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## Digital transformation, cooperatives, and the perspectives of workplace democracy

### Zusammenfassung

Die Vorteile von Genossenschaften im Vergleich zu hierarchisch organisierten kapitalistischen Firmen hängen eng mit den Problemen und Pathologien von Arbeitsmärkten zusammen. Letztere lassen sich gut anhand der Theorie unvollständiger Arbeitsverträge analysieren. Vor diesem theoretischen Hintergrund ergeben sich drei Argumente für eine spezifische Rolle genossenschaftlicher Wirtschaftsdemokratie in der digitalen Transformation: (1) Eine insgesamt sozial vorteilhafte Neukonfiguration von Tätigkeitsprofilen und deren Integration im Sinn von "guter Arbeit" ist auf Partizipation angewiesen; (2) Die durch digitale Technologien unterstützte Tendenz zu "mehr vollständigen" Arbeitsverträgen ist eine Dystopie, wenn sie nicht demokratisch eingebettet ist; (3) Digitale Technologien können problemadäquate Formen der Partizipation unterstützen.

**Stichworte:** Arbeiterselbstverwaltung, Digitalisierung, Genossenschaften, Gildensozialismus, Kooperativen, unvollständige Verträge, Wirtschaftsdemokratie.

### Abstract

The advantages of cooperatives compared to hierarchically organized capitalist firms are related to the problems and pathologies of labour markets. The latter can be analysed using the theory of incomplete employment contracts. Against this theoretical background, there are three arguments for a specific role of cooperatives/economic democracy in the digital transformation: (1) A socially advantageous reconfiguration of tasks and their integration in attractive job profiles is dependent on democratic participation. (2) The trend towards "more complete" employment contracts, supported by digital technologies, is a dystopia if it is not democratically embedded, and (3) Digital technologies can support problem-appropriate forms of participation.

**Keywords:** cooperatives, digital transformation, economic democracy, guild socialism, incomplete contracts, workplace democracy, workers' self-management.

### 1. Problems and pathologies of labour markets: a *prima facie* case for producer cooperatives?

Throughout the history of capitalist market economies, time and again problems and pathologies of capitalist labour markets (understood as the combination of market-mediated hiring/firing and firm hierarchies) were and are coming to the fore. As shown by Sturm (2009), they were being discussed from early on in a surprising variety of theoretical and political contexts. And from early on, those discussions reflect some understanding of non-contractual interactions and interdependences embedding wage labour, mediated by various aspects of its social, institutional, and ethical environment, including specific power asymmetries.

Wage labour is thus complexly intertwined with the institutions governing production processes, notably firms and their institutional environment, including trade

unions, collective bargaining, labour legislation etc., which can be understood as institutional responses to the underlying problems. However, the institutional environment of capitalist labour markets is also a social space where problems including asymmetric power, fragmented production processes, and dilemmas of heteronomous working conditions are still becoming manifest<sup>1</sup>.

Already in the heyday of the Industrial Revolution producer cooperatives were envisaged as an institutional response to pertinent problems — a social space for decent work, as it were. For John Stuart Mill (1848), there could be “little doubt that the relation of master and work people will be gradually superseded by partnership.”<sup>2</sup> Indeed, there is considerable theoretical support for the claim that producer cooperatives are among the most plausible solution concepts for the underlying dilemmas (e.g., Bowles/Gintis 1993). In section 2, we recapitulate the main thrust of arguments supporting such a position in a nutshell, using as a heuristic Albert Hirschman’s (1970) categories of exit, voice, and loyalty — perceived as partly complementary, partly alternative aspects of feedback mechanisms with an overarching social function: making the actual quality of productive human agency more congruent with its potential, given the current state of technology and access to natural resources. This should be understood in an encompassing sense, including more dimensions than short-run productivity. In this sense, section 2 deals with the multi-faceted socio-economic backgrounds of economic democracy, specifically including “voice” as feedback mechanism in cooperative production.

In sections 3 and 4, we briefly describe some strands of general arguments dealing with aspects of digital transformation that (if true) would imply bleak prospects for “voice-based feedback” in production. Section 3 complements the perspective of vanishing jobs/technological unemployment due to smart machines and robots by the perspective of a re-combination of tasks in new occupational profiles, where workplace democracy may contribute to more humane and less polarized profiles. Speculations regarding a general decline of human labour as a factor of production (irrespective of workplace organization) should not distract attention from this specific challenge of the digital transformation. Section 4 deals with the potential of digital technologies (smart contracts, blockchains etc.) for bringing us closer to a vision of complete contracts. Workplace democracy may be considered an antidote coping with the dystopic potentials of such a deepening of market-mediated interaction. Section 5 summarizes the reasons why a proper understanding of some developments underlying the trends discussed in sections 3 and 4 (together with certain democracy-friendly aspects of digital technologies) motivates a brighter vision for cooperatives under the digital transformation.

1 For various dimensions of the problem see Polanyi (1944), Bowles (2004), Braverman (1977), Sturm (1994; 2000; 2009).

2 See Kubon-Gilke and Laurinkari (2021: 2.1.1) for a comprehensive account of Mill’s position.

## 2. Why voice, why cooperatives?

As already indicated, the factual institutional embedment of labour markets reflects the fact that they differ from atomistic spot markets (e.g., Sturm 1994; Kubon-Gilke/Laurinkari 2021). A specific aspect of that has already been observed by Marx, for whom the temporary provision of labour power (rather than certain well-defined labour services) is the object of labour contracts. Those contracts are incomplete, since their enforcement and the concrete realization of labour effort typically is subject to more durable hierarchical governance in the capitalist firm, which Marx (1867: 184) vividly contrasts with mediation through market coordination:

“The consumption of labour power .... takes place outside the market or the sphere of circulation. .... The sphere of circulation or commodity exchange, within whose boundaries the buying and selling of labour power takes place, was indeed a true Eden of innate human rights. What reigns here alone is freedom, equality, property, and Bentham. .... On leaving this sphere of simple circulation or commodity exchange, from which the free trader vulgaris borrows views, concepts, and standards for his judgment on the society of capital and wage labour, something is already transformed, it seems, in the physiognomy of our *dramatis personae*. The former owner of money advances as a capitalist, the owner of labour follows him as his worker.”

More generally, value creation in labour relations typically presupposes more durable, partly non-contractual interactions in specific social contexts, possibly including not only hierarchical command-and-control, but trust and relation-specific investments on both sides. Important aspects of labour relations, including the ways how market-mediated labour is made compatible with other spheres of human life and socio-cultural reproduction, cannot be expected to be well regulated by “the market”, i.e., exit/entry decisions at the level of individual labour contracts: for various reasons, some important dimensions of labour relations (such as the regulation of working time, sanitary conditions, or provision of childcare by the firm) factually imply collective choices. Since employees are those who are most importantly affected by general aspects of working conditions, e.g. the extent to which workplaces are “family friendly”, they should have a say in pertinent decisions. Hence, we may expect that the functional scope of “voice” and “loyalty” (loyalty understood here as a concept functionally associated with the *time horizon of interactions, thus giving specific weight to the advantages of “voice”*<sup>3</sup>) is considerable. In contrast, the value of voice is diminishing when labour market interactions are becoming more short-lived and random: market-based entry/exit is becoming the only relevant form of feedback, while loyalty (feeling as part of a joint project motivating democratic engagement) appears pointless. Environmental factors relevant for the functionality of durability include the importance of income security (e.g. in view of the needs of a family) and specific requirements of production processes (e.g. the importance of sharing tacit know-how relying on trust). A sense of loyalty thus correlates with durability as well as with trust and non-instrumental social interaction, which may be required to get democracy off the ground. In this sense, voice and

3 For alternative interpretations of loyalty, see Graham and Keeley (1992).

loyalty are complements in dealing with intra-firm cooperation/coordination problems.

Producer cooperatives and labour managed firms are specific forms of workplace democracy, while “economic democracy” summarizes a broader cluster of approaches, including co-determination and more centralized forms of democratic control of working conditions etc. Three aspects may be considered capturing some communalities and differences regarding different forms of economic democracy:

1. Economic democracy in general can be seen as response to those problems in the governance of production which are best understood when their “*political*” dimension is considered (Sturm 1994), related to the observation that issues of coordination in production are often inseparably intertwined with issues of distribution and the rights of workers as citizens.
2. Considered at the structural level of politico-economic governance, workplace democracy, cooperatives and labour-managed firms in particular are relying on *polycentric* character of governance and the advantages of intermediate institutions. It may be seen as a counter-model vis-à-vis the dichotomy of atomistic markets and centralized top-down regulations (Ostrom 1990; Sturm 1994).
3. Considering the underlying ethos and issues of motivation, cooperatives and labour-managed firms are related to a laboristic idea of integrating the values of homo faber and the values of the zoon politicon, invoking the values and virtues of cooperative work in all of its stages and dimensions as a genuine human experience, thus counteracting modern tendencies of specialisation and division of labour conducive to fragmentation of selves (e.g., Taylor 1989; Sturm 2000). Insofar this ethos of cooperative work includes the idea that civic virtues are important factors in social production, it amounts to a cooperative republicanism of labour.

We might consider finer distinctions among cooperatives and labour-managed firms<sup>4</sup>. Further issues include the degree and conditions of tradability/transferability of membership rights, the specificities of voting rules, and the extent to which various forms of economic democracy are substitutes or complements (Sturm 1994). However, those aspects are of less importance for subsequent arguments, most of which are bringing to the fore arguments that apply to all forms of *workplace democracy* and sometimes to other forms of economic democracy.

Cooperatives and labour-managed firms are and have been quite successful as economic institutions, albeit under specific circumstances and historic conditions. However, their development did not render them the dominant model of productive organisation. Giving an overview of the multi-faceted history of cooperatives would be instructive (Kubon-Gilke/Laurinkari 2021), but is beyond the scope of

<sup>4</sup> See Kubon-Gilke and Laurinkari (2021) for an institution-theoretic account of cooperatives (Genossenschaften) including further distinctions.

the present article. Recalling some of the multifarious contexts in which related ideas have been discussed must suffice as a reminder of the rich and multi-faceted arsenal of arguments and perspectives critically elucidating the potentials and problems of pertinent institutions. Those include

- various strands of associationist socialism or guild socialism (Cole 1920);
- German language discourses from the 19<sup>th</sup> century onward (notably including law and economics) stressing far-reaching potentials of *Genossenschaften*, sometimes invoking specific Germanic law roots (Otto 2017);
- the debates on labour-managed firms, taking pace from the early 1960s onward. The strand of discussion initiated by Ward's (1958) seminal article “The Firm in Illyria” soon transcended the loose connections to the Yugoslav model (suggested by the title of Ward's piece), and eventually culminated in contributions on the microeconomic logic of cooperatives, such as Vanek (1970), Nutzinger (e.g., 1975), Meade (e.g., 1993), and more recently Dow's (2018) comprehensive and systematic integration of issues of labour management in a microeconomic framework of industrial and institutional economics (for an impressive survey of this rich literature see Bonin 2020);
- the interfaces of political philosophy and political economy, where we currently see a revival of debates on workplace democracy (e.g., Frega/Herzog/Neuhäuser 2019; Herzog 2020);
- the literature on “commons institutions” inaugurated by Vincent and Elinor Ostrom (e.g., 1990).

So why may we expect an increasing importance of workplace democracy under the digital transformation? In an overall perspective, the comparative advantages of workplace democracy are not only related to the specific potentials of voice as feedback mechanism, but also to merits, drawbacks, and costs of alternatives, including the drawbacks of heteronomous incentive and control mechanisms, or the drawbacks of market-mediated “entry/exit” (possibly perverted by monopolistic power), or the drawbacks of centralized regulation of labour relations (e.g., Bowles/Gintis 1993; Sturm 1994). In a functionalist cost-benefit scheme (which of course is not sufficient for predictions, as factual institutional development may be influenced by other factors), we may hypothesize that three kinds of developments could play a role:

- (1) The functional benefits of “voice” as a feedback mechanism in firms are becoming more important.
- (2) The problems and costs of “voice”-driven feedback mechanisms are diminishing.
- (3) The opposite is true for institutional alternatives relying on exit/entry mechanisms.

Section 5 will specify some developments supporting (2), referring key aspects of the digital transformation enhancing the feasibility of workplace democracy. Sections 3 and 4 are both dealing with aspects of the digital transformation showing a considerable potential for (1), while section 4 also highlights pertinent ambivalences of exit/entry mechanisms: digital technologies reduce their transaction costs, but may exacerbate problems of social polarization.

### 3. Work and the digital transformation

Before expanding on the pro-democracy arguments, two issues are considered which are relevant for any discussions concerning the future of work and its organization under the digital transformation. While the main tenets coming from both strands of arguments *prima facie* would suggest a more modest role (if any) for cooperatives in the digital economy, they sharply diverge with regard to the role of work in general: the first implies a diminished role for market-mediated work, while the second sees the scope of market-mediated work augmented.

- (1) A widely held view of the far-reaching and multifarious implications of digital technologies for workplaces predicts technological unemployment. Since the discussions about microelectronics decades ago (e.g., Kalmbach/Kurz 1992), the prospect of a massive substitution of labour through new forms of digitally supported automation and robotics is a prominent issue. Sometimes the end of the work society is proclaimed (Rifkin 1995) and an unconditional basic income (UBI) is propagated as a solution to the envisaged diminishing role of wages as means to subsistence (Straubhaar 2017). Along those lines, a *vita activa* beyond wage labour is envisaged, including non-instrumental cooperative values, new ways of organizing of care work, etc. However, it remains unclear and ambivalent to which extent this could include cooperatives in the sense of the traditions underlying the present paper, implying professional work as socially contextualized activity that is part of wider societal exchange and cooperation processes.
- (2) In various institution-related discourses dealing with the digital transformation, including those of Blockchain enthusiasts and protagonists of smart contracts, the focus is on expanding the range of services (notably labour services) which — supported by digital information and control tools — are amenable to market-based contractual mediation (see Varian 2014; Davidson/de Filippi/ Potts 2018). According to those views, two perspectives are looming large: first, thanks to technologies like Blockchain the tradability of labour services would no longer have to be embedded in a complex environment of institutions and informal norms but could be decentralized and in a sense purely market-based. Second, supported by "smart contracts" this would reduce the transaction costs of market coordination in many ways (Varian 2014). For those domains in which labour markets have so far functioned in a traditional way, blockchain-

based solutions to problems of incomplete contracts might substitute previously widespread institutionalizations and norms (Sturm 2020). Overall, it is thus envisaged that both work processes including labour services that could not previously be coordinated in any economically profitable way at all and those that were mainly coordinated through non-market institutional arrangements (such as firms and other hierarchies) will now become amenable to decentralized market coordination. Digital technologies would thus not only enable more markets, but also “better markets” with regard to the coordination of cooperative social work processes. This would eliminate not only the rigidities of institutionalized hierarchies, but also market–endogenous power asymmetries and monopolizations, which had so far compromised the liberal promises of “equal freedom” and “prosperity for all” in two centuries of capitalist mode of production, especially in labour markets: Digital platforms could render obsolete traditional social embeddings (norms, institutions, informal background conditions) that have so far been decisive for the functioning of complex markets such as the labour and capital markets. This, it is argued, is positive because it eliminates costly intermediaries, onerous restrictions, repressive hierarchies and other constraining elements that limit freedom. The perspective of such a redemption of liberal promises on the basis of institutional arrangements that are relying on digital technologies is forcefully advocated by Posner and Weyl (2018).

Contrasting the discussion on technological unemployment/end of work and the smart labour contract discussion, a *prima facie* contradiction becomes apparent: while the first amounts to a loss of importance of market/contract-mediated work as a part of a general decline of work, the second implies an increasing scope of markets for labour: labour services become tradable that were not before (Varian 2014), and those that were tradable before now become tradable in entirely free markets outside institutional and regulatory mechanisms (Davidson/de Filippi/Potts 2018).

So where do those seemingly contradictory argumentations (one predicting a decline of market-mediated labour, whereas the other implies that all productive cooperation may be almost purely contract/market mediated in the near future) leave us with regard to the perspectives of cooperatives? Insofar cooperatives are understood as alternative institutional embedment of work (productive cooperation) in modern societies, the logic of both strands of argument would lead to the conclusion that cooperatives have a more limited functional role in the future: they are less needed either because the socio-economic role of work is generally diminishing, or because work is mediated by more perfect contracts, with no need for other institutions. However, such conclusions are questionable.

In view of the perspective of workplace democracy, the end-of-work discussion on vanishing jobs must be qualified in view of a more micro-based view of the labour process. In order to derive take-home messages from the end-of-work discussion, it

is important to distinguish between the debatable macroeconomic prediction of a general long-run oversupply of labour due to robotization etc. and a micro-perspective that is not primarily concerned with technological unemployment, but with the societal transformation that is associated with vanishing “jobs” and the erosion of normality/standardization in labour relations. This may, but need not go along with the decline of professional work in the traditional sense. The loss of “jobs” reflects an accelerated disintegration of “jobs” into their task components, as certain tasks but not others are subject to automatization. Automatization and robotization primarily occur at the level of tasks. Those developments may induce polarization tendencies between those who are delivering platform-mediated fragmented tasks and a segment of employees with integrated competence profiles and a strong position — rather than the complete vanishing of work (e.g., Acemoglu/Autor 2010).

The ensuing perspective of new combinations of tasks creating new occupational profiles and the entailed risks of societal polarization are leading to the functional dimension of our argument: The perspective of a non-polarizing digital transformation (including more meaningful new occupational profiles as important precondition of “good work”) is a collective task, which gives new leverage to the case for democratic embedding of labour markets. Certain forms of “democratic participation” in the context of re-configuration of work processes, human-machine complementarities, and occupational profiles thus gain functional plausibility in view of the digital transformation.

In order to see some specific risks related to the problem of disintegration of occupational profiles and the drawbacks of their heteronomous reconfiguration, consider traditions of thought discussing the contrast between the spontaneously evolving, social division of labour with the enforced, alienating division of labour already present in industrial work. According to Harry Braverman (1977, p. 65), while the social division of labour subdivides society, the division of labour into individual operations subdivides men, and while the subdivision of society may enrich the individual and the species, the subdivision of the individual, when made without regard to human capacities and needs, is a crime against man and against mankind as a whole. The problematic fragmentation of the individual through intra-firm division of labour correlates with relations of domination within the firm. Braverman's reflections provide a vivid account of the problem that processes of division and fragmentation of labour and the concomitant development of occupational profiles may be incongruent with human potentials and needs.

Those considerations suggest that democratic participation in the further development of workplaces is crucially important for a humane digital transformation, and has priority over purely distributional corrections or redistributive schemes. The question: “To what extent and in what forms will the decomposition of jobs and a possible recombination of individual tasks into new types of jobs develop in the digital transformation?” is an entrepreneurial challenge, but also a political issue in

volving heterogeneous interests and values. It cannot be left to the anonymous game of labour market exit/entry if longer-term aspects of human needs and potentials are to gain appropriate relevance.

Individualistic approaches typically underestimate the importance of irreducibly collective “political” dimensions of work (e.g., they also fail to grasp the case for collective labour legislation; Sturn 2019). Today, they underestimate the problems occurring when (1) the evolution of occupational profiles and of human-machine complementarities is handed over to anonymous market processes and (2) collective regulations and decision-making arrangements are crowded out. Distribution-regulating approaches (e.g., unconditional basic income enhancing the individual freedom to say “no” to bad working conditions) have their limits with regard to a transformation of the world of work in terms of human potentials and needs, insofar this transformation includes irreducibly collective choices.

Interim conclusion: the undifferentiated, often pessimistically coloured discussion about the end of work falls short: A number of reasons are calling for the pro-active participatory development of job profiles complemented by suitable embeddings of labour markets. More specifically, the digital transformation is calling for the further development of participatory decision making, enhancing the perspective of new meaningful occupations mitigating the risks of polarization: the freedom to say “no” to “bad working conditions”, supported by a basic income, is not enough. Participatory institutions may play a role in strengthening complementarity potentials of digital technologies and in organizing recombination of tasks to new “jobs”, “professions”, or perhaps other ways of integrating agency profiles accommodating the socio-psychological basics of human agency.

As illustrated by those arguments, the discussion on the future of work should be embedded in institutional theory. The next section is going to provide some further background for an institution-oriented discussion strengthening the case for workplace democracy. Section 5 will then include hints on the possible role of economic democracy in the transformation, suggesting a direction (alternative to libertarian blockchain utopias) of an emancipatory transformation of the embedment of labour markets.

#### 4. Digital Complete Labour Contracts: A Dystopia?

In view of theories of labour markets, a key part of the introductory argument referred to a long-standing dispute between economic paradigms that is of importance independent of the digital transformation, but gains additional relevance in the digital transformation. For the first paradigm, the labour market (for all its possible complications and anomalies) is essentially a market like any other, modelled in terms of perfect competition where both sides are price takers, represented by the supply-and-demand schedule to be found in most textbooks. Exogenous changes in the environment lead to instantaneous adjustment, while deviations from that ideal

are considered an irrational anomaly or “distortion” (Bowles 2004: chs. 6/7). A wage rate is nothing but a price — and normal contract law suffices as a legal framework for labour contracts. As a general “philosophy”, pertinent views inspired labour market deregulation and tendencies inimical to collective bargaining in the past four decades. For the second paradigm, empirical complications (notably institutionalizations and regulations that developed in the context of capitalist labour markets) point to their specific character: labour market institutions reflect the limits of labour markets as anonymous mechanisms with swift adjustment. The basic conditions of tradability of labour notably accommodate aspects of relational durability and personal identity, often implying market–endogenous power phenomena (e.g., Sturn 1994; Bowles 2004, esp. ch. 8; Kubon-Gilke/Laurinkari 2021).

Thus, the evolution of the social and institutional embedment of labour markets (including cooperatives as a plausible institutional setting for dealing with pertinent problems) is reflecting the validity of the second paradigm. However, the digital transformation is perhaps bringing the kind of “utopian capitalism” implied by the first paradigm (Bowles 2004; ch. 6) closer to reality: labour traded on anonymous, dis-embedded markets.

Pertinent discussions are best framed in terms of the above-mentioned contrast between complete and incomplete contracts: corresponding with the second paradigm, employment contracts are the paradigmatic example of incomplete contracts. Incomplete contracts refer to contract-mediated interactions where specifying/observing/verifying all aspects of the interaction relevant for the parties is impossible or too costly: e.g., while the employer is interested in employee’s effort, “effort” is difficult to observe/verify; the (incomplete) contracts instead specifies a certain amount of time to be spent under the direction of the employer.

Ensuing problems are key to understanding the diversity and complexity of labour-related institutions and governance mechanisms (including firms), norms of behaviour, power, and even the role of morality in modern market economies: they are pivotal for understanding the significance, ambivalence, complexity, and variability of the social institutions framing modern labour — specifically including the advantageous potentials of cooperatives (Bowles/Gintis 1993, Sturn 1994). By contrast, the more the complete contract paradigm is taken at face value without reflection of the background conditions, the thicker is the veil hiding pertinent agency problems.

According to widespread visions, digitally supported smart contracts could be made “complete” *and* would make it possible that the “consumption of labour” no longer has to take place under the aegis of firm hierarchies: intermediaries such as firms would no longer be needed — at least not as organizations that manage the “consumption of labour power” (an analogous argument is made for banks/allocation of capital). According to Davidson, de Filippi, and Potts (2018), developments can be expected in two directions: (1) Blockchain platforms are part of a digital evolution towards more complete contracts. (2) Blockchain platforms lead to a kind of dis-

intermediation, i.e., previously required institutions or background conditions that provide complementary support to incomplete contracts in mediating interactions become redundant. Davidson, de Filippi, and Potts (2018, p. 3) refer to Blockchain as new institutional technology that supports exchange and contract as modes of interaction, increasing the scope of transactions for which free exchange (free entry and exit) can be considered as mutually beneficial, non-hierarchical modes of interaction and regulation. The types of transactions for which this is possible may be “carved out” from the “old” hierarchical contract governance institutions. Crowd-working platforms and technologies à la Blockchain could thus push back the incompleteness of labour contracts and allow for more complete contracts (i.e., making “efficiency units of labour” directly tradable instead of “labour power”) and also support the contractual/market coordination of activities in areas where this has not been possible so far, since digital tools are significantly changing the conditions of observability and verifiability (Sturn 2020). Both tendencies would reduce the functional role of any form of firm-like institutions, i.e. of hierarchical control and management, but also of more democratic and participatory alternatives to firm hierarchies such as labour-managed cooperatives.

How plausible are such visions — and what would be their consequences? Would “liberty, equality, property and Bentham” now finally come into their own, with digital support in the sense of an emancipative market radicalism (as conceptualized by Posner/Weyl 2018)? Would the change in physiognomy from citizen/market participant to worker be subject to domination, as mentioned in the Marx quote, become obsolete?

To answer these questions, re-call the reasons for the incompleteness of labour contracts: Typically, it is impossible or too expensive to specify *ex ante* all the performance obligations intended by the contracting parties. Labour contracts are complicated by so-called hidden action problems, meaning that it is impossible or “too expensive” to observe and/or verify an employee’s performance to third parties (for example, to a court). Total control of labour in production processes is costly, morally objectionable (Sturn 1994), and often resisted by workers: experiments suggest that even in situations where complete contracts are feasible, people may prefer keeping the degrees of freedom implied by incomplete contracts, going along with sustained “gift-exchange” and better societal outcomes (Bowles ch. 7).

“Carving out” of certain functionalities supported by platforms and more perfect contracts thus may be problematic. It is true that no one is forced to use any of the digital platforms for transactions. Those who do so do so for their own benefit. This seems attractive in terms of freedom of choice and welfare. Provided that there is no detrimental effect on third parties, voluntary exchange generates a surplus to be distributed among the exchange partners in such a way that they are better off or at least not worse off compared to the next best alternative. If parties did not benefit from an exchange or were even made worse off, they would not consent to the exchange.

However, the following questions may still be relevant:

1. Why may the platform-mediated extension of the market's scope and depth be problematic? Why are transaction cost-reducing advances in contracting technology ambivalent?
2. What are the possible problems of changes in institutional architecture promoting anonymous platforms at the expense of "conventional" background conditions (e.g. firms, labour legislation, collective bargaining, cooperatives)?
3. Who is going to determine the rules codified in the respective platforms?

Here are a few thoughts indicating pertinent answers: In a market economy, institutions/background conditions of exchange have specific functions: constraining "undesirable" transactions with negative third-party effects; facilitating "desirable" (efficiency-enhancing) transactions; mediating of problems of distribution and power. Such institutions and background conditions (if efficient and just) are thus dealing with two goals at the same time: (1) As many people as possible in as many situations as possible can take advantage of mutually beneficial exchanges. (2) Exchange distorted by overt or latent "coercive background conditions" (associated with exploitation or local tyranny) is minimized. A well-developed system of institutions/background conditions not only ensures that more socially efficient contracts can be concluded and that their incompleteness is dealt with in a socially beneficial way, but also that coercive background conditions are minimized (Zimmermann 1981). Blockchain-based "carving out" of functionalities related to goal (1) is problematic, since problems of known platform labour markets are suggesting that goal (2) may inadvertently disappear from the agenda, with possibly fatal polarizing consequences and implications for the third question: the social benefits of the "digital commons" may remain spurious unless cooperative elements are strengthening democratic accountability in the context of pertinent platforms.

Interim conclusion: Ideal-typical models of a private-property market economy à la textbook economics are unsuitable as utopia due to their lack of realism. They preclude an adequate understanding of labour market institutions, including cooperatives. They rather might include dystopic tendencies, should Blockchain and the "new contractual forms due to better monitoring" (Varian 2014) lead to consistently complete contracts – especially when coupled with asymmetric access to decisions on platform rules and data-driven personalization and customization (Zingales 2017), which (due to massive economies of scale and scope) benefit strong market participants with superior access to data and technologies such as machine learning: they may optimize rent-skimming offers to weaker market participants in order to capture close to 100% of all exchange-related rents. Contractual consent supported by digital complete contracts thus does not offer a solution to problems of exploitation and of an alienating instead of empowering transformation of work.

Eric Posner and Weyl (2018), as well as protagonists of an unconditional basic income such as Van Parijs (1995), imply that this problem could be solved by way of distributive policy. Posner and Weyl (2018) envisage an auction mechanism that permanently socializes all power-based rents and finances a basic income from them. But does the 21st century digital utopia really solve problems of exploitation and alienation by fragmented labour processes in a world of complete contracts with a basic income that creates the real freedom to individually say no to exploitation and alienating working conditions? Serious doubts are in order. Depending on empirical contingencies, exploitative rent-skimming may still be a problem under a basic income (Sturn 2014). Moreover, working conditions are complex. Their further development in congruence with human needs and potentials cannot be imagined exclusively on the basis of the economic mechanism of platform-mediated entry and exit. Anyway, it is highly plausible that voice and dissent in those institutions that coordinate productive cooperation (i.e., firms, for example) play a socially beneficial role. Behavioural economics (Bowles 2004, ch. 7, provides some examples) supports the view that reciprocity, fairness, and trust not only function as mere stopgaps in incomplete contracts, but that they are part of a superior mode of cooperation because many people prefer interacting in the cosmos of morally affine norms, associated with a certain autonomy, to the determinacy of complete contracts and perfect incentive mechanisms. This is likely to be especially true for the world of work.

## 5. Good Work and the Democratic Development of Background Conditions

These concerns gain in importance when commonly postulated properties of “good work” (Herzog 2020) are being taken into account; properties that are to some extent linked to notions of professional work as developed in occidental modernity (e.g. Taylor 1989: Pt III), informing Braverman’s critical view of labour decomposition referred to above. These include:

- 1) The development of one's own skills.
- 2) The opportunity to experience positive forms of sociality.
- 3) The perception of one's own work as meaningful.
- 4) Social recognition for one's own work.

In a market society, “good work” is arguably also associated with the possibility of making a living from one's work. With regard to good work in an encompassing sense, the digital transformation is leading to a potentially far-reaching transformation that ties in with the aforementioned themes of job decomposition, division of labour and human-machine complementarities — transforming the world of work by disrupting and recombining the tasks whose combination form traditional jobs (occupations). The question of decomposition has become a mainstream issue (exemplified by

a pertinent report from the consulting firm McKinsey<sup>5</sup>). Accordingly, the challenge is to design this recombination, which offers opportunities to redevelop occupations in the spirit of good work. On the other hand, dystopian polarization scenarios envisage jobs whose profile is tailored to minimize the bargaining power of those involved — scenarios in which decomposition, atomization, and flexibilization of work exacerbate tendencies of alienation and the fundamental tension between atomization/individualization and the social nature of the productive forces.

Democracy may be considered as a form of knowledge aggregation (Ober 2008). Knowledge about meaningful re-combinations of tasks into jobs and about complementary and substitutive potentials of digitized production probably is, at least in part, tacit and linked to practical experience in work processes. Developing the epistemic potentials of economic democracy, then, could play a specifically beneficial role in developing occupational profiles, human-machine complementarities and, more generally, the background conditions of labour (Gerlsbeck/Herzog 2020). Among other things, it could provide micropolitical feedback mechanisms that favour an economically expedient and at the same time attractive recombination of tasks into innovative, “good” jobs. As already elaborated in earlier discussions on guild socialism (O’Neill 1998), specific improvements in dealing with knowledge that is difficult to codify (tacit knowledge) can be expected if the communication culture becomes more encompassing.

Forms of workplace democracy thus may have a specific function, but do they have a real chance? Along with the possible functionality of participatory decision-making supporting non-alienating digital transformation, we should consider potentials of more expedient participatory decision procedures on the basis of new digital technologies. In the context of micro-economic decision making, efficiency arguments often spoke against too much democracy: markets often put a premium on quick decisions, and too many veto players stifle entrepreneurial innovation. However, digital technologies may partly reduce the costs and time required for collective consultation and voting mechanisms and to implement refined voting procedures based on the guiding idea of aggregating knowledge and judgements as reliably and comprehensively as possible (“epistemic democracy”).

Herzog (2020: 237) vividly describes a kind of tension implying a beneficial role of workplace democracy: In private companies and in the public sector decisions on the introduction of new technologies (with potentially profound effects on occupational profiles) are made by management or the Information Technology department – not those who are actually affected by the changes of work there. Nonetheless we observe that participatory decision-making and feedback using digital technologies is becoming part of the work and organizational culture in many places. Companies are trying to use digital methods to improve the quality of information

5 <https://www.mckinsey.com/-/media/mckinsey/featured%20insights/Digital%20Disruption/Harnessing%20automation%20for%20a%20future%20that%20works/MGI-A-future-that-works-Executive-summary.ashx>. Accessed 11/08/2021.

and decision-making under slogans such as “agile working”, whereby open communication and activation are also seen from a motivational point of view in the sense of behavioural arguments already referred to in above discussions on (in)complete contracts. Digital tools can attenuate the problem that in complex organizations explicit and implicit power structures, along with atmospheric problems, may hinder the flow of information. Digitally supported and pseudonymized communication can sometimes facilitate substantive feedback because the risk of unfavourable reactions is minimized. Psychological barriers to sharing information can be reduced.

As observed by Herzog (2020: 241), many people are familiar with the use of some of these approaches from their own experience, but have reservations because feedback and communication platforms organized digitally or otherwise are frequently used for pseudo-participative processes that are either not really taken seriously by management (and are therefore perceived as pointless occupational therapy), or are part of an excessive reporting/controlling system in areas where deliberative discursive discussion including different perspectives would be more in demand instead of a controlling approach (for some background, O’Neill 2005). In such cases, stakeholders may lose interest and trust turns into cynicism.

This supports embedding such approaches in seriously democratic rules of the game — including the kind of participation that always has been a key rationale of cooperatives. Such an embedding could counteract the digitally leveraged alienation and the dominance of material and immaterial machinery, which threatens when emerging combinations of tasks along with anonymous powers of markets deprive the people affected of any autonomy. The shift of knowledge and skills to the machinery (think of machine learning), which Marx already lamented for the first industrial revolution, might gain a new dimension in the digital revolution if practices, processes, and occupations are not developed in view of the human factor. Cooperatives could help to productively develop the complementarities between human capabilities and the potentials of digital technologies. They are therefore an antidote to the disempowerment of the individual through technology, to the alienation of the potentials of the individual from those of the human species.

**Conclusion:** As a way of coping with dystopian digitalization (from labour market polarization to tendencies in corporate governance indicated by the increasing role of index funds), workplace democracy may be a realistic contribution to problem-oriented innovations in the market–hierarchy–democracy coordinate system of the world of work. Supporting an entrepreneurial, proactive–participatory, knowledge-based approach, it could encourage workers to develop competencies and mobilize knowledge that enable entrepreneurial co-operation and co-agency in digital work environments where employment profiles are anyway reconfigured. The mobilization of employees’ tacit knowledge is particularly important for optimizing the entrepreneurial recombination of tasks and to recognize complementarities, re-inventing good work. In this sense, workplace democracy is thus a problem–adequate leitmotif envisaging a positive dynamism of digital workplaces.

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