrutiny of reformers. A United States Census report from 1890 showed that over 1.5 million children between the ages of ten and fifteen were employed. This number comprised almost 20 percent of all children in that age range. Just ten years later, the 1900 Census showed that over 1.75 million children between the ages of ten and fifteen were working in gainful occupations.”*

According to Vaknin, the outcry against the use of children to sew soccer balls in Pakistan has led to the relocation of Nike and Reebok’s workshops. Thousands of people lost their jobs, including many women and some 7000 of their children. Average family income, already barely enough to survive on, fell by 20 per cent. There are many other examples. According to Wasserman, German garment manufacturers laid off 50 000 children in Bangladesh in 1993 in anticipation of the passage of a US law against child labour (the *Child Labor Deterrence Act*, which never saw the light of day).

Ending child labour without doing anything else could be very damaging to both the families and the children themselves. Preventing them from working could force them to take on even more dangerous work (including prostitution). Of course, we all agree that, ideally, these children would be in school, receiving an education that will lift them out of poverty. To be relevant and socially responsible, this alternative must actually exist.

**Proposition 3:** ESG should set realistic and attainable criteria for the socially responsible nature of child labour. ESG should develop and provide a suitable framework to regulate the work of children. Abolishing and prohibiting child labour without attending to the consequences of such a ban (to wit the existence of real and credible alternatives) is not socially responsible: It is

primarily the responsibility of the government sector to allow and encourage an increase in the opportunity cost of child labour.

### *The responsibility of firms in five parts*

My proposition on corporate responsibility is divided in five parts. It is a complex subject, and the results of economic analysis can sometimes surprise. Then, to begin with the argument: if we are to enable and encourage a socially responsible level of investment, corporations cannot be held fully and completely liable for major environmental and / or industrial accidents.

Properly assigning the (extended) liability shared between companies, partners (bankers and insurers), and governments / society requires a realistic framework. This realistic framework must recognize the limits of such responsibility, the limited capacity for government intervention, the limited ability of the courts to avoid Type I errors (convicting an innocent firm) and Type II errors (clearing a guilty firm). It must also recognize the existence of incomplete or asymmetric information (moral hazard, adverse selection, monitoring difficulties) within and between the main partners (governments, companies, their partners—including financial partners, and the courts). All these factors enter together in the determination of the probability of environmental and industrial accidents.

In this context, the government acting as a benevolent planner must legislate shared liability (both strict liability and liability for negligence, as well as extended liability) and prevention standards. The following developments are based on U.S. case law (CERCLA) and European regulations governing financial guarantees and compulsory insurance.<sup>75</sup>

Five key factors determine the level of socially responsible corporate liability: profitability; the cost of measures to prevent accidents; their effectiveness; the social cost of public funds; and the ability of the courts to avoid Type I and Type II errors. Interactions between these factors in the characterization of a socially responsible allocation of resources are complex and not always intuitive. To find our bearings and define appropriate policies that promote social wellbeing we need to go beyond a superficial analysis. Thus, the fourth proposal is in five parts.<sup>76</sup>

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<sup>75</sup> On this subject, see Marcel Boyer and Jean-Jacques Laffont (1997), "Environmental Risks and Bank Liability," *European Economic Review* 41, 1427–1459; Marcel Boyer and Donatella Porrini (2004), "Modeling the Choice between Liability and Regulation in terms of Social Welfare," *Canadian Journal of Economics* 37(3), 590–612; Marcel Boyer et Donatella Porrini (2008), "The Efficient Liability Sharing Factor for Environmental Disasters: Lessons for Optimal Insurance Regulation", *The Geneva Papers* 33, 337-362.

<sup>76</sup> Marcel Boyer and Donatella Porrini (2011), "The Impact of Court Errors on Liability Sharing and Safety regulation for Environmental/Industrial Accidents," *International Review of Law and Economics* 31, 21–29.

**Proposition 4.1:** A decrease in corporate profitability should reduce the company's socially responsible (ESG) liability and raise safety or prevention standards. This will increase monitoring efforts while reducing prevention efforts and increasing the likelihood of industrial or environmental accidents.

This result is due to the fact that a decline in the company's profitability implies more frequent recourse to government funds to cover the cost of an accident. Thus, in order to mitigate the impact of the social cost of government funds on general wellbeing, the financial partner (banker or insurer) assumes more liability thanks to a higher level of mandatory insurance (or bank liability). Although the monitoring effort increases, the company tends to reduce its prevention activities. The higher prevention standards combined with the decrease in prevention activities means that the company is more likely to be found guilty of negligence if prosecuted.

**Proposition 4.2:** A higher cost of prevention activities should reduce the company's socially responsible (ESG) liability, leading to a lower level of prevention and thus a higher probability of accidents.

A higher cost of accident prevention activities alters the first-order values: Reduced prevention efforts and thus an increased probability of accidents result in less liability for the company, greater monitoring efforts and a higher probability of being found guilty of negligence

**Proposition 4.3:** When prevention efforts are or become more effective in reducing the likelihood of accidents, the benevolent government will want to save on the costs of these more effective prevention activities while achieving a lower likelihood of accidents. To do so, it will want to leave unchanged the company's ESG share of liability while reducing standards of prevention.

An increased effectiveness of prevention efforts in reducing the probability of accidents also affects the first-order values (a reduced level of prevention combined with reduced probability of accidents), resulting in an increase then a decrease (above a certain level of care) in the company's liability, lower standards of prevention, a decrease in monitoring activities, a decrease in the level of prevention and a lower probability of accidents and of being convicted for negligence (which explains the decrease in the value of monitoring). Although the chosen level of prevention and the probability of an accident move in the same direction as their first-order values, the probability of conviction for negligence decreases because the reduction in chosen prevention efforts is less pronounced than the decrease in the prevention standards.

**Proposition 4.4:** An increase in the social cost of public funds (due too a reduced efficiency of government financing or a more important transfert of risks to taxpayers) will lead the

benevolent government to reduce corporate ESG liability but increase prevention standards. This will lead to an increase in monitoring efforts, a reduction in the level of prevention chosen, and thus an increase in the probability of accidents, and an increase in the probability of conviction.

These impacts are mainly due to the need for the government to reduce its own spending given their increased social costs. To accomplish this it lowers the company's share of liability, which increases the level of compulsory insurance (or bank liability). To avoid excessive cutbacks in prevention efforts, the government will also increase prevention standards.

**Proposition 4.5:** An increase in the efficiency of the judicial system (reduction of Type I and II errors) will lead the benevolent government to reduce corporate ESG liability and lower standards of prevention; giving rise to a decrease in monitoring efforts, an increase in the level of prevention chosen by the company (from below standard to above standard, because the efficiency of the courts incentivizes good corporate behaviour) and a corresponding reduction in the likelihood of accidents and of conviction.

These impacts of a more efficient justice system are essentially due to complex interactions between the different factors that shape the incentives for companies to increase their prevention activities and their socially optimal responses to the government's choices (liability and standards). Faced with a more efficient judicial system, which contributes to incentivizing companies to increase prevention, the government chooses to implement reduced corporate liability and to lower prevention standards, anticipating that companies and financiers will also exploit these developments to reduce the monitoring effort and increase the level of prevention, ultimately resulting in a reduced probability of accidents. Thus, a more efficient judicial system ensures that stakeholders / partners face better incentives—allowing them to cut back on monitoring efforts—and reduces costly public disbursements due to diminished corporate liability, a lower probability of accidents, and a smaller likelihood of conviction for negligence if a case goes to court.

### 3. Analyzing and reforming capitalism

Among all the reform projects of capitalism, eight are of particular interest for our purpose here given the nature of their content and their direct links with economics:<sup>77</sup> Luigi Zingales (2012),

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<sup>77</sup> Other criticisms, analyses, and movements to reform capitalism take more from the “democratic socialism” model, contemporary business management, and the impacts of technological change, in particular automation and information technologies. Let me mention the unavoidable work of Peter Drucker, *Post-Capitalist Society* (Harper Information, 1993) who maintains that we have passed into a postcapitalist production system, where capital has lost its centrality because it is less entrepreneurial and more the property of financial companies, such as insurance companies, investments funds, banks, etc. As the owners of capital, citizens have thus become virtual

Paul Mason (2015), Jean Tirole (2016), The Economist (2018), Joseph Stiglitz (2019), Philippe Aghion et alii (2021), Thomas Piketty (2020), World Business Council for Sustainable Development (WBCSD 2010, 2019). The first six are advocates for the effectiveness and efficiency of competitive markets and their ability to generate growth and well-being. They also recognize the flaws in the price and market system when dominated by large companies in a situation of market power and political power. They note in particular the role of the markets in the generation of significant inequalities of income and wealth and recognize, in order to plug these loopholes, the preponderant roles of truthful prices, well-designed regulation, and open competition, just as demanding as benevolent and benefactor. The seventh reform project is more a reform of participatory socialism.

As for the last project (WBCSD), it emphasizes the notion of "true value" that companies would not be directly inclined to generate, focusing instead on "financial value". The WBCSD claims that "capitalism itself needs to be reoriented to serve a new purpose: not simply the pursuit of financial profits and economic efficiency, but the pursuit of true value, preserving and enhancing natural, social and financial capital."

But before proceeding with very brief descriptions of these eight retained reform proposals, we need to define capitalism and give a succinct overview of its currently most popular manifestations. Branko Milanovic (2019)<sup>78</sup> will serve as our guide. In his opinion, capitalism not only became the dominant economic paradigm, especially after the spectacular collapse of communism in 1989, but it is, in fact, the only one still remaining on the international scene.

The capitalist nature of this (only) system is manifest in the fact that the production of goods and services is primarily motivated by profit, bringing together labour from workers who are legally free, hired, and compensated, and privately owned capital, while the whole is coordinated by a decentralized system of prices. This capitalism comes in two flavours: liberal meritocratic capitalism, principally exemplified by the United States and the European Union, and political capitalism, of which the best example is China.

Under liberal meritocratic capitalism, investments are essentially decided by private firms and independent entrepreneurs in a setting of equal opportunity based on merit (or talent), entrepreneurial freedom, and social and economic mobility that is determined by performance in wealth creation. According to Milanovic, this brand of capitalism leads over time to a high

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owners of large enterprises. This does not destroy, but does alter, the nature of capitalism. Drucker predicts that postcapitalist society will become a society of organizations in which social classes will be divided into knowledge and service classes. He expected the transformation to postcapitalism to be completed by 2010–2020. He also argues in favour of a reform of intellectual property by the creation of a universal licensing system. Consumers would subscribe at a given cost, and producers could use, reproduce, and distribute protected works freely.

<sup>78</sup> Branko Milanovic, *Capitalism, Alone*, Harvard University Press 2019.



level of income and wealth inequality and the emergence of a rich upper class, the propagation of which is less and less ensured by merit-based equality of opportunity. Through a process of entrenchment, this rich upper class has managed to form an elite and resist contestation by new talents and skills and by new entrepreneurs seeking upward mobility. The biggest challenge in liberal meritocratic capitalism is to find a way to prevent this oligarchy from using various tools at its disposal to become entrenched, leading to a decline in equality of merit-based opportunity.

Political capitalism, which is best exemplified by China, is also capitalism in that its primary motivation is profit and in being organized around firms that bring together free labour and private capital and choose their output and prices in a decentralized fashion. According to Milanovic, government control of production, which was nearly 100 per cent prior to 1978 and still over 50 per cent in 1998, only represents approximately 20 per cent today. The share of private investment has attained 65 per cent, and private urban employment is 85 per cent. The main feature of this political capitalism is the existence of a powerful bureaucracy whose role is to implement policies designed to promote the pursuit and attainment of robust economic growth. Its second key characteristic is the absence of rule of law and checks and balances on the interventionist government. Arbitrating conflicts between these two characteristics and resisting systemic, endemic, and inequality-generating corruption, which is inevitable in the absence of rule of law, are the two main challenges to political capitalism.

We would add here that the role played by competition in promoting efficiency and effectiveness in production and investment under the responsibility of the private sector has no counterpart in the sense of competition between tiers of government or multiple decentralized checks and balances within the governmental apparatus.

### 3.1 Reforming Capitalism (Zingales, Mason, Tirole, The Economist, Stiglitz, Aghion, Piketty)

*Luigi Zingales' (2012) reform of capitalism*<sup>79</sup>

Luigi Zingales sets himself the goal of, not only sounding the alarm regarding the cancer of collusive and crony capitalism, but also of defining a program for eradicating this cancer before it metastasizes. This program is spearheaded by a reaffirmation of the power of competition. Zingales claims that the absence of competition and major distortions caused by all sorts of government subsidies underlie all of today's economic ills (he published his book in 2012), including declining real incomes of the middle class. His goal is thus to harness the power of competition and to define the conditions conducive to it playing a positive role, in particular the

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<sup>79</sup> Luigi Zingales, *A Capitalism for the People – Recapturing the Lost Genius of American Prosperity*, Basic Books 2012.

affirmation of a simplified and transparent regulation of property rights and the right to compete, and the information sharing required for balanced transactions between economic agents.

To Zingales, competition curbs a firm's ability to earn supra-competitive profits, makes the benefits of innovation available to consumers, and promotes efficiency and effectiveness and thus meritocracy. Under this system, responsibilities fall on the shoulders of those most able to bear them and equitable compensation is ensured. Consequently, economists should be more concerned with studying the actual health of competition than with deriving results about the benefits of competition on the premise that it actually exists. For these benefits to be a reality, markets have to be open and transparent and conditions for free entry in place. Robust competition is the best bulwark against monopolization and the entrenchment of crony capitalism.

Zingales also warns against PPPs in which the government and business are partners. It is necessary to be vigilant regarding the promises of these PPPs, so that the vision of the efficiency and effectiveness of the private sector merging with the social goals of the public sector is not, somehow, disastrously reversed, with the social objectives of the private sector being joined with the efficiency and effectiveness of the public sector! The example of Fannie Mae and Freddie Mac in the United States is a most eloquent illustration of PPPs gone bad. According to Zingales, the greatest advantage of Fannie Mae and Freddie Mac was that they benefited from government backing of their loans. It is estimated<sup>80</sup> that this benefit represented some \$10.7 billion in 2000 and \$19.6 billion in 2003. Only two-thirds of this was recuperated by the borrowers that the government intended to subsidize, with the remaining one-third being misappropriated by private shareholders and managers at the expense of taxpayers.<sup>81</sup>

The program espoused by Zingales is designed to strengthen competition and the economy of competitive markets by means of a more aggressive stance against the uncompetitive

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<sup>80</sup> Congressional Budget Office, "Updated estimates of the Subsidies to the Housing GSEs," April 2004. <https://www.cbo.gov/sites/default/files/108th-congress-2003-2004/reports/04-08-gse.pdf> (Table 5)

<sup>81</sup> Marcel Boyer writes in "Growing out of the Crisis and Recessions : Regulating Systemic Financial Institutions and Redefining Government Responsibilities" (CIRANO 2015s-01 (<http://www.cirano.qc.ca/files/publications/2015s-01.pdf>): "Despite a 2002 study released by Fannie Mae which argued that it was very unlikely that the two government-sponsored enterprises *would ever require* a government bailout (Joseph E. Stiglitz, Jonathan M. Orszag, Peter R. Orszag, "Implications of the New Fannie Mae and Freddie Mac Risk-based Capital Standard," *Fannie Mae Papers*, Vol. 1, Issue 2, March 2002), one can read in the U.S. Financial Crisis Inquiry Commission (FCIC) report of January 2011 that unfortunately, the balancing act ultimately failed and both companies were placed into conservatorship, costing the U.S. taxpayers \$151 billion so far."

development and propagation of market power and crony capitalism<sup>82</sup> and a more vigorous defence of freedom, democracy, and social mobility.

The battle against income and wealth inequality, which is attributable to inequality of opportunity (education) and barriers to entry, in short unjustified limitations on economic contestation, is grounded in the intensification of competition at all levels, yielding better measures of performance, developing an incentive social safety net focussed on the benefits of insurance<sup>83</sup> and conducive to productivity gains, and driving a reinvention of competition policy that makes it more focused on protecting competition.

It is not always straightforward to distinguish between good and bad interventions or approaches that are designed to protect competition. It is here that economic ethics, social capital, social norms, limits to lobbying, efficient taxation, responsible finance, and the creation of markets to internalize externalities come into play, all of which are addressed directly or indirectly by Zingales.

This list could include the creation of markets and institutions to counteract the “tragedy of the commons,” tragedy of common property or common use (too many private exploitation permits leading to resource depletion), and the “tragedy of the anticommons,” undue curbs on socially profitable exploitation (too many veto rights leading to a systematic blockage of all exploitation).

In conclusion, Zingales reiterates that a pro-market policy is not a pro-business policy, and that the true genius of capitalism is not in private property or the pursuit of profit, but rather in competition. In the final analysis, the reason for the phenomenal success of the market economy lies in competition, properly framed and promoted by appropriate rules of social and financial responsibility, accountability, freedom, democracy, and ethical and responsible governance.<sup>84</sup>

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<sup>82</sup> The worst collusive, or crony, capitalists are those who can drape their requests for protection and subsidies in the flag of a noble cause, such as the pursuit of a common good or the defence of the national interest. Thus, Zingales identifies academics (professors and administrators of schools, colleges, and universities) as among the worst crony capitalists around. We might add farmers and national champions or so-called “national gems or florets (fleurons)”, among others.

<sup>83</sup> We might consider Claude Montmarquette’s PIR to fall under this grouping “Proportional Income Reimbursement (PIR): A system for student loans that combines efficiency and accessibility,” CIRANO 2006RP-08, 2006. <https://cirano.qc.ca/files/publications/2006RP-08.pdf>

<sup>84</sup> A more general and comprehensive discussion of the links between competition, innovation, and growth can be found in Aghion et al. (2021). See the discussion of their proposals for reforming capitalism below.

*Paul Mason's (2015) reform of capitalism*<sup>85</sup>

Paul Mason asserts that a postcapitalism<sup>86</sup> will emerge from new automation and information technologies (IT) characterized by a proliferation of informational goods that are reproducible at zero cost (and thus free), a reduced requirement for labour or human capital, and a rise of collaborative production. Mason sees increasing income inequality, the recurrence of very long economic cycles (as Kondratiev cycles), and climate change as relatively direct consequences of capitalism. Many economists, policy analysts, and philosophers have started seriously reflecting on the emergence and functioning of a postcapitalist society.

For Mason, the evolution and increasing sophistication of automation and information technologies threaten jobs and shine a spotlight on the internal contradictions of capitalism—which will ultimately lead to its collapse. Just like horses were progressively rendered obsolete by the invention of the automobile, human labour has been affected throughout history and will continue to be in the future. A modern example of technological unemployment is the replacement of cashiers by self-checkout lanes in retail stores. Today, technological developments are threatening jobs on an unprecedented scale.

Mason continues by asserting that, if this leads to a world in which human labour is no longer required, our current models of the market system, which rely on scarcity, will need to adapt or vanish in the postcapitalist world.

Postcapitalism is the upshot of major changes brought about by information technologies in recent years. Mason asserts that these technologies have blurred the boundaries between work and leisure and driven a wedge between work and wages. Information undermines the market's ability to correctly form prices (truth in pricing), since information is abundant and information goods can be reproduced at zero cost. There is a cost to producing goods like music, software, and databases, but once they are created they can be copy-pasted endlessly.

If the normal price setting mechanisms of capitalism prevail, then the price of any good that has no inherent reproduction cost will fall to zero. This loss of scarcity creates a problem for our economic models, which we strive to circumvent by creating vast technological monopolies that allow scarcity and the commercial value of information goods to be maintained.

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<sup>85</sup> Paul Mason, *PostCapitalism : A Guide to Our Future*, London: Allen Lane, 2015.

<sup>86</sup> A generic term to describe the future of today's capitalism based on private property, competitive markets, entrepreneurial freedom, government regulation—a future that will spring from developments in information technologies (IT), encroaching government powers, the apocalyptic consequences of climate change, etc. This is sometimes called info-capitalism, network capitalism, the new capitalism, social capitalism, etc.

The problem with Paul Mason’s somewhat poetic reasoning is that informational goods and assets—the very ones that IT allows us to produce at a high fixed costs and reproduce at a zero marginal cost—can only be produced, distributed, and consumed by using limited resources and, therefore, at a non-nil marginal cost: labour, machinery, natural resources, and skills in the production and use of IT and information goods, assets and processes. These resources remain scarce, and are perhaps increasingly so. IT has created enormous potential. However, as expected, it has simultaneously exposed and exacerbated unsuspected scarcities. An economy that is completely free and totally immaterial is more an expression of utopianism than economic analysis. In this sense, IT creates particular, and significant, economic issues, but the era of postcapitalism that it could supposedly usher in is still compatible with the “complex and evolving” organism that is capitalism, properly understood.

#### *Jean Tirole’s (2016) reform of capitalism*

Jean Tirole<sup>87</sup> broaches the reform of capitalism from the angle of relationships between an imperfect system of competitive markets and an imperfect government with inalienable responsibilities. The choice isn’t between markets or government, but rather between more or less efficient markets, and a government that is more or less clear-sighted, including about its own limitations. Reforms are needed to both markets and government.

Tirole recalls how the presentation by Jean-Jacques Laffont of his report *Étapes vers un État moderne – Une analyse économique* (1999) to the French Council of Economic Analysis unleashed a wave of indignation among the policy-makers, academics, and top bureaucrats in attendance: the report was dismissed as heresy. However, Laffont was only presenting an economic perspective in which the government reacts to incentives, can be captured by various interest groups, and may wish to pursue objectives other than the wellbeing of the population: Economics, truly the “dismal science.”

On one hand, Tirole issues a reminder of the power of the efficiency and integrity harnessed by markets, undergirded by the freedom of entrepreneurship and commerce and by dynamic competition between companies. On the other hand, he speaks to the failures of markets insofar as, left to themselves, market exchanges may affect third parties without their consent, reflect temporary irrationality of the participants, lead to over-indebtedness of consumers who are poorly equipped to resist the lure of easy credit, succumb to the sway of non-competitive markets, and ultimately generate significant inequalities if only because of the absence of important useful “markets,” such as various insurance markets and social safety nets, among others.

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<sup>87</sup> Jean Tirole, *Économie du bien commun*, Presses Universitaires de France 2016.

Similarly, the government, when left to its own without effective checks and balances, is in danger of being captured by lobbyists, sinking into collusive and crony capitalism, lying to ill-informed voters (populism), and profiting from policies whose costs are dispersed and barely noticed and whose benefits are concentrated and very much noticed, and more or less legally cooking the books in public finances. This list is not exhaustive.

The engine of growth and wellbeing, capitalism at the service of the common good, must receive ongoing tuneups, both sporadic and routine, to improve the functioning of markets and businesses, in the case of the latter this includes their social responsibilities, to improve the prevalence of truth in pricing,<sup>88</sup> and to improve government interventions, which are sometimes necessary correctives and sometimes ill-advised meddling.

### *The Economist's (2018) reform of capitalism*<sup>89</sup>

In September and November of 2018 *The Economist* published two special reports on the future of capitalism. The first, “A manifesto for renewing liberalism / Reinventing liberalism for the 21st century,” states that liberals have become a complaisant and inward-looking elite who need to rediscover their fire. The second “Competition – Trustbusting in the 21st century” contains a series of articles on the common theme of calling for a pro-competition liberation movement to bring to heel companies earning excessive profits and to ensure that innovation continues to flower. According to *The Economist*, since 1977 indices of concentration have increased in three out of four industries and dominant businesses are increasingly difficult to dethrone. Although globalization has allowed excess profits to be curbed, returns have increased greatly in protected industries while the quality of the goods and services they supply has deteriorated.

*The Economist* proposes a three-prong plan of attack, asserting that the true spirit of liberalism is not self-perpetuation, but rather radicalism and disruption.

First, intellectual property should serve to foster innovation and not to protect established firms. Two measures would be particularly effective: Require platforms to grant access to competitors under competitive terms, as was done in the case of networks (like telecoms, for example), and tighten controls on patents to make them harder to obtain, shorter in duration,

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<sup>88</sup> Jean Tirole ironically refers to the case of carbon pricing: The government, wanting to make economic agents take responsibility, should tell them; “If you emit one ton of CO<sub>2</sub>, it will cost you 50 or 100 € (of course, we are in a world of economics-fiction here!) It’s your call!”

<sup>89</sup> *The Economist*, “A manifesto for renewing liberalism / Reinventing liberalism for the 21st century,” September 13, 2018; and “Competition - Trustbusting in the 21st century,” November 15, 2018.

and easier to contest in court. Maintaining vigorous competition should have precedence over protecting intellectual property.

Next, antitrust authorities should aggressively dismantle barriers to entry and pursue pro-competition policies with greater emphasis on stronger measures to encourage the arrival of new players on the market. To do this, governments must prohibit abusive non-compete clauses and nonessential professional certification requirements and simplify the complex regulations written by industry lobbyists.

Finally, antitrust authorities must pay more attention to the overall level of competition in the economy and to excess profits in various industries. *The Economist* asserts that there is nothing wrong with enhancing consumer wellbeing by targeting monopolistic behaviour.

*Joseph Stiglitz' (2019) reform of capitalism*<sup>90</sup>

Joseph Stiglitz starts from the premise that the United States has the highest level of inequality among advanced economies, and one of the lowest levels of social and economic opportunity and mobility. He asserts that there is an alternative, which he calls progressive capitalism. This progressive capitalism is not an oxymoron. It is based on the idea that the power of competitive markets can be harnessed to the service of society in general owing to their role as engines of growth and wellbeing.

For Stiglitz, standards of living have been rising for over two centuries because of scientific innovation and the evolution of social organization, as reflected in institutions such as the rule of law and democracies endowed with checks and balances. The true source of a nation's wealth is its citizens' capacity for creativity and innovation.

To increase their wealth, individuals can either add to the nation's "economic pie" (wealth creation) or they can seize a bigger piece of the pie by either exploiting others or by abusing market power or insider information (cornering wealth or rent seeking). At the same time as the information economy (which deals with ubiquitous situations where information is imperfect and incomplete),<sup>91</sup> behavioural economics, and game theory were clearly demonstrating that markets left to themselves can be inefficient, unjust, unstable, and irrational, government policy in the United States was increasingly relying on unleashing its market system and reducing social protections.

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<sup>90</sup> Joseph Stiglitz, *People, Power, and Profits – Progressive Capitalism for an Age of Discontent*, W.W. Norton, 2019.

<sup>91</sup> Joseph Stiglitz was a key player in these developments. In 2001, he was awarded a Nobel Prize for his contributions to information economics.

The result is a U.S. economy that is characterized by more exploitation and less wealth creation. The gutting of antitrust laws and lax application of what remained, combined with the inability of regulators to adapt to changes and innovations in the accumulation and abuse of market power, have had the effect of rendering markets more concentrated and less competitive. In order to play their role, markets must be structured around rules and regulations, and these rules and regulations must be vigorously enforced.

Stiglitz proposes that the way out of this morass begins with recognizing the vital role played by the government in placing markets at the service of society, in ensuring that market regulation guarantees robust competition without abuses, and in aligning the interests of businesses with those of their workers, suppliers, and clients.

At the level of government policy, Stiglitz identifies many other areas in which government intervention is required: protection against unemployment and disability, pensions with low administrative costs, protection against inflation, the development of adequate infrastructure, provision of high-quality universal education, and adequate support for fundamental research.

According to Stiglitz, progressive capitalism amounts to a new social contract, with a basket of public policies centred on the production and distribution of public and social goods and services that are typically under the aegis of the government, and a policy of safeguarding, overseeing, and promoting competitive markets and effective pro-competition institutions.

Nothing in Stiglitz' project indicates whether the production and distribution of public and social goods and services are, or should be, subjected to competition. While several features of Stiglitz' progressive capitalism and the social democratic model are compatible, especially their shared emphasis on the development of a basket of public and social goods and services and an effective, even aggressive, competition policy, the two models have several important differences.

#### *Philippe Aghion's (2021) reform of capitalism*<sup>92</sup>

Philippe Aghion and his co-authors see capitalism through the eyes of Schumpeter's creative destruction process or competition for innovation, more or less tempered by the implementation of a social safety net. For Aghion, we must accompany, but not prevent, the process of creative destruction, mainly through proper regulation.

The power of creative destruction lies above all in its tremendous capacity to generate growth. The market economy, because it breeds creative destruction, is inherently disruptive.

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<sup>92</sup> Philippe Aghion, Céline Antonin, Simon Bunel, *The Power of Creative Destruction*, Harvard University Press, 2021.



Historically, it has proven to be a formidable engine of prosperity, raising our societies to levels of development unimaginable two hundred years ago. The challenge is then to better understand the springs of this power in order to then orient it in the direction we collectively wish, that is, in search of a more sustainable and shared prosperity.

In developed countries, capitalism has become more protective and more inclusive over time, thanks above all to the struggles led by civil society (unions, progressive parties, the media). The intervention of visionary minds to change the government apparatus in response to pressure from civil society has also been instrumental.

Aghion strongly believes in the reasoned marriage of convenience or potential fusion of a more cutthroat and aggressive capitalism (USA) and a more cuddly and inclusive capitalism (Denmark, Sweden, Germany) for at least two reasons. First, the reforms towards more protection and inclusion in the United States have been done without hampering innovation, while the reforms facilitating innovation and creative destruction in Germany and Scandinavia have not led to a fundamental questioning of social protection systems and public services in these countries. Second, between innovation and inclusion - or between innovation and protection - what is being played is not a zero-sum game, quite the contrary.

Facilitating the entry of new innovative companies and awakening the vocations of researchers stimulate innovation and growth while making both more inclusive. A well-designed incentive-based flexisecurity in the labor market insures the individual against the negative consequences of a job loss, in particular on his health, while encouraging him/her to keep training to better prepare for a new job: the consequence is a better protection for individuals and a more intensive process of creative destruction.

#### *Thomas Piketty's (2020) reform of capitalism / socialism*

Thomas Piketty<sup>93</sup> caps the 17th and last chapter of his work under the title "Elements for a participatory socialism in the 21st century". Thus, it is less a project of reform of capitalism than a project of reform of socialism. Either way, Piketty's reform project is heavily focused on mechanisms that would reduce "hyper-inequalities" in favor of "fair inequality."

For Piketty, "Yet the new hyper-inegalitarian narrative that has taken hold since the 1980s is not ordained by fate. While it is partly a product of history and of the communist debacle, it is also a consequence of the failure to disseminate knowledge, of disciplinary barriers that are too rigid, and of insufficient citizen appropriation of economic and financial issues, which are too often left to others." An important element of his project is: "The notion of permanent private

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<sup>93</sup> Thomas Piketty, *Capitalism and Ideology*, Harvard University Press 2020.

ownership will need to be replaced by temporary private ownership, which will require steeply progressive taxes on large concentrations of property. The proceeds of the wealth tax will then be parceled out to every citizen in the form of a universal capital endowment, thus ensuring permanent circulation of property and wealth. ... A just society in no way requires absolute uniformity or equality. To the extent that income and wealth inequalities are the result of different aspirations and distinct life choices or permit improvement of the standard of living and expansion of the opportunities available to the disadvantaged, they may be considered just.” For Piketty, proprietorship, defined as the absolute defense of private property, and capitalism, defined as the extension of proprietorship to industry, are based on the concentration of economic power which allows the owners of capital to decide sovereignly who to hire and for what salary.

One must realize that this is obviously a particularly reductive view of capitalism, especially when it is subject to competition. In the characterization of capitalist, socialist or cooperative, labor, or ideist enterprises in subsection 1.3 above, the residual decision-making power will always rest with the group paid last, namely financial capital (capitalist enterprise), human capital (labor enterprise), or the intellectual capital (ideist company). And the compensation for the various resources used in the production of goods and services useful to buying customers will have to respect two constraints: first, the total compensation paid to all factors cannot systematically exceed the total revenue that citizens will agree to pay the company in exchange for the goods and services produced; then, the amount paid to each factor and the value of its best alternative use must occur or be calculated on a risk-adjusted basis. The mechanisms of value creation are well known and, unfortunately, it is not magic.

For Piketty, the progressive property tax appears to be an indispensable tool to ensure greater circulation and wider dissemination of property. Piketty recognizes the the progressive tax has never made it possible to distribute property to the poorest 50%, which can only limit their participation in economic life, and in particular in the creation of companies and their governance. To get there, we have to go further. According to Piketty, the most logical way to do this would be to put in place a system of capital endowment paid to every young adult (for example at the age of 25) and financed by a progressive tax on private property. By construction, such a system makes it possible to diffuse ownership at the base while limiting its concentration at the top.

Before raising a few questions about this project of reform of capitalism, let us recall the summary of the reform as expressed by Piketty himself: “The model of participatory socialism proposed here rests on two key pillars: first, social ownership and shared voting rights in firms, and second, temporary ownership and circulation of capital. These are the essential tools for

transcending the current system of private ownership. By combining them, we can achieve a system of ownership that has little in common with today's private capitalism; indeed, it amounts to a genuine transcendence of capitalism."

Two comments come to mind when faced with this announced overtaking of capitalism: on the one hand, accounting is not economics and the way of cutting the cake does not increase its size, and on the other hand, the commonality of property will not escape the tragedy of the commons.<sup>94</sup> If a common good or asset or common property is not adequately priced, economic agents, whether cooperatives, private or public firms, trade unions, consumers, governments, NGOs, or religious organizations, tend to overexploit it, thereby threatening its survival.

Is it necessary to recall here the 1959-1961 food crisis in China<sup>95</sup>? Agricultural collectivization in China began around 1952 and was immediately a striking success: farm output skyrocketed between 1952 and 1958. Production cooperatives can be extremely profitable in contexts where information can be manipulated, provided that certain organizational characteristics allowing for the coordination and incentivization of effort are present. It appears that the organizational structure of the first Chinese agricultural cooperatives satisfied these requirements.

However, in 1959 grain production fell by 15 per cent and then, in 1960 and 1961, it held at more than 30 per cent below 1958 levels. Why? Justin Yifu Lin (1990),<sup>96</sup> who was an economist at the University of Beijing at that time, attributes most of the fall in production to a modification of the organization of the cooperatives that significantly reduced the scope for effective coordination and eliminated incentives, resulting in a famine that caused an estimated 30 million deaths! What had happened?

In 1957 there were 735 000 cooperatives with 119 000 000 member households, or an average of 160 households per cooperative. Following the success of the first cooperatives, the Chinese government decided in 1958–1959 to extend the collectivization project to all agricultural

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<sup>94</sup> Recall: Garrett Hardin (1968), "The Tragedy of the Commons", *Science* 162 (3859), 1243-1248.

<sup>95</sup> Marcel Boyer, "L'économie des organisations : mythes et réalités", Conférence présidentielle (SCSE), *Actualité économique / Revue d'analyse économique* 72, 1996, 247–274.

<sup>96</sup> Justin Y. Lin (1990), "Collectivisation and China's agricultural crisis in 1959–61," *Journal of Political Economy* 98, 1228–52 ; Justin Y. Lin and D.T. Yang (2000), "Food Availability, Entitlements and the Chinese Famine of 1959–61," *The Economic Journal* 110, 136–158. Also see Ezra F. Vogel, *Deng Xiaoping and the Transformation of China* (Belknap Harvard 2011) who writes (page 41): "The misguided Great Leap Forward caused devastation throughout China. Starvation was widespread. After peasants were organized in huge communes with mess halls so that more of them could work on large poorly planned construction projects or in the fields, they could see that those who performed no work were fed as well as the others and they lost any incentive to work, causing a great drop in the size of the harvests; many mess halls ran out of food."

production. The cooperatives were amalgamated into 22 000 communes that covered almost the totality of the Chinese territory and comprised an average of 5000 households.

Prior to 1959, cooperative members had the option of withdrawing (their families' labour and physical capital) in order to possibly join another cooperative if they believed that productivity, or their share of the proceeds, were inadequate.

Various organizational changes were instituted in 1958–59. The right of withdrawal was abolished to simplify administration of the system. The compensation method was also changed from a redistribution of the benefits based on merit points to a system primarily based on members' needs, independent of productivity. Furthermore, control of each member's contribution, which was possible when there were 160 households in the cooperative who could keep an eye on each other, became impossible with 5000 households. Withdrawal of the member's right to leave the cooperative and join another voided the threat that made all members more productive.

Although there is no consensus on the specific effect of each one of these organizational changes, it is clear that their overall impact on effort and productivity levels was disastrous and led to the famine. Intentions were most likely good, but replacing competence and rationality with incompetence and ideology ended up causing 30 million deaths! Ultimately, it's not intentions that matter, but competence and results. China had to wait for the decollectivization of the eighties to recoup the productivity levels posted before 1959!

### [3.2 The WBCSD reform plan \(2010, 2019\)](#)

The World Business Council for Sustainable Development is an organization of some 200 large companies from all regions of the world dedicated to developing governance focused on the pursuit of "real value" rather than the mere pursuit of financial returns. Pursuing real value means promoting value creation that takes into account long-term environmental impacts and both personal and social well-being and based on prices that integrate all externalities in both costs and benefits. It means also (re)orienting capitalism towards the pursuit of true value focused on the protection and enhancement of natural, social and financial capital rather than on the pursuit of financial profits and economic efficiency.

The language of the WBCSD makes a distinction between the extraction of value by current capitalism and the creation of real value by renewed capitalism. Words matter: extracting value versus creating value. Renewed capitalism is a capitalism oriented to all stakeholders rather than focused on maximizing shareholder value, internalizing its impacts rather than

externalizing them, committed to the long-term rather than short-term,<sup>97</sup> focused on regeneration rather than on degeneration, and taking responsibility rather than relinquishing it.

The WBCSD recognizes that capitalism, more specifically the combination of for-profit enterprises and competitive markets, has made essential contributions to rising living standards, innovation and value creation. But this capitalism, the main source of the historic gains in prosperity and progress, has now become the most important threat to the pursuit of this development. The future rests on harnessing the power of this marriage between for-profit companies and competitive markets for the benefit of real value creation, that is to say, value creation that internalizes environmental costs and benefits and social. These costs and benefits must be reflected in the relative prices of products, goods and services, in the results (profitability) of companies, in the costs of capital and in market valuations.

Few economists will challenge the plans or reforms of the WBCSD, which closely resemble the goals championed by the Business Roundtable. Where the shoe pinches are in the means to implement to achieve this better governance. The languages of the WBCSD and the Business Roundtable both suffer from a form of suspicious bombast. The virtuous discourse on the governance of companies and organizations, public and private, are too often façade discourse that conceals a scroll of responsibility allowed and encouraged by the impossibility of a performance incentive measure as desired in the beginning.

Do not bite off more than you can chew, as the adage says. This is somewhat the case with the WBCSD and the Business Roundtable programs, virtuous but pursuing the wrong target. Let us recall here the affirmation of Vivek Ramaswamy mentioned in the introduction: “The answer is not to force capitalism into an arranged marriage with democracy. What we really need is a clean divorce.”

### 3.3 The key role of competition

The model of competitive markets can experience drifts if poorly framed and left to itself. The competition that is beneficial and generates efficiency and effectiveness, growth and well-being is that which corresponds to the precepts of the authors of the analyzes and projects of reform of capitalism mentioned above. It is that which is at the base of true social democracy which we will discuss later.

This effective competition will be fought by all those who benefit financially, economically or politically from its deficiencies or abuses, whether these profiteers are of the rogue capitalist or

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<sup>97</sup> See the op-ed of Jamie Dimon (JPMorgan Chase) and Warren E. Buffett (Berkshire Hathaway) of June 6 2018 in the Wall Street Journal stressing that short-termism is bad for business that should abandon the quarterly objectives in favor of annual or multiannual ones.

crony capitalist type, of the apparent defender of the public good, ill-informed and in need of control power, or the consumer happy to take advantage of a bargain at the wrong price (free for example) even if this bargain will *in fine* harm both their well-being and the well-being of their fellow citizens.

As I will develop below, the real generators of wealth and well-being for all are not low prices but right or proper prices, i.e. the prices that send the right signals of value and scarcity to consumers and producers. These prices are competitive prices, thereby constrained by competition or determined by competition or by mechanisms emulating competition.

I would add that competition authorities should place more emphasis, and have more resources to do so, on maintaining competition in the medium and long term by restricting the principle of legal defense of mergers and acquisitions on the basis of potential or expected economies of scale or of scope.

The Tervita case in Canada is a good example of this (Tervita Corp. v Canada Commissioner of Competition 2015 SCC 3). The Supreme Court of Canada ruled that the merger could be completed because the Commissioner had not provided a quantitative measure of the impact of the merger on competition. The court has thereby reduced the presumption of beneficial maintenance of competition.<sup>98</sup>

Two examples of policies will suffice to illustrate this policy. In order to implement a presumption of beneficial development and maintenance of competition, there should be a reasoned prohibition of professional licensing requirements when people are not in direct contact with the generally poorly informed or uninformed public. Likewise, competition authorities should defend and apply relevant total cost sharing rules rather than avoidable cost rules in the analysis of predatory pricing practices, in order to emphasize the importance of maintaining medium and long-term competition rather than grabbing short-term efficiency gains.

The proposed reform of capitalism presented below, namely the New Competition-based Capitalism (NCC), revolves around such an effective competition model.

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<sup>98</sup> <https://scc-csc.lexum.com/scc-csc/scc-csc/en/item/14603/index.do>. The supreme court has thus considerably increased the importance of economic analysis - in particular quantitative economic analyzes - in merger reviews, but at the same time it has reduced the presumption of beneficial maintenance of competition. For a detailed analysis of this case, see Marcel Boyer, Thomas Ross et Ralph Winter (2017), "The rise of economics in competition policy : A Canadian perspective", *Canadian Journal of Economics* 50(5), 50<sup>th</sup> Anniversary Issue, December 2017, 1489-1524.

## 4. The New Competition-based Capitalism (NCC): a ten-point reform

For economists, the credible agenda is one that focuses on competitive markets, the taxation of externalities and the regulation of liability well aligned with the needs of a proper intensity of incentives. The right signals are then sent to companies which can pursue search for profitability: produce goods and services that are useful to customers, ensure their employees a total compensation competitively tied to the value of their best alternative use, compensate their suppliers at a level competitively tied to the value of the best alternative use of the goods supplied and the services rendered by these suppliers.

Suppliers are here understood in a broad sense and include suppliers of short term and long term environmental and social good and services as well as the suppliers of financial capital, both loans and equity, which the companies need to produce the goods and services they intend to offer to their clients. A properly intensive competitive environment will bring economic profits (not accounting profits), defined as the difference between revenues and all costs, including the properly measured costs of borrowed and equity capital, to zero on average or in expected terms.

Some of the proposals below will appear to some as controversial, even extreme, and to be particularly unlikely to have any realistic chance of success. The objective here is to set objectives and policies aimed to maximize social wellbeing, not to formulate implementation strategies or politically correct proposals. In many cases however, implementation strategies are readily available, if challenging and not politically easy or obvious.

- 1. Implement ESG-type programs based on the promotion/development/maintenance of competitive prices and markets by inducing firms to include in the formulation of their mission their desire to avoid doing business with “heavily” subsidized firms, whether suppliers or clients, or at least voice their hesitation/opposition to doing so.**

Insofar as effective competition, competition-emulating institutions and regulations as well as competitive prices (including carbon taxes and their equivalent in other fields) are significant sources of incentives, innovation, productivity gains and improvement in social wellbeing, an ESG-type requirement for firms in the NCC is that they refrain from interacting actively with businesses that thrive on public direct or indirect subsidies, at least as much as possible. The reason is that the manipulated prices at which the products, goods and services bought or sold by such businesses do not represent a credible signal of their value or scarcity. The ultimate example is the environment itself whose price may be or is set at an inefficiently low level. It is difficult to determine the total amount of such public subsidies, but they are clearly astronomical.

One objective of NCC is therefore procurement and investment policies that oppose price manipulations. It would be interesting to develop a price manipulation index by industry, sector, region or even country. Price manipulations, whether from the private sector (cartels) or the public sector, is antinomic to NCC. The true economic ethic is first and foremost an ethic of efficiency and effectiveness based on competitive prices.

**2. Strictly constrain the power of business to intervene in politics and the power of politicians to intervene directly in businesses in order to separate/dissociate business and politics as well as separate/dissociate capitalism and the process of electoral expression in democracy.**

Following Zingalès and Ramaswamy,<sup>99</sup> this divorce between business and politics is an essential element of NCC. As I mentioned in the Introduction, competition intensity will favor the emergence of efficient firms and the closing of inefficient ones. Competitive markets for factors of production and for end products, goods and services, favor the proper value accounting, making sure that firms compensate their factors at their best alternative use and commercialize valuable goods and services for end consumers and businesses. When all factors of production are directly or indirectly priced at their competitive value, and all end products are sold directly or indirectly at competitive prices, the firms, competing with each other including forthcoming new innovative firms, will be forced either to use an optimal blend of factors properly compensated at their best alternative value (opportunity cost) to produce an appropriate set of end products thereby generating a net social value and creating wealth, or go out of business or even go bankrupt. There is no need or reason for business to interact with politics, if not to pursue anti-competitive advantages.

The role of CEOs is to be business leaders, not social or political leaders. And the role of social or political leaders is not to be business leaders. To each his own profession and the cows, goats, and more will be fine.

**3. Favor the internalization of significant externalities, in particular in environmental degradation (GHG emissions), through the creation of markets, property rights, fiscal rules (significant and increasing over time carbon tax) and incentive regulations in such a way as to avoid both the tragedy of the commons,<sup>100</sup> the tragedy of the**

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<sup>99</sup> See also Raghuram G. Rajan (2019), *The Third Pillar: How Markets and the State Leave the Community Behind*, Penguin Press.

<sup>100</sup> Recall: Garrett Hardin (1968), "The Tragedy of the Commons", *Science* 162 (3859), 1243-1248. Hardin writes (page 1244): "Adam Smith... contributed to a dominant tendency of thought that has ever since interfered with positive action based on rational analysis, namely, the tendency to assume that decisions reached individually will, in fact, be the best decisions for an entire society. If this assumption is correct it justifies the continuance of our present policy of laissez-faire in reproduction. If it is correct we can assume that men will control their individual



**anticommons,<sup>101</sup> as well as a non-optimal use of petrochemical resources and their derivatives, and this, to favor the collective wellbeing.**

As the January 2019 consensual statement of economists<sup>102</sup> stresses, the best instrument to curb carbon emission is a carbon tax that sends a proper price signal to all economic agents, consumers, customers and businesses. Efficient and effective regulations emulating such as a carbon tax could be considered. The carbon tax should increase annually to reflect intertemporal efficiency in managing the stock of GHG in the atmosphere. Similarly, for water pollution and other manifestation of market failures. An important characteristic of such environmental taxes is social acceptability, which could be enhanced by the fiscal neutrality requirement of redistributing the tax proceeds equally among citizens.

In calibrating such environmental taxes in the use (pollution) of common air and water resources, two problems must be overcome. The tragedy of the commons, which refers to the overexploitation of common resources under inefficient pricing and regulation, and the tragedy of the anti-commons, which refers to the under-exploitation of common resources subjected to too many legal or social veto rights. Properly defined pricing, auctions and competition-emulating regulations are the preferred processes to achieve the avoidance of such tragedies.

In addition, petrochemical resources and their derivatives generate significant gains in collective well-being that we cannot do without. In order to improve the benevolent use of petrochemical resources while restricting their polluting uses, in addition to an appropriate carbon tax, regulations that favor the maintenance of benevolent uses within a general reduction of uses are needed. We may quote Michel Smith:<sup>103</sup>

“Look around you: chances are that every object within your field of vision contains refined petroleum. The varnish on your desk, the paint on your walls, the finish on your floors. Unless the chair you are sitting on is made of untreated wood, then your butt is resting on synthetic materials derived from petrochemicals. Plastic is petroleum based: the components of your phone and computer, your printer and

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fecundity so as to produce the optimum population. If the assumption is not correct, we need to reexamine our individual freedoms to see which ones are defensible. The rebuttal to the invisible hand in population control... We may well call it ‘the tragedy of the commons’.”

<sup>101</sup> Heller, Michael A. (1998), “The tragedy of the anticommons - property in the transition from Marx to markets”, *Harvard Law Review* 111 (3): 621–688. Heller writes (page 677): “A tragedy of the anticommons can occur when too many individuals have rights of exclusion in a scarce resource. The tragedy is that rational individuals, acting separately, may collectively waste the resource by underconsuming it compared with a social optimum.”

<sup>102</sup> Recall: <https://www.econstatement.org/>.

<sup>103</sup> Michael Patrick F. Smith, “The First Step Is Admitting You Have a Problem”, *New York Times*, February 5 2021. <https://www.nytimes.com/2021/02/05/opinion/fossil-fuel-oil-climate-change.html>

audio speakers. Take a sip of coffee and think about it. The glaze on our mugs comes from oil. Oil was once thought to have mystical properties... Oil has been linked to medicine ever since. More important, nearly 99% of pharmaceutical feedstocks and reagents are derived from petrochemicals. Acetylsalicylic acid, the active ingredient in aspirin, for instance, is created by a chemical reaction involving petrochemicals. Oil doesn't simply transport medicine into our systems. It isn't too far off base to say that much of medicine is oil... Refined into kerosene, oil quickly came to replace whale fat as the world's primary illuminate. It was the first spark to truly brighten millenniums of darkness. Kerosene made the day longer. It may seem mundane now, but at the time, this was described in quasi-religious terms. Like so many of the now assimilated effects of life in the carbon age, it is all but impossible not to take this for granted, but indoor lighting revolutionized life on earth... As citizens of the world, we must begin to treat petroleum with the respect it deserves. We must value it, like our very lives, as a precious, almost magical, but certainly finite resource. Then we can begin to do the meaningful work that nurtures our planet, nurtures our friendships, and creates lives of joy."

**4. Implement liability rules for environmental/industrial accidents and disasters extended to the firm's partners, whether financial, technological, or management consultants, in order to protect active and retired workers and to ensure the quick clean-up of contaminated site in case of bankruptcy and to induce firms to properly manage such risks.**

Limited liability and bankruptcy rules are jointly an impediment to a proper compensation for damages. Recall the quote above of Judge Kravitch in the Fleet Factors case. He argued that a proper incentive alignment between borrowers and lenders (and insurers) for the protection of the environment requires holding deep pocket lenders to be jointly responsible for damages. In so doing, creditors will price the risk that they face and debtors will have powerful incentives to improve their handling of hazardous wastes. Moreover, creditors will find it in their best interest to monitor the hazardous waste treatment systems and policies of their debtors and insist upon compliance with standards as a condition of financial support. The same arguments can be made for technological providers and possibly management consultants. Inducing a proper accounting of (all) costs and benefits of business activities including the risk of bankruptcy is a pillar of the NCC.

As a complementary tool to induce firms, more precisely its higher level managers and the members of its board of directors to properly manage risks, an incentive compatible

compensation system and formulas need to be developed and implemented. I will not go further down this road in this paper.<sup>104</sup>

**5. Abolish taxes on corporate profits to encourage businesses to better focus their attention on fulfilling their mission and to favor investments in R&D, productivity gains, which are significant contributing factors to growth and social well-being.**

Abolishing taxes on corporate profits, if it were generalized, would render irrelevant the fiscal competition between countries to attract businesses on their territory. The acrimonious discussions on whether fiscal competition between countries allows firms to avoid paying their fair share of taxes through fiscal optimization and tax avoidance schemes (a waste of management competencies) would become irrelevant.<sup>105</sup>

We often hear that GAFA+ (Google, Amazon, Facebook, Apple, Microsoft, Netflix), to take a well-known example, avoid paying their fair share of taxes. It is somewhat a matter of viewpoint. I estimate, on the basis of their total payroll, that income and consumption taxes paid by their employees may have reached more than some US\$32 billion in 2018-19. If we were to add taxes paid by their shareholders on dividends and capital gains, we would find out that abolishing taxes on profits would have barely perceptible net impacts if any on governments' revenues.<sup>106</sup>

REPORTED TO THE SEC				ESTIMATED: taxes paid by employees		
Firm	Median Salary	Number of employees	Estimated Total payroll	Income taxes	Consumption taxes @20% of 90% of income net of income taxes	Total of income and consumption taxes
Alphabet (Google)	246 804\$	98 771	24.4B\$	@30%, 7.3B\$	3.1B\$	10.4B\$

<sup>104</sup> Readers interested in that subject can take a look at Marcel Boyer, "The Twelve Principles of Incentive Pay", *Revue d'Économie Politique* 121(3), Dalloz, 2011, 285-306.

<sup>105</sup> The proposed global agreement on a minimum 15% tax on profits <https://www.reuters.com/business/countries-backs-global-minimum-corporate-tax-least-15-2021-07-01/> may be a great political achievement but it is not sound economics. The capacity of firms to imagine countervailing measures and the fact that some (too many) countries will not abide by the agreement or will most likely find ways to defect from the agreement are major hurdles for implementing the agreement.

<sup>106</sup> For data on worldwide payroll of the S&P 500 firms, see Marcel Boyer, "CEO Pay in Perspective", *Journal of Leadership, Accountability and Ethics* 18(3), 2021, 36-73 <https://articlegateway.com/index.php/JLAE/article/view/4407/4189> ; CIRANO 2019s-33, 52 pages. (<http://www.cirano.qc.ca/files/publications/2019s-33.pdf>, also TSE WP 1059 [https://www.tse-fr.eu/sites/default/files/TSE/documents/doc/wp/2019/wp\\_tse\\_1059.pdf](https://www.tse-fr.eu/sites/default/files/TSE/documents/doc/wp/2019/wp_tse_1059.pdf)). For the most recent data, see <https://www.bloomberg.com/graphics/ceo-pay-ratio/#MA>

Amazon	28 836\$	647 500	18.7B\$	@10%, 1.9B\$	3.0B\$	4.9B\$
Facebook	228 651\$	35 587	8.1B\$	@30%, 2.4B\$	1.0B\$	3.5B\$
Apple	55 426\$	132 000	7.3B\$	@20%, 1.5B\$	1.1B\$	2.5B\$
Microsoft	172 512\$	144 000	28.8B\$	@30%, 7.5B\$	3.1B\$	10.6B\$
Netflix	202 335\$	7 100	1.4B\$	@30%, 431M\$	181M\$	0.6B\$

Tax systems have reached a worrying level of complexity, favoring many types and forms of exemptions and loopholes, even cronyism. This is a major obstacle to an efficient allocation of resources, investments as well as R&D and innovation efforts. Economic theory could be better used in a concerted manner to reorganize the tax system to offer citizens and businesses the best incentives to use scarce resources and develop competencies to maximize the well-being of all.

**6. Expand free trade (interregional and international) while respecting partners' preexisting conditions, that is, their different stages of economic development.**

Political leaders can frequently be heard affirming the principles and benefits of international trade and lamenting the harm caused by tariffs, quotas, and other barriers to trade, which only generate unnecessary and unjustified costs on all sides of borders to the detriment of countries' national security, workers, and citizens. However, these leaders, often supported by business leaders and unions' representatives, often follow up with assurances that they are committed to protecting the interests of workers in industries likely to be affected by a greater opening of borders to trade. In so doing, they are prone to echo nearly word-for-word the statements made by those who seek to limit free trade through tariffs and other barriers.

In the same vein, some might want to use free trade and its expected benefits as leverage to persuade or incentivize potential trading partners to change their economic, social, or environmental policies. Thus, they might oppose free trade with potential partners because of the latter's policies, or lack of policies, on matters such as working conditions and worker safety, child labour, pollution, deforestation, laws protecting physical and intellectual property, laws governing competition (antitrust), etc. This use of free-trade agreements, while not wholly unreasonable and unjustified, too often conceals the goal of shielding economic, social, labour-union, cultural, or environmental (green) vested interests.

Too often the specificities of the partners are ignored under the cover of lofty posturing. Development takes time, and we cannot reasonably expect a poorer partner to immediately

adopt policies and lifestyle adjustments that wealthier partners defined, adopted, and delivered over a period of fifty years or more. An operational free-trade agreement may well be the best way to nudge a poorer country along and help it develop harmoniously while allowing the developed country to benefit from its comparative advantages.

Similarly, we are also likely to hear political and economic leaders call for preferential treatment for “made locally” over “made abroad” and put their words into action by showing themselves very generous towards chosen businesses and industries that they deemed meritorious, essential, or national champions.<sup>107</sup>

I argued elsewhere<sup>108</sup> that these are essentially examples of a populist pitch, based on poorly conducted empirical studies, academic and otherwise, and representative of crony capitalism. Rather than focussing on the true determinants of economic and social wellbeing and contributing to a better understanding of how the interregional or international economy works, they prefer to play the role of big spender, dispensing other people’s money, while banking on the ignorance and self-interested credulity of a non-negligible subgroup of the population and its elites. Those are not courses of action compatible with NCC.

Expanding free trade is a pillar of NCC as it increase the intensity of competition and the value of innovation, hence the wellbeing of all partners.

**7. In order to make concrete the presumption of beneficial development and maintenance of competition, favor the protection of competitors and new entrants against potential anti-competitive practices of incumbent firms through tougher legal constraints (Antitrust or Competition Laws) on restrictive trade practices (refusal to deal, predatory pricing, price maintenance, tied sales, abuse of dominant position, etc.), thereby allowing creative destruction to play its role.**

Favouring the protection of competitors and new entrants against potential anticompetitive practices of incumbents requires a strong institutional design and commitment towards developing and maintaining active competition.<sup>109</sup>

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<sup>107</sup> We often see the same leaders criticize similar policies by their trade partners. It is the pot calling the kettle black.

<sup>108</sup> See Marcel Boyer, « Free Trade and Economic Policies: A Critique of Empirical Reason (The Working Paper Version) », CIRANO 2020s-56, November 2020. <http://cirano.qc.ca/files/publications/2020s-56.pdf> ; TSE WP #20-1166 EN [https://www.tse-fr.eu/sites/default/files/TSE/documents/doc/wp/2020/wp\\_tse\\_1166\\_en.pdf](https://www.tse-fr.eu/sites/default/files/TSE/documents/doc/wp/2020/wp_tse_1166_en.pdf),

<sup>109</sup> Setting adequate fines and sanctions is a must. See Marie-Laure Allain, Marcel Boyer, and Jean-Pierre Ponsard (2011), “The determination of optimal fines in cartel cases: Theory and practice,” *Concurrences – Competition Law Review* 4-2011, 32-40 (Selected as *Best Academic Economics Article - 2012 Antitrust Writing Awards*, Institute of Competition Law, New York, and George Washington University Law School, American Bar Association,

Philippe Aghion and his co-authors argue convincingly that creative destruction is a fundamental factor of innovation, growth and social well being. Indeed, American quarterly data from the Bureau of Labor Statistics<sup>110</sup> show how net job creation is resulting from a process of gross job creation and destruction. In the following Table, we observe that each net job created in the period 1992.III till 2008.I (62 quarters) resulted on average from 19.4 jobs created and 18.4 jobs lost in private sector establishments, while each net job created in the immediate post-(2008-2010) recession from 2010.II to 2013.IV (15 quarters) was the result of an average of 11.9 jobs created and 10.9 jobs lost.

Period	Gross jobs created / quarter	Gross jobs lost / quarter	Net jobs / quarter.
1992.III – 2007.IV	7.904 M	7.497 M	407 K
2008.I – 2010.I	6.619 M	7.654 M	-1040 K
2010.II – 2011.IV	6.869 M	6.355 M	514 K
2010.II – 2013.IV	6.981 M	6.394 M	586 K
2014.I – 2019.IV	7.480 M	6.957 M	523 K

During the more recent period from 2014.I to 2019.IV (24 quarters), each net job created was the result of 14.3 jobs created and 13.3 jobs lost. The process of job gains and losses is complex and involves large employment movements throughout the economy. This is creative destruction at work.

Creative destruction could be significantly impaired by two public policies: (i) the use by antitrust authorities of the criterion of avoidable cost to infer if a firm has engaged in illegal predatory pricing and (ii) the government policy of providing public subsidies to enhance some firms' competitiveness or protection against competitors.

Regarding the first policy, a pro-competition NCC stance would be to replace the avoidable-cost criterion,<sup>111</sup> which is relatively easy to manipulate and a source of never ending disputes on

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Washington, March 27 2012) and Marie-Laure Allain, Marcel Boyer, Rachidi Kotchoni, and Jean-Pierre Ponsard (2015), "Are Cartel Fines Optimal: Theory and Evidence from the European Union," *International Review of Law and Economics* 42, 2015, 38-47.

<sup>110</sup> <https://www.bls.gov/bdm/> .

<sup>111</sup> The avoidable cost criterion (Baumol) says that the price of a good or service is predatory if it does not allow the firm to cover the costs it would avoid if it were not offering the good or service in question. See Lina Kahn (2017), "Amazon's Antitrust Paradox," *The Yale Law Journal* 126(3), 710-805. Khan, who at 32 became Chairperson of the FTC, analyses, in her highly influential article, Amazon's growth strategy in terms of predatory pricing and common carrier responsibility regulation (see policy #9 below). See also Marcel Boyer, Thomas W. Ross, Ralph A. Winter, "The rise of economics in competition policy: A Canadian perspective", *Canadian Journal of Economics* 50(5), 50<sup>th</sup> Anniversary Issue, December 2017, 1489-1524.

definition,<sup>112</sup> by a more direct “full-cost sharing among products” criterion more favorable to competition: all products sold by a firm, goods and services or access to a route or branch of a network (a route of an airline for instance), would be attributed a share of total costs, defining the minimum price it must charge, with total shares summing to 100%. The change would reduce resource allocation efficiency in the short run in favor for a more intense competition in the medium and long run.<sup>113</sup>

Regarding the second policy, one transparent NCC way to proceed in the context of this type of program would be to auction off specific government assistance projects, thus transferring to a local or international private financial consortium responsibility for honouring the grant, loan, loan guarantee, or the capital injection. This consortium would assume responsibility for the outlays and benefit from repayments at levels and under conditions determined by the government assistance project, in exchange for a premium paid by the government to the winning consortium.<sup>114</sup>

The main advantage of auctioning government assistance programs is to nip in the bud the ubiquitous risk of a creeping crony or collusive capitalism at the expense not only of competition intensity but also of citizens and taxpayers, and of the companies themselves, no matter how grandiloquent the intentions expressed by the government and interested stakeholders. Transparency serves competition.

**8. In the analysis of mergers and acquisitions, implement a legal requirement to use a relative weight ratio larger than one to balance competition impairment effects versus efficiency gains, for instance a 2 to 1 ratio or even a 3 to 1 ratio.**

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<sup>112</sup> <https://www.theglobeandmail.com/report-on-business/rivals-agree-competition-laws-flawed/article18420014/> ; <https://www.theglobeandmail.com/report-on-business/air-canada-charged-with-predatory-pricing/article1178833/> ; <https://www.stikeman.com/fr-ca/savoir/droit-canadien-concurrence/canadian-ruling-on-avoidable-cost-test-diverges-dramatically-from-us-approach>

<sup>113</sup> See Marcel Boyer (2017), “Challenges and Pitfalls in Competition Policy Implementation”, Joint State of the Art Lecture (Canadian Economics Association, Atlantic Canada Economics Association, CIRANO, UBC Phelps Centre for the Study of Government and Business, and University of Toronto Rotman Institute for International Business), St. Francis Xavier University, Antigonish NS, June 4 2017. <https://www.youtube.com/watch?v=u9LUdeYe4dQ&t=1560s> at 1h10m25s.

<sup>114</sup> See Marcel Boyer (2017, above in footnote 112) <https://www.youtube.com/watch?v=u9LUdeYe4dQ&t=1560s> at 1h15m40s. See also Marcel Boyer (2020), « A Pervasive Economic Fallacy in Assessing the Cost of Public Funds », CIRANO 2020s-63, December 2020. <http://cirano.qc.ca/files/publications/2020s-63.pdf> ; TSE WP #20-1169 [https://www.tse-fr.eu/sites/default/files/TSE/documents/doc/wp/2020/wp\\_tse\\_1169.pdf](https://www.tse-fr.eu/sites/default/files/TSE/documents/doc/wp/2020/wp_tse_1169.pdf)

In their contribution to the 50<sup>th</sup> anniversary issue of the *Canadian Journal of Economics*, Boyer, Ross and Winter (2017)<sup>115</sup> argue that

“Provisions to protect Canadians from anticompetitive mergers have been part of Canadian competition law since the passage of the first *Combines Investigation Act* in 1910, which replaced an earlier law that had focused solely on price-fixing and related practices. Canadian merger law, however, was almost nonexistent until the passage of the Competition Act in 1986... Under the Canadian standard, consumers can be harmed by the loss of competition attributable to the merger and yet the merger may be allowed if the gains in efficiency “will be greater than, and will offset” the effects flowing from the loss of competition... Perhaps the most notable of all merger cases under the new law has been the *Superior Propane* (2003) case. In defending this merger, the efficiency exemption was invoked by the merging parties and the Tribunal had to address directly the welfare standard to be applied. Despite new arguments from the Commissioner that the appropriate standard is not the total welfare standard, the Tribunal initially took the view that the total welfare standard was exactly the right basis on which to trade off harms to competition and efficiencies...”

Balancing the potential harm of a merger or acquisition can do to consumers and competition itself and the potential gains in efficiencies through economies of scale, scope, network, and others is certainly a very difficult task. Among the challenges to be addressed, the fact that the analysis must be done on the basis of “potential” impacts not yet observed is clearly at the top. Another difficulty is to ascertain which criterion to use to “balance” the impacts, which calls for weights to apply to impact measures of different quality.

By taking a clear stance in favor of maintaining and encouraging competition in the medium and long run, the NCC calls for a relative weight ratio of 2 to 1 of competition harm over gains in efficiency, whatever the methods used to measure the impacts.

**9. Implement incentive regulation mechanisms to ensure access to networks, platforms, and essential licences and patents, at fair, reasonable and non discriminatory (FRAND) prices and conditions on the basis of full cost sharing, including the value of real options exercised.**

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<sup>115</sup> Marcel Boyer, Thomas W. Ross, Ralph A. Winter, “The rise of economics in competition policy: A Canadian perspective”, *Canadian Journal of Economics* 50(5), 50<sup>th</sup> Anniversary Issue, December 2017, 1489-1524.



There are two broad approaches to the financing of network infrastructure. One stems from the cost-sharing of network costs, in particular the cost of investment, among key partners and users of the network. This approach relies mainly, in its purest and most rigorous form, on the theory of cooperative games<sup>116</sup>. The other stems from the pricing of (regulated) access to the network, which is assumed to have been developed by a particular firm, the network owner. Different potential users of the network, including competitors, may wish to use the network or at least some critical or essential parts of it, rather than build an alternative to it.

With the advent of internet networks and platforms for e-information, e-communication, e-commerce, and more, the risk of seeing new forms of market power is real. To manage and circumvent such risks, the regulation of access to networks and platforms through adequate competitive pricing and conditions, first developed for telecommunications, is taking center stage.

It is important to remember that “It is more the end product that counts: connectivity, flexibility, safety, dependability, accessibility, capacity (high speed and broadband), security, and user-friendliness. The demand expressed by consumers for different telecommunications devices (wireline, wireless, cellular mobile, satellite-based mobile, Internet Protocol IP telephony, and platforms, and so on) is a derived demand rather than a direct demand.”<sup>117</sup> In that sense, e-communication, e-commerce, and e-information networks and platforms are like highways on which communication, commerce, and information goods and services travel. Rather than being free, those internet highways are or may be tolled ones. In some cases, duplicating highways is not an efficient option. Hence the need for some regulation of access.

Calibrating such access rules, pricing and conditions is a difficult, information-intensive task. Among the possible approaches, one competition-emulating formula may hold much promise, namely the Laffont-Tirole global price cap (GPC) formula defined on the prices of products and services sold and the price of access granted.<sup>118</sup> The two main advantages of GPC are first to follow theoretical precepts and second to require less information than the other schemes. The global price cap considers both the final products and services prices and the access charges in one single price cap formula. Once the price cap is determined, the incumbent

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<sup>116</sup> See Boyer, M., Moreaux, M., Truchon, M., *Partage des coûts et tarification des infrastructures*, Monographie CIRANO, février 2006, 340 pages. <https://cirano.qc.ca/fr/sommaires/2006MO-01>; and Boyer, M., Marchetti, N., “Principes de choix d’une méthode économique d’allocation : partage des coûts et tarification à Gaz de France” (mars 2006), CIRANO 2007-RP07, 131 pages. <http://cirano.qc.ca/files/publications/2007RP-07.pdf>

<sup>117</sup> Boyer, M. “The Measure and Regulation of Competition in Telecommunications Markets”, chapter 5 in Gentzoglani, A. and A. Henten (Eds.), *Regulation and the Evolution of the Global Telecommunications Industry*, Cheltenham, UK and Northampton, MA: Edward Elgar Publishing, 2010.

<sup>118</sup> See Boyer, M. and Robert, J., “Competition and Access in Electricity Markets : ECPR, Global Price Cap and Auctions”, pp. 47–74 in G. Zaccour (ed.), *Deregulation of Electric Utilities*, Kluwer Academic Pub, 1998.

firm is free to choose its prices, including the access charges, as long as the global price cap is satisfied.<sup>119</sup>

The new regulatory framework should rest on three specific principles of economic efficiency: The pursuit of a dynamic regulatory approach based on implementing proper competition processes and information systems; The promotion of competition through proper incentives ensuring dynamically efficient access prices and conditions and efficient investment programs in network maintenance and development; The design of non-predatory pricing rules through full cost sharing, including the value of real options exercised to build the network, to promote the emergence of a more competitive industry, even if such rules reduce static efficiency (see #7 above).

**10. Reaffirm that capitalism is synonymous with radicalism and disruption (*The Economist*, above), not with managed and soft competition. In that spirit, “abusive” non-compete clauses and professional certification requirements (for firms and individuals who do not interact with the uninformed or poorly informed public) as well as various forms of employer and union lobbying which aims to restrict and reduce competition must be discarded, abolished or even made illegal, in order to restore competition to its central place in an economy dedicated to social wellbeing.**

Rather than enumerate a long list of measures to be discarded because they are harmful to healthy competition, let us consider the particular but very evocative and representative case of the construction industry.<sup>120</sup> Current regulations restricting the mobility of construction workers across different regions of Québec come from a particular historical situation and these regulations appear today as a relic of another age. It persists because it protects through a crony form of managed competition some companies, trade unions as well as regulatory bodies against competition, to the detriment of citizens.

While these regulations may have had beneficial effects during the era decades ago of major inter-union conflicts in the industry, today it has perverse effect on efficiency and economic growth. Regional development, including the development of construction in the regions, can be better served by opening up to competition and mobility, which should be encouraged

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<sup>119</sup> In technical terms, the firm implements the Ramsey price structure if it knows its demand and cost functions. There is no need for the regulator to find and measure as before those demand and cost conditions and elasticities.

<sup>120</sup> Comments made here come from Marcel Boyer (2018), *Analyse économique relativement à la mobilité des salariés de la construction dans les secteurs institutionnel, commercial et industriel*, 29 March 2018, 70 pages.

rather than restricted. Such an opening would allow a better allocation of resources, labor and capital, a better match between supply and demand in the construction labor market, faster penetration of best practices, better skills development, productivity gains and cost control, all translating into gains in individual and collective well-being.

As mentioned above, economic development depends on four key factors, which are (i) the quantity and quality of skills (human capital), (ii) the capacity of inventing and innovating at the technological, organizational and social areas, (iii) the quality and intensity of performance incentive mechanisms, and (iv) the quality of mechanisms for allocating private and public resources (the right resources in the right places at the right times) and mechanisms for coordination (consistency and coherence of the many or even countless decisions of economic agents). The regulation of mobility in the construction industry in Quebec significantly impedes the last two factors.

The findings and messages that can be drawn from academic research and analysis of local and foreign public policies relating to worker mobility run counter to current regulations on mobility in the Québec construction industry. The NCC has no room for such counterproductive regulations.

However, some certification of competencies may still be valuable as a credible “proof” of competencies and experience even if the client is not a member of the so-called uninformed or poorly informed public. If that is so, market-based certification systems should be the preferred way to see it developed. Some firms may decide to use certified workers while others may develop their own internal verification process. The main challenge is to avoid a reduction or restriction of competition through arbitrary certification measures.<sup>121</sup>

## 5. The Competition-based Social-democracy (CSD): a ten-point plan

Begun in the 1960s and early 1970s, the policies of the welfare state and its many reforms are now under threat, as the public programs provided by this model (education, healthcare, retirement, and the social safety net in general) are weighing down government budgets in a world of tax competition.

This has given rise to a fundamental dilemma: In a society that has become richer and more productive, public and social goods and services have become more costly (opportunity cost),

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<sup>121</sup> For example, « economist » is not a title that is reserved or certified. Anyone can self-declare economist. A firm or a university may wish to recruit an economist, who graduated from a well-known recognized school or university, but nothing should prevent it from recruiting an autodidact economist if it is satisfied with his/her pedigree or can assess his/her competency.

giving rise to substantial pressures to reduce their level and coverage. Why not reduce their cost by improving productivity and fostering innovation through competition?

Criticism of “conventional social democracy” and “conventional neo-conservatism” or “conventional neoliberalism” is anchored in the widespread perception that markets cannot solve all problems and that efficient governments are as necessary as efficient markets for ensuring maximal growth and optimizing overall wellbeing.

We need to find something else—a new social-political-economic philosophy—together with an efficient set of policies aimed at the production, distribution, and delivery of an appropriate set of public and social goods and services. A model in which goals and objectives are adequately defined; in which the ways and means are determined by effectiveness and efficiency; in which political and economic rights and freedoms, including the right to challenge and replace existing providers of public and social goods and services (PSGS), are reaffirmed; and in which transparent competitive processes, the ultimate embodiment of equality of opportunity, innovation, and motivation, are encouraged.

This new program is the Competition-based Social Democracy (CSD).<sup>122</sup>

#### 4.1 The new roles of the governmental and competitive sectors

The dichotomy between public and private and the dichotomy between left and right are today at the heart of all discussions on the reform of the traditional socio-economic system, whether it refers to the welfare state or the social democratic state.

These dichotomies create unnecessary conflicts because they stem from a fundamental misunderstanding or confusion between, on the one hand, the objectives to be pursued in terms of the quantity and quality of public and social goods and services (PSGS) to be provided to the community and its citizens and on the other hand the processes and means by which these objectives will be pursued.

It is high time to replace the public sector / private sector dichotomy with a government sector / competitive sector dichotomy. And this is not just a matter of terminology. The dichotomy between the government sector and the competitive sector, both with clear responsibilities for

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<sup>122</sup> Marcel Boyer, *Manifeste pour un Capitalisme et une Social-Démocratie de Concurrence v2.0 / Manifesto for a Competition-based Capitalism and Social-Democracy v2.0*, forthcoming in 2021, ≈300 pages. The April 2009 version is available on CIRANO website in French <http://www.cirano.qc.ca/manifeste> and English <http://www.cirano.qc.ca/manifesto>. See also Marcel Boyer, « L'État providence et la Social-démocratie de l'avenir », *L'ÉNA hors les murs*, no 500 (octobre 2020), 72-74.

maximizing the well-being of citizens, becomes crucial. It is at the heart of a true welfare state and a true social democracy.

The confusion between the social, economic and political objectives and the means to pursue those goals has favored the development of gargantuan government bureaucracies protected from competition and subjected or even opened to capture by parallel partisan, trade union and technocratic powers, which often fight but always cumulate, to the detriment of the citizens who are the end beneficiaries and funders of the system.

In the social democratic model of the future (CSD), the competitive sector is broadly defined to include the sectors of private companies, cooperatives, non-governmental organizations (NGOs), non-profit enterprises (NPOs), as well as other so-called civil society and social economy organizations. These organizations in the competitive sector are called upon to respond to open and transparent calls for tenders, launched by the government sector, to obtain the right and the duty to produce and distribute, for a given period of time and generally renewable, well-defined public and social goods and services (PSGS). The contracts thereby concluded will specify the rights, responsibilities, commitments and compensation of the stakeholders.

In the field of PSGS, the design of baskets holds a preponderant place given the complexity of the network of PSGS. This basket design is likely to be better managed centrally, so that synchronization, complementarities and externalities are optimized. Thus, the design of PSGS is fundamentally an area that is well suited to the government sector. Through the electoral process, the various parties and political entities offer baskets of PSGS, including the terms of their funding, to citizens who are asked to choose between these baskets by voting for the party offering the one they prefer. The aggregation of preferences is achieved through a democratic, open and transparent electoral process.

Contracts between the government sector and competitive sector organizations must be designed in such a way that the competitive entity selected is led to achieve the objectives and respect the commitments made, through a system of guarantees and incentive compensation. By calibrating the duration of the contract to the useful life of the equipment and the project governance strategy, the government sector ensures that the selected entity will provide a sustainable management of operations and risks in the short, medium and long term.

A crucial element of good governance is the financial structure of projects. While government lenders have little interest in monitoring the use of funds<sup>123</sup> and therefore ensuring the

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<sup>123</sup> Marcel Boyer, "A Pervasive Economic Fallacy in Assessing the Cost of Public Funds," *Canadian Public Policy* (forthcoming 2021); Marcel Boyer, « Erreurs méthodologiques dans l'évaluation des projets d'investissement », *Revue Française d'Économie* XXXIII (2018/4), avril 2019, 49-80 <https://www.cairn.info/revue-francaise-d-economie-2018-4-page-49.htm>; Marcel Boyer, Éric Gravel et Sandy Mokbel, *Évaluation de projets publics : risques, coût de*

effectiveness and efficiency of project implementation and management, a competitive sector company lenders carefully monitor the quality of its governance and as such are privileged, informed and interested monitors.

Appropriate competition policies can and should ensure that the level playing field rules are strictly observed, in particular the antitrust, anticartel and antimonopoly rules, within the framework of a policy explicitly favorable to upstream competition (between suppliers and between trade union organizations, among others) and downstream (between retailers and between assemblers of products and services, among others). The tendering process itself should be adequately repeated at regular intervals ranging from a few months to a few years depending on the good or service considered.

Competition between suppliers, producers and distributors, under contract with the government sector, is essential to allow the establishment of a diversified multisource supply, favorable to objective assessment, benchmarking and innovation, and better performance incentives.

This characterization of the roles of the governmental and competitive sectors in the welfare state and Social Democracy of the future helps avoid conflicts of interest that undermine the effectiveness of traditional models where the activities of design, financing, supply (production and distribution) and evaluation are all typically the responsibility of a single organization, namely the public sector.

These conflicts of interest are endemic in the traditional models and promote scheming, opacity, backroom wheeling and dealing, and the granting of undue privileges, all at the expense of citizens, consumers and taxpayers. A separation of roles and responsibilities allows credible accountability and performance incentive mechanisms to be put in place, which are at best fuzzy and manipulable and at worst non-existent in traditional models.

In the area of infrastructure (roads, water, parks, airports, etc.), the government sector defines the goods and services to be offered to the population, launches calls for tenders from the competitive sector and manages the resulting contracts and partnerships, whether of PPP type or other, adequately linked with performance and this, in the best interest of citizens, users and taxpayers.<sup>124</sup>

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*financement et coût du capital*, Commentaire #388, Institut C.D. Howe (2013)

[https://www.cdhowe.org/sites/default/files/attachments/research\\_papers/mixed/Commentaire\\_388\\_0.pdf](https://www.cdhowe.org/sites/default/files/attachments/research_papers/mixed/Commentaire_388_0.pdf).

<sup>124</sup> Marcel Boyer, “Défis et embûches dans l’évaluation des PPP : Pour un secteur public efficace et efficient”, CIRANO 2020s-25, 45 pages. <https://cirano.qc.ca/files/publications/2020s-25.pdf> ;

TSE WP 20-1104 [https://www.tse-fr.eu/sites/default/files/TSE/documents/doc/wp/2020/wp\\_tse\\_1104.pdf](https://www.tse-fr.eu/sites/default/files/TSE/documents/doc/wp/2020/wp_tse_1104.pdf)

In the health sector, the processes are similar taking into account the particular requirements that the various upstream (investments) and downstream (service provision) activities may represent: the government sector defines the health goods and services to be offered and the objectives to be achieved, in terms of quantity and quality, launches calls for tenders from the competitive sector and manages contracts and partnerships, whether PPP or other, adequately incentivizing performance, in the best interest of citizens, users -patients and taxpayers. The quantity and quality of the services actually rendered and observed must be measured with complete independence, transparency and objectivity according to the terms provided for in the contract. Compensation from the competitive sector partner will depend in part on the results of this objective assessment.

In the field of education, the processes are similar taking into account the particular requirements that can represent the various activities upstream (investments) and downstream (provision of services): the government sector defines the goods and services to be offered and the objectives to be achieved, in terms of quantity and quality of educational services and proper achievement of academic success, launches calls for tenders from the competitive sector and manages contracts and partnerships, of PPP type or other, adequately linked to performance, in the best interest of citizens, pupils, students and taxpayers. The quantity and quality of the services actually rendered and observed must be measured with complete independence, transparency and objectivity according to the terms provided for in the contract. Compensation from the competitive sector partner will depend in part on the results of this independent assessment.

Competitive processes and performance incentives are thus found at the heart of the PSGS production and distribution system, respectful of competitive sector suppliers and in the best interest of citizens, users and taxpayers.<sup>125</sup>

## 4.2 The CSD ten generic policies and programmes

The Competition-based Social Democracy model rests on ten major and ambitious generic policies and programs:

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<sup>125</sup> Raghuram G. Rajan (2019), *The Third Pillar: How Markets and the State Leave the Community Behind*, Penguin Press, writes about “The three pillars that supports society and how we get to the right balance between them so that society prospers. Two of the pillars are the usual suspects, the state and markets. It is the neglected third pillar, the community, the social aspect of society, that I want to reintroduce into the debate. When any of the three pillars weakens or strengthens significantly, typically as a result of rapid technological progress or terrible adversity like a depression, the balance is upset and society has to find a new equilibrium. The period of transition can be traumatic, but society has succeeded repeatedly in the past. The central question is how we restore the balance between the pillars in the face of ongoing disruptive technological and social change.”

### **1. Clearly define the core competencies of the governmental and competitive sectors.**

The core competencies of the governmental sector are first, the identification of citizens' needs in terms of public and social goods and services, both in quantity and quality; second, the design of proper mechanisms through which conflicts between different baskets of goods and services and between different coalitions of citizens will be arbitrated; and third, the management of contracts and partnerships with competitive-sector organizations for the production, distribution and delivery of the chosen basket of public and social goods and services.

The core competencies of the competitive sector are to produce, distribute and deliver the private as well as the public and social goods and services, the latter under contract with the governmental sector, by making use of the best forms of organization and the most efficient combinations of factors, human resources and technologies.

### **2. Promote open and transparent competitive mechanisms in the attribution of contracts for the production, distribution, and delivery of public and social goods and services.**

For competitive mechanisms to be broadly accepted, a significant effort must be undertaken to promote the liberalization, dissemination and better understanding of economic laws and rules. The emergence and omnipresence of competitive prices and processes throughout the economy, in the public and social goods and services sectors in particular, constitute significant forces aimed at avoiding waste and at generating and implementing innovative solutions to problems and challenges and, in that regard, must be understood as a significant endeavour of the CSD model and project. To achieve such results, it is important that the attribution of contracts be realized through open and transparent processes, exempt of favouritism and predatory behaviour. Competitive-sector organizations must face a level playing field; if some advantage should be given to particular participating organizations, it should be announced and quantified in a clear way at the outset.

### **3. Favour the creation and development of efficient competitive-sector organizations with a capacity to bid efficiently for public and social goods and services contracts.**

The emergence of competitive markets for the partnership contracts for the production, distribution and delivery of public and social goods and services requires that a sufficient number of organizations be present in the tendering process. It is a fundamental responsibility of the governmental sector to make sure that contract-award processes be exempt of significant expression of market power by competitive-sector organizations. Those competitive-sector organizations must be capable of submitting credible offers in a level playing field contest for governmental contracts.



In order to achieve the highest level of efficiency, it is preferable, if not necessary, for the government to explicitly favour, through an adequate programme of training and counselling, the development of competencies through the creation and development of efficient competitive-sector organizations without interfering directly in the contract-allocation processes. Such a policy would, in the long run, be much more efficient than trying to tilt the balance towards preferred-offspring organizations.

**4. Promote the emergence of competitive prices and mechanisms (market creation) in all sectors of the economy, including the public and social goods and services sectors.**

The competitive mechanisms are the most efficient mechanisms allowing citizens and organizations to make choices based on appropriate information. The manipulation of prices by sending biased signals or indicators of relative costs and scarcity of goods and services has become a major source of social and economic waste in our societies. Such manipulations imply that individuals are induced to make inefficient consumption and investment decisions, while firms and organizations in all sectors, including public and social goods and services sectors, such as health and education for instance, are induced to make production, investment and R&D choices that are oriented more towards the interests, wishes and private objectives of price manipulating political authorities and well-organized interest groups rather than towards the needs and demands of their patients, students, customers and clients.

Confronted to adequate indicators (competitive prices and processes), individuals as well as firms and organizations, can adapt their consumption and production activities, including their investments in human capital (portfolio of competencies), in R&D, and innovation efforts, to the relative social value of those activities, as reflected in competitive prices. In some cases, efficient well-informed decision-making will require the creation and development of competitive markets in lieu of traditional bureaucratic, autocratic, and centralized decision-making by, more often than not, poorly informed social engineering planners whose special interests eventually always dominate those of the people. This is inexorably and most perniciously the case even with well-intentioned political or social leaders playing as gods imposing their own tutelary preferences.

This is not to say that it is never appropriate for political or social leaders to convince people of the desirability of better behaviour, but rather that it is always better to proceed if possible through competitive institutions and mechanisms, respecting the autonomy and fostering the responsibility of citizens.

**5. Favour modularity, flexibility, experimentation and change through multiple sourcing.**

Innovation, not only technological but also organizational, must rely on an explicit process by which experimentation and change become normal if not frequent or continuous. In order to reduce the costs of innovation generation, selection and implementation, and, therefore, of favouring the emergence of an innovative society, the governmental sector must explicitly develop a multiple-sourcing policy in the attribution of contracts. Multiple sourcing means that no single competitive-sector organization should be allowed to monopolize or dominate a significant part of the production, distribution and/or delivery of a public or social good or service.

In order to favour competition among providers and to identify those capable of higher performance in the production, distribution and delivery of public and social goods and services, it is essential that some level of modularity and experimentation be continuously undertaken under proper safeguards allowing the evaluation of new ways and means so implemented, the objective being to implement real-world best practices as consistently as possible. By explicitly favouring multiple sourcing, the governmental sector must aim to encourage a proper level of modularity and experimentation in the provision of public and social goods and services, and in so doing, favour the research and discovery of better ways and means.

**6. Develop efficient mechanisms and institutions for better adaptation by individuals as well as by firms and organizations to changes brought by creative destruction.**

A significant source of opposition to socio-economic change, even when such change appears desirable, is the absence of efficient mechanisms or institutions allowing individuals and firms to reduce their own direct cost of adaptation to such changes. The following three factors are equally important for the improvement of social well-being: first, the flexibility to adapt to changes and the willingness to take on new challenges posed by exogenous and endogenous changes in a volatile socio-economic environment; second, the capacity of the education sector to respond to industrial and social needs in terms of required skills and competencies of different types; third, the importance and efficiency of R&D investments in generating new ideas and useful products and services.

Hence, the flexibility to adapt to a volatile environment must be a characteristic of all sectors producing and distributing private as well as public and social goods and services. Flexibility runs against inertia that fear of change often generate. Unless people are given the reasons for change and the tools to manage such change, they will resist it in the economic and political arenas. Therefore, the level of social flexibility towards change will depend on the existence of institutions (tools and means; organizations and markets) allowing individuals, firms and different levels of government to efficiently manage risks and opportunities that volatility in the socio-economic environment represents. A proper set of institutions to manage the risk faced in

change is a prerequisite for a flexible society, that is, for a society where innovation, both technological and organizational, thrives for the benefit of all.

#### **7. Promote direct and transparent policies of income and wealth support in fighting the development of dependence for individuals as well as for firms and organizations.**

It is normal and expected that, in any efficient society, a certain number of individuals will end up making or having taken wrong decisions with dire and socially undesirable and even unacceptable consequences. Hence, a public programme of income and wealth support is not only necessary but also conducive to growth enhancement and social well-being improvement for all. But such public programmes must be efficiently designed and implemented. In lieu of the paternalistic control and manipulation of prices that have often been the preferred policy in the past, the CSD model and project propose to implement direct and transparent policies of income and wealth support with strong incentives for the beneficiaries to get out of them. Moreover, it is desirable that those income and wealth support mechanisms not only be integrated, direct, efficient and incentive compatible, but also developed under the responsibility of one single government authority in order to increase governmental accountability in that matter.<sup>126</sup>

A CSD policy towards the needy, the unlucky, and the poor must be as empathetic as possible. This objective requires that the policy be aiming strongly at avoiding the development of dependence, for the well-being of the beneficiaries themselves. If properly designed, an income and wealth support programme can be both empathetic and dependence-free. It is imperative that beneficiaries be properly induced to leave public income and wealth-support programmes fruitfully, successfully, and as soon and efficiently as possible, allowing better and more generous programmes to be designed and implemented. It is imperative, for instance, that the implicit tax rates imposed on the unemployed and the social welfare recipients as they find a part-time or full-time employment be adjusted and calibrated to persuade them to find and accept those jobs. Similarly, governmental support and subsidies of all types and forms, including those intended to help and support competitive-sector firms and organizations that are facing particularly sudden difficult times or competitive environments, must be continuously reassessed and made equally as transparent, publicly accountable and incentive compatible as possible.

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<sup>126</sup> There are obvious links between income and wealth support policies and optimal taxation. The theory of optimal taxation studies the design and implementation of a tax system that minimizes the distortions caused by taxation while achieving desired levels of redistribution and revenue. See Florian Scheuer and Ivan Werning (2016), "Mirrlees meets Diamond-Mirrlees", NBER Working Paper 22076, for a relatively general discussion of optimal taxation.

## **8. Foster regular, systematic, transparent, independent and credible evaluations of public programmes and policies.**

All government programmes should contain sunset clauses so that their role and efficiency can be reassessed on a regular basis. Independent and credible organizations and bodies, using state-of-the-art and transparent methodologies, while also being open to the scrutiny and criticisms of the public, should be called to perform such evaluation. In many, even in most cases, the current socio-economic evaluation of governmental programmes proceeds from improper, disputable and self-serving methodologies. Programmes aimed at (regional) job creation, fostering investments in specific sectors, as well as programmes intended to favour the reinsertion of the long-term or seasonally-unemployed persons, are all examples of public programmes costing vast sums of money with practically no significant tangible results.

It is not the goals and objectives of those programmes that are flawed, but rather their implementation. The current evaluation procedures of such programmes are not only dubious, but are most often reduced to nothing more than a means to justify (ex-post) a bad politically motivated decision. The CSD model and project reject those shabby evaluation procedures and methodologies in favour of systematic, transparent, independent and credible evaluations. By stressing the need for more rigorous and regular evaluation procedures, in addition to requiring that the programmes be subject to competitive processes leading to incentive contracts for those organizations chosen to produce and/or deliver public and social goods and services, the CSD model and project will favour programmes that are better designed and better implemented.

## **9. Reform taxation to make it effective, cohesive, inclusive, simple and incentive-compatible to induce contributions to social well-being.**

To reconcile the needs for performance incentives, flexibility in labor markets, efficiency in the use of our resources and therefore truth in (competitive) prices while ensuring for each individual and each household a decent standard of living, it is necessary to develop a simpler, incentive, cohesive and inclusive taxation system.

The fundamental change needed in government funding revolves around designing a taxation system capable of achieving two goals: first to generate balanced funding of public and social goods and services and second to provide the appropriate incentives to individuals and organizations to contribute to the well-being of their fellow citizens mainly through their decisions about participating in the labor force (how, where and at what level of effort) and about developing and marketing products and services of proper design and quality.

To achieve this objective, it is important to implement the following:

- a) Favor taxation at the level of consumption (such as GST or VAT, to be included in the prices displayed in order to promote price transparency) rather than income in order to create the least possible distortions in the decisions of taxpayers (efficiency of taxation), in particular in their decisions to participate in the labor force;
- b) If some level of income taxation is to be maintained (while we move towards consumption taxation), decrease the implicit marginal tax rates of the unemployed or socially assisted when they manage to find full-time or part-time jobs, reduce the marginal tax rates applicable to significant increases in earnings and remuneration from one year to the next, and reduce income tax rates and their complexity (number of levels) while including all income in the tax base while imposing a minimum rate applicable on overall income in order to promote social inclusion;
- c) In an effort to make citizens more responsible and less recalcitrant in the face of tax payments, allow any citizen to directly distribute say 3% of his income and consumption taxes between an educational institution, a health institution or any other approved foundation or charity of his/her choice.

Economists have shown and argued for a long time that to meet an overall objective of efficiency in the allocation of resources, taxation systems must be based on consumption taxes rather than taxes on labor: hence the need to abolish taxes on personal income in favor of consumption taxes (sales taxes or value-added taxes) as neutral as possible, i.e. with a single percentage applied to all goods and services consumed. An amount distributed to friends or family should be considered as consumed by the donor. Consumption should be taxed when it occurs or at the time of death, under the assumption that an individual is deemed to have consumed all of his or her accumulated wealth at the time of death.

**10. Promote free trade alliances with developing countries to get strategic advantages (head start ex ante or catch up ex post) in value-added competition with developed countries.**

The search for social and economic efficiency within one country or region in order to provide the best possible opportunities for productivity gains, growth enhancement and social well-being improvement relies in part on free trade policies, across sectors and levels of the commercial and industrial landscape. The SDC model and project stress the importance of identifying, investing in, and implementing different ways to strike alliances with producers and providers from developing countries in order to gain, maintain, and consolidate competitive advantages among developed countries and, in so doing, favour the development of developing

countries. With such a strategy, the latter countries would become prime allies as providers and developers of key inputs (not only intermediary products but also, in due time, new technologies, new products and new services) in the challenges that developed countries are posing to each other.

## 6. Conclusion: NCC and CSD, drastic but not utopian reforms

The New Competition-based Capitalism (NCC) as well as the Competition-based Social-Democracy (CSD) reforms represent jointly major and challenging economic and social policies and programs. Those sets of policies and programs reinforce each other. The NCC and CSD reforms constitute a truly drastic and ambitious yet feasible and not utopian revolution.

They will generate opposition and criticism and will be opposed by many interest groups from all sides of the debate. The reason is that they put the citizens, not the producers and not the politicians, at the center of the calculus of costs and benefits.

The NCC and CSD projects derive from an intellectually consistent approach with concrete political implications and applications. The foundations, tools, and instruments required for their implementation are already available. A profound reorganization of governments' activities and priorities is necessary, but the NCC and CSD models and projects pave the way for such a change.<sup>127</sup>

Innovations and the commercialization of new technologies and organisations are important causes of significant displacement of economic activity (changes in goods and services and the organisation of work and exchanges as well as contractual relationships) and of abrupt depreciation, sometimes quick obsolescence, of capital, skills, and competencies. A much needed fundamental policy is to foster the creation and implementation of tools, ways, and means to allow individuals, firms, and different levels of government to efficiently manage risks and opportunities that stem from the innovation and commercialization of new technologies and organisations.

Market instrument solutions have been found via the introduction of a variety of insurance and derivative products and lifelong learning and retraining that enable users to manage and trade risks. There is today a need for new insurance-like, derivative-like and lifelong education products and processes to help individuals, firms and different levels of government manage the

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<sup>127</sup> As usual, new ideas such as NCC and CSD models will go through three stages (Arthur Schopenhauer, apocryphal): first, they will be ridiculed as utopian, second, they will be violently opposed; third, they will be accepted as self-evident.

risk of change, both in the displacement of jobs and in the abrupt depreciation and obsolescence of financial and human capital.

The recent 2007-2010 financial crisis has thrown in disarray and brought into disrepute many of those market instruments to manage risks. But one must realize that any significant technological advancement yields its share of good and bad applications. It is unfortunate that the bad applications often overshadow the good. Some examples of technological advancement that have had both good and bad applications include hammers, explosives, financial derivatives, and cyberspace.

A significant source of opposition to socio-economic changes, even when such changes appear desirable from a social welfare viewpoint, is the absence of efficient mechanisms or institutions that could assist individuals as well as firms and organizations in reducing their direct cost of adaptation to such changes. When a society is confronted as a whole or in part with changes in its socio-economic environment, its capacity to adapt in order to maintain or increase its citizens' well-being is crucial.

This flexibility to adapt to a volatile environment must be a characteristic of all sectors producing and distributing private as well as public and social goods and services. Flexibility runs against inertia, inertia grows from fear, and fear grows from change. Unless people are given the tools to manage such change, they will resist it in the economic and political arenas, at significant social costs. Resistance to change is in most, if not all, circumstances a very poor substitute to adaptation to change.

But the social attitude and flexibility towards socio-economic changes will depend on the existence of institutions (tools and means, organizations, and markets) allowing individuals, firms and different levels of government to efficiently manage risks, control their exposure to downside risks, and foster their exposure to upside opportunities. A proper set of risk-management mechanisms and institutions is necessary for a flexible society where innovation, both technological and organizational, thrives.

To be successful at innovation and commercialization, a society must develop a higher ability to analyze risky prospects (e.g. via a more educated workforce with a significant literacy in economics, business and finance) and favour a better exposition to structural factors, such as market size, enhanced competitive processes, and a higher reliance on well-designed and efficiently-produced and distributed social protection programs.

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