20

DIGITAL TRANSFORMATION AND THE SOVEREIGNTY OF NATION STATES

Richard Sturn

Introduction

The crypto currency Bitcoin and the Facebook project Libra represent two different directions of technologically supported institutional innovation in the transition from public to private governance. Both developments are part of the digital transformation and both challenge traditional concepts and boundaries of public and private sphere, implying the potential of fatally undermining the ever challenged ideal of state sovereignty – a legal–institutional artefact which has been a crucially important element in the development of constitutionally framed democracies and market societies in the west.

On the one hand, challenges are brought about by the multi-faceted governance ecosystems becoming visible in governance-related research on Blockchain and smart contracts based on contract theory, mechanism design, and the economics of institutions. They may change the polycentric governance architecture of contemporary economies in unexpected ways. On the other hand, the growth dynamics and monopoly power of digital monopolies reach a new quality through a combination of different (partly well-known and partly new) factors changing the governance architecture and the general background conditions of market exchange. To be sure, both developments may interact with each other. However, as a first step, it is useful to analyse their basic logic as distinct developments – and the nature of the implied challenges.

This chapter is organised as follows. First, a few main tendencies pertinent to the issue of sovereignty in the digital age are briefly sketched. This is followed by four sections, which explain the underlying institutional and political challenges with some theoretical backgrounds (referring to economics as well as to discussions in political theory and constitutional law) in greater detail: the institutional architecture of modernity and the causes of its instability – with special reference to the digital transformation – are discussed. Also, arguments suggesting that Blockchain is not simply a transaction cost-reducing “exchange technology”, but may change the institutional architecture, are sketched. The implications of “incomplete contracts” and the “background conditions” of exchange and contract regarding sovereignty are also discussed. The conclusions put forward for discussion are highlighted in terms of three scenarios of vanishing state sovereignty. Seen together, those scenarios elucidate the logic of trade-offs, but also systemic interactions between “surveillance capitalism” and surveillance state.
Challenging state sovereignty: general overview of main tendencies

The institutional and organisational horizon of digital technologies extends far beyond crypto currencies and the market power of digital monopolies in the traditional sense. Developments such as Bitcoin and other applications of Blockchain, on the one hand, give a new turn to the perspective that essential parts of the institutions framing the conditions under which market transactions are carried out emerge in the private sector, created by an invisible hand in the course of the evolution of digitally based institutional ecosystems. While the evolution of the contract-mediated market economies always tended to bring about profound unintended side-effects on future background conditions of exchange (not least because market outcomes are systematically related to wealth distribution), the evolution of digitally based ecosystems implies new potentials of crowding out public institutions and circumventing their rule-setting and regulatory functions. Marcella Atzori (2015) sums up these perspectives as follows:

This process might rapidly change even the tenets that underpin existing political systems and governance models, calling into question the traditional role of State and centralized institutions. Indeed, many Blockchain advocates claim that the civil society could organize itself and protect its own interests more effectively, by replacing the traditional functions of State with Blockchain-based services and decentralized, open source platforms.

Indeed, the impact on sovereignty of the invisible hand driving such ecosystems requires a thorough analysis of how Blockchain is functioning as a substitute for known institutional background conditions of exchange, including apparent paradoxes. The challenge of developing adequate degrees of centralisation (given the scope of coordination problems) is exacerbated by problems of accountability and distribution. On the other hand, the monopolistic rent potentials accompanying the digital transformation (dealt with by Luigi Zingales’s 2017 political theory of the firm) tend to undermine state sovereignty in a way which is easier to grasp. Pertinent aspects of the digital transformation exacerbate the tension between private governance and public characteristics of technologies and their development as social forces of production. Ubiquitous network externalities and non-rivalry properties of data are only two aspects of those public characteristics. Information-intensive goods have high fixed and low marginal costs; in combination with artificial intelligence, data volumes show increasing economies of scale. There is a tendency towards winner-takes-all industries and information complementarities, as aptly illustrated by Zingales (2017: 121):

The value of the data derived from Facebook and Instagram combined is likely to be higher than the sum of the value of the data derived from Facebook and Instagram separately, since the data can be combined and compared. Thus, Facebook is likely to be the higher-value user of Instagram data, even ignoring any potential market power effect. If you add market power effects, the momentum toward concentration might be irresistible.

This gives additional leverage to pre-existing trends towards globally operating corporations with annual revenues higher than those of many national governments. However, the political dimensions of this trend are not only associated with the sheer size, with concomitant lack of competition, or with political influence activities in the traditional sense. Moreover, they differ from the challenges of the military-industrial complex famously invoked in President
Eisenhower’s farewell address. First, those well-known challenges change their nature up to a point where traditional modes of antitrust policy become obsolete or self-defeating (see e.g. Basu’s 2019 argument on vertically serrated industries). Second, the specific core of the political dimension of digital monopolies is related to their increasingly profound and far-reaching public and medial functions. In their role as platform and network operators, they act as providers of services with public characteristics and often are, in fact, creators and enforcers of norms and standards. For instance, they have a considerable regulatory function with regard to weighing (sometimes conflicting) basic values: which postings are permissible within the framework of the right to freedom of expression and which are to be eliminated? While the fact that commercial companies determine and provide quality weighting/impact factors for scientific publications may be a secondary facet, those roles in standard-setting and evaluation processes, however, are exemplary cases of (semi-)public goods provided by private sector mechanisms.

Better prospects for private provision of public goods may appear as unambiguously good news. However, private economy accounting mechanisms are not designed for public/political accountability. They are based on narrower, specifically targeted controlling and feedback mechanisms which are undoubtedly superior for organisations dealing with standard private goods. However, they become increasingly problematic with increasing importance of public characteristics, including the functionality of the respective goods in supporting the liberal order of a sovereign state. Private modes of provision are moreover associated with the fact that what is actually provided are mixed goods or private substitutes for public goods. Their use characteristics will tend to be biased in favour of specific interests according to willingness-to-pay. This, in accordance with the logic of private provision, may be associated with selective (non-open) access to certain uses of these goods.

Third, a combination of current trends may induce a politico-economic process which gives a dramatic turn to the long-standing problem of political influence activities. Zingales (2017) refers to the digitally induced version of this turn as the “Medici vicious circle” of the mutual reinforcement of political and economic power. This implies that choices affecting everybody (thus collective by nature) are made not by way of explicit political choices, but by privileged norm makers, whereas all others are norm takers. In analogy to the term shadow economy, one could speak of shadow politics in this respect (cf. Sturn 2021). With these tendencies, democratically legitimised rule development, regulatory policy, and political mechanisms of accountability might be rendered powerless or crowded out: more far-reaching “collective choices” are imposed in the sphere of shadow politics by privileged norm-makers on the one hand and by the invisible hand of spontaneously developing institutional ecosystems on the other, both circumventing the constitutional and political mechanisms of public actors whose sovereignty gradually erodes.

1 It is nevertheless an instructive case study. The operative concretisation and adaptation take place in negotiation processes in which profit-oriented private actors (in this case scientific publishers and companies such as Clarivate Analytics) play a decisive role, whereas it is not always clear how effectively the scientific communities are able to organise the science-relevant public.

2 Zingales (2017: 119) aptly refers to political implications of incomplete contracts: “If rents are not perfectly allocated in advance by contracts and rules, there is ample space for economic actors to exert pressure on the regulatory, judiciary, and political system to grab a larger share of these rents. . . . If the ability to influence the political power increases with economic power, so does the need to do so, because the greater the market power a firm has, the greater the fear of expropriation by the political power. Hence, the risk of what I will call the ‘Medici vicious circle’”. It is obvious that the same logic applies to more traditional kinds of rents, e.g. certain types of the resource curse (rent-grabbing agents with questionable legitimacy have the need and the incentive to capture the political system) or scenarios of crony privatisation conducive to a regime of oligarchs.
Richard Sturn

State sovereignty is an integrative part of the institutional architecture under modern conditions of polycentric (public, private, and intermediate sector) governance, which developed along with a specifically pronounced separation of public and private spheres/sectors. In the context of the modern state, the distinctively modern ideal of sovereignty plays a crucial role: according to the Austro-German public lawyer Georg Jellinek (1921: ch. 14, 1911: vi.34), the author of one of the most insightful accounts of the function of state sovereignty within the complex architecture of modern institutions, this legal concept was crucial for state agency, legitimacy, and authority, including the self-limitation of states under the rule of law in a world of strategic uncertainty. Sovereignty means non-domination by external and internal powers. However, it does not imply but rather rules out absolute power. It is a legal construct with some analogies to moral autonomy, which does not mean that you can do whatever you want. In an illuminating comparison with classical antiquity, Jellinek points out that sovereignty is categorically different from the notion of autarchy, which according to Aristotle is the defining characteristic of a self-sufficient polity. For different reasons, the notion of sovereignty could play a role in neither the relatively small Greek city states nor the Roman Empire with its monopolistic position. As explained by Jellinek by way of those and further instructive contrasts (such as the Hanse, a federation of non-sovereign commercial cities in Northern Germany and the Baltic), sovereignty is not a necessary condition for provision of certain public functions such as the support of trading networks. For instance, certain kinds of security may be provided by non-sovereign entities and even as a by-product of feudal domination. In our time, the quest for global governance triggered by digital transformation and climate change adds a new dimension to sovereignty and polycentric governance, over and above the institutional connotations of the geopolitical notion of a multi-polar world.

Those observations are important in order to avoid the following fallacy: collapse of sovereignty does not imply collapse of all public functions. However, sovereignty was crucial for developing and sustaining a form of governance neutralising threats and influencing activities from within and outside in core areas of modern state functions – to an extent such that a truly public sector could gradually supersede privilege-ridden forms of governance and create the degree of openness characteristic for modernity.

The analysis provided in the present entry supports the conclusion that neither the concepts of sovereignty (or a modernised analogue) nor the associated distinction of public and private sectors becomes functionally obsolete under digital transformation: quite to the contrary, a public sector with correspondingly developed forms of political accountability is more than ever necessary. In absence of this, the digitally supported increase of the extent of market mechanisms (the expansion of the principle of free contract) may become a one-sided appropriation mechanism for oligarchs, rather than unfolding its potential as a socially productive force. Without an effective public sector, the potential of digitalisation with regard to the storage, aggregation, availability, processing, and development of knowledge and information not only is used sub-optimally, but also is being perverted. Instead of the differentiation between a functionally specific public sector based on collective choice and political accountability and private entrepreneurial economy based on commercial accounting, precarious forms of semi-public governance, shadow politics, and compromised privacy may emerge.

While sovereignty of public agency will not become functionally obsolete, the potentials, as well as the challenges, connoted by digital transformation will drastically modify the setting in which sovereignty and the public sector can fulfil their function. First, the social-territorial incongruence of public tasks and statehood (that has emerged already in the face of globalisation and the climate problem) is virulent anew in the context of digitalisation. What do digital business models mean for taxation and social policy? Can political accountability be
Digital transformation

de-territorialised in a problem-oriented way? Is it possible to organise political accountability along functionally specific overlapping federal structures, or cosmopolitically? How are the current tendencies of re-nationalisation to be assessed?

Second, the potentials of digitalisation in terms of making information available should be seen under perspectives including both good news (improvement of allocation and feedback mechanisms) and bad news (emergence of new power asymmetries). Consider the good news first. Due to new possibilities of aggregation, processing, and analysis of different information/data, digitalisation has a considerable potential with regard to two forms of decision-supporting accountability and feedback which co-evolved with modern market societies. Both forms of accountability and feedback are likely to become even more important in a period of accelerated dynamics of innovation accompanying digital transformation, including multi-level social learning processes: (1) the discursive-political legitimacy of public choices in combination with electoral mechanisms in the public sphere against the background of a cosmos of pluralistic, latently conflicting values and interests; (2) private sector accounting/controlling against the background of one-dimensional (typically monetary) indicators of success. Even though this is good news, there is a non-negligible risk: if the pertinent potential of digital technologies is not embedded in the constitutional-political architecture supporting those feedback processes in suitable ways, keeping public concerns and the domain of private entrepreneurship apart, there is a danger (to be discussed later) that it will develop in a way that ultimately leads to an accountability deficit while at the same time compromising the private sphere through a kind of “surveillance capitalism”, possibly combined with surveillance statism.

As mentioned earlier, one specific problem is centralisation without accountability through private monopolies along the lines outlined by Zingales (2017). Another specific problem arises through decentralisation à la Blockchain, associated with a spontaneous evolution of platforms behind the back of the actors. In both cases, optimists rightly stress the efficiency gains and in particular the huge potentials for everybody by facilitating many kinds of decentralised transactions by “small” market participants. (Indeed, this also applies to platforms run by monopolists.) Both tendencies were unambiguously beneficial if (in a co-evolutionary process, as it were) mechanisms emerged that secured the public character of the provision of exchange-supporting services. Unfortunately, in the history of capitalist market economies, the public character of exchange-supporting institutions has hardly ever been the result of a smooth, spontaneous co-evolutionary process: it had to be deliberately pursued by political agents and defended against special interests. It is hard to see why the evolution of governance “ecosystems” without formal hierarchies (let alone of digital monopolies) should be immunised to the dangers of rent-seeking and shadow politics by some miraculous invisible hand guided by public interest. While divergence in wealth accumulation and the development of de facto privileges can easily be modelled as the outcome of spontaneous processes, adequate distributive regulation and social policies are among the core functions of a genuinely public sector – an insight epitomised by theories such as Lorenz von Stein’s account of the Sozialstaat, which according to Stein is a necessary complement to the Rechtsstaat (rule of law) as foundational prerequisite of modern market societies.

Moreover, spontaneous counter-reactions to distributive polarisation and Medici vicious circles of economic and political power may degenerate into the kind of pathological counter-movements already described by Karl Polanyi (1944). Instead of breaking a vicious circle, phenomena such as populism just add another (possibly dangerous) loop to the Medici vicious

Richard Sturn

circle and (while operating in the shadow of accountability by polemically targeting unaccountable elites) fully destroy the public sphere and effective mechanisms of accountability. The latter is a predictable consequence of populist currents becoming hegemonic in the political system (as a reaction to these deficits), whose political business model is the transformation of the public sphere into an arena where friend-and-foe polarisation rules the roost. Those political forces will not deal with the systematic reasons for the accountability deficits to which they partly owe their boom, but will seek salvation in illiberal variants of capitalism with a tight association of political and economic power (for some background see, among others, Zingales 2017; Streeck 2013; Schmitt 1933; Müller 2013). Developments of this kind have come a long way in some places in recent decades.

Given the political and artificial character of sovereign bodies capable of consistently pursuing the public interest, we might face an accountability paradox: while digitalisation supports the development of refined and expanded information systems as a prerequisite for refined micro-accountability, by undermining public–private architecture it could exacerbate existing accountability deficits and/or create new ones. All this gives rise to the conjecture that, in the face of digital challenges, the vulnerable civilisational constructs of state sovereignty and the specifically modern public–private distinction could experience its finest hour – or demise.

So, what is the historical starting point for analysis of governance in the age of digital transformation? Accountability deficits and (related to them) the mutual interpenetration of private and public spheres focused on by Zingales (2017) are already politically virulent, including various forms of populism as a problematic counter-movement to allegedly unaccountable elites. In view of a prospective digital accountability paradox, things could become even more difficult: political business models capitalising on such difficulties already have gained momentum. However, the current visibility of the problems of such developments also may induce us to take more seriously concomitant challenges to foundational aspects of modern governance such as sovereignty.

The institutional architecture of modernity

Given what has been argued so far, two questions ought to be kept in mind when dealing with optimistic views of current trends. Putting digital potentials and challenges into the perspective of the institutional architecture of modernity, we need to ask: (1) is there any evidence for the obsolescence of sovereignty and the public–private dichotomy (associated with the digital transformation), for instance because Blockchain supports decentralised coordination processes delivering everything that the public sector used to deliver, but in a hierarchy-free manner based on voluntary transactions? (2) To what extent are the dangers disappearing that previously made sovereign public agency unstable? Put another way, will public agency become a self-propelling force in the course of the digital revolution, because the preconditions for permanent privileges, asymmetries, and special interest rent-seeking are vanishing in the digital world?

An optimistic literature implicitly answers both questions in the affirmative. However, I already have indicated some reasons for negative answers. Here are a few additional backgrounds and thoughts motivating a sceptical view. Ad (1): Joseph Schumpeter (1942: 197–198) concisely points to the sharpness with which the public sphere in modernity became demarcated from the private sphere and developed into a separate, functionally complementary social sector. The modern public–private dichotomy is semantically comparable to dichotomies from classical antiquity (Polis vs. Oikos, privatus vs. publicus). However, it is fundamentally different not only in terms of creating the preconditions for sector-specific mechanisms, institutions, and actor types. The sectoral differentiation between public and private is constitutive for sovereign modern states in market societies. The development of two sociologically different sectors is
accompanied by the evolution of institutionally differentiated frameworks for complementary, problem-adequate accountability mechanisms. The modern public sector, moreover (guided by ideas such as Adam Smith’s, 1776, system of natural freedom), promotes the development of the market as a productive force in an economy dynamised by a cumulative process of division of labour (which, according to Smith, is limited by the extent of the market). Providing or supporting exchange infrastructures and dismantling of trade barriers and privileges is a crucial element in this process.

Thus, the private sector mechanism of free exchange became a dynamic social productive force when the state began to influence the background conditions of exchange in a systematic way “creating markets”, not least by providing constitutional rules and public infrastructures and dismantling the “aggregate of privileges” that Hegel identified as a characteristic of pre-modern governance and background conditions. The regulative ideas of a public sphere are associated with openness, free access, non-discrimination, ideas of “equal freedom”, and the rejection of privileges. Complementary to this are the spheres of private living and the private economic sphere for the management of private goods and for entrepreneurial experimentation. According to this kind of strong complementarity, the private sphere can only become truly private when the public sphere becomes truly public.

Ad (2): In view of the indicated risks of the digital transformation, it is of central importance to emphasise the historically contingent, unstable character of state sovereignty and of the separation of private and public spheres. A public sector capable of appropriate action can neither be taken for granted as a natural outcome of evolution nor viewed as an exogenous, God-given instance. Moreover, on the whole the mechanisms of the public sphere are unlikely to become a smoothly operating, unified machinery unambiguously implementing rational policies. In a sense, Buterin et al. (2018: 36) have a point when characterising the interactions between state, society, and economy as “awkward dance of capitalist atomisation coupled with checks and balances among various rigid levels of collective organisation”. Indeed, this observation captures the darker side of the ways in which the power and stability problems outlined in the introduction have been dealt with to date. However, the causes for the “awkward dance” and the functional background of the checks and balances should be kept in mind as background when considering alternatives. This includes coping with Medici vicious circles, viz. the socio-economic forces systematically amplifying and petrifying power asymmetries endangering the kind of openness stressed by North et al. (2009). In the presence of such forces, the functional scope of elegant mechanism-based solutions will be limited.

In other words: while it is questionable that the functions attributed to the public sector can be dealt with by mechanisms fundamentally different from the “awkward dance”, in view of the manifold problems of traditional state–society–economy interactions it is certainly worthwhile (as suggested by Buterin et al. 2018) to think about the potential of decentralised, hierarchy- and state-free orders (e.g. on the basis of Blockchains) in which all formerly public services are provided privately or by “voluntary associations” or commons. However, such imaginations are question-begging if they are not based on a clear view of the problems which represent the raison d’être of the institutional architectures of modernity and which probably do not vanish into thin air in the face of digital technologies.4

Envisaging phenomena such as the Medici vicious circle, the interpenetration of private and public spheres should be analysed in a more general systemic context, including two aspects:

---

4 It is noteworthy that authors such as the Ethereum developer Vitalik Buterin take a substantial part in the discussion about broader political-economic perspectives.
first, stressing the characteristic sharpness of the modern distinction between public and private must not lead to ignoring the numerous and inevitable interfaces and frictions between the two spheres. These include the possibility of precarious forms of mutual interpenetration. A classical area of such interfaces is covered by public finance. It arose from the need to develop a doctrine of the public economy, including specific interfaces such as taxation and public procurement. Taxation and public credit represent characteristically friction-laden interfaces, complemented by the various forms of involvement of private actors in public tasks. Properly mediating those frictions is a precondition for state stability, agency, and sovereignty. Second, apart from those interfaces, the “public sector” mechanisms are associated with problems and pitfalls of their own. Political processes must not be idealised as tension-free mechanics of the public sphere. The concept of the state as an agency of collective rational design, as in utilitarianism, can at best serve as a point of reference, but is way too simplistic even as a regulative idea. Paradigms of politics as a space of discursively mediated responsibility, and/or of the development of dialogical reason or Aristotelian idealisations of the polis may be valuable as inspiration. However, they require a critical perspective in view of the tasks to be delivered by a modern state in pluralist societies. Indeed, the seemingly cumbersome institutional architectures of modern public sectors can only be understood out of the difficulties in reconciling tension zones created by divergent interests and cultural heterogeneity. The state is not an exogenously given and smoothly functioning actor – as the conception of government in mainstream economics would have it, for example. Rather, according to Ernst-Wolfgang Böckenförde (1976: 60), the modern constitutional state finds itself in the dilemma that it cannot itself provide the preconditions on which it is based. In a nutshell: a functioning public sector is indispensable, but it cannot be provided by technocratic fiat. It is a higher-order public good based on complex, artificial constructs, including sovereignty and the separation of public and private. The institutionalisation of the latter has the function of counteracting pathogenic forms of mutual penetration of these spheres, such as the colonisation of the public sphere by certain classes or interest groups.

This architecture requires built-in stabilisers, including not only constructs such as the separation of powers, but also a minimum of convergence of mental models and common basic norms, for otherwise the foundational understanding of the public sphere dissolves. Without such an understanding, the accountability mechanisms themselves sooner or later are being captured by special interests or distorted by group-specific idiosyncrasies. There is a danger of successive degeneration towards either the Medici vicious circle or repressive variants of socialism that seek collectivistic closure, which fail in the long term due to a lack of openness in the development of social productive forces. In short, the modern institutional form of this dichotomy is an artefact rich in prerequisites, based on checks and balances and unstable due to the inevitable existence of the interfaces mentioned.

While the institutional architecture of the modern liberal order is an artefact rich in prerequisites, a crucial aspect of its complexity is related to its development as a mix of spontaneous process and politically “planned” market-making on several levels. In keeping with Karl Polanyi (1944), this process can be described as “disembedding”. However, this term only refers to the most striking aspect of a multi-level transformation of background conditions of market exchange, partly politically implemented, partly spontaneously evolving. A decisive aspect of

5 Robert Sugden (2004: 3) characterises this position as follows: “Most modern economic theory describes a world presided over by a government (not, significantly, by governments), and sees this world through the government’s eyes. The government is supposed to have the responsibility, the will and the power to restructure society in whatever way maximizes social welfare; like the US Cavalry in a good Western, the government stands ready to rush whenever the market ‘fails’, and the economist’s job is to advise it on when and how to do so.” See also Smith (1790: VI.i.2).
Digital transformation

this transformation is the parallel movement of the state and the market: the traditional social embeddings are pushed back, as it were, from those two sides (unleashing market competition; superseding traditional norms by state regulation). Thinkers such as Lorenz von Stein have worked out the functionally necessary basic principles and specifics of modern state governance, which is geared to the gradual, discontinuous, and difficult overcoming of privilege-ridden governance: what Stein calls the Rechtsstaat (rule of law) is a necessary, albeit insufficient, prerequisite for this modernisation. According to Stein, it must be accompanied by a Sozialstaat (welfare state) embedded in the public economy. An essential feature of such constructs, which evolved towards the “democratic capitalisms” politically framed by sovereign states in the 20th century whose major successes came in the period after 1945 (Streeck 2013), is the development of background conditions striking a balance between unleashing and socially stabilising the market as a social force of production.

The liberal order organising this balance includes a set of politically produced background conditions of exchange. It is an irreducibly public good of higher order: at this level, private substitutes are categorically impossible. Moreover, this irreducibly public good is closely associated with the public provision of certain core first-order public goods, whose selective or biased provision is incompatible with the liberal order. In other words, public provision is systemically relevant. Hence, ruling out private substitutes at the level of those core first-order public goods supporting the liberal order is a crucial test of state sovereignty. Private substitutes counteract the openness that is constitutive of liberal orders (cf. North et al. 2009) and undermine sovereignty. The development of this order depends on filter and balance mechanisms such as separation of powers, which may appear as “awkward dance” but prevent phenomena such as the Medici vicious circle. Sovereignty is thus dependent on the public provision of certain first-order public goods. Private substitutes are possible (e.g. some kind of security as a by-product of feudal allegiance), but their discriminatory character will tend to undermine the higher-order public good.

Tendencies towards the erosion of the public sphere are omnipresent even if we put digitalisation aside. In this respect, the development of mental models in the past decades must be taken into consideration. There are signs of a diminishing problem sensorium with regard to precarious interpenetration of the public and private spheres. Mechanisms of public accountability tend to be downgraded to dispensable decorative accessory without any real meaning, or to an annoying cost factor and an obstacle to efficiency, thus paving the way for shadow politics of all kinds. Problematic aspects of the role of private actors in the provision of public services or the development of private or semi-private substitutes for public goods are not well understood. If disruptive changes in this complex architecture are to be expected as a result of digitalisation, this will happen in a phase in which the public sector is in jeopardy anyway. As Atzori (2015: 31) rightly points out:

When assessing risks and benefits of Blockchain applications, we cannot overlook the fact that to overthrow the State and to absorb its functions is a profitable business. While the Blockchain was originally created to eliminate the need of a third party in transactions, the paradox is that stakeholders now involved in Blockchain governance play the classical role of tertius gaudens, a “rejoicing third” that attains economic benefits by replacing the State in some or all its functions; even worse, these agents may also intentionally pursue a strategy of divide et impera (divide and rule) between

---

6 A good overview can be found in the chapter on Lorenz von Stein in Böckenförde (1976).
Richard Sturm

civil society and State, aimed to undermine the traditional democratic order, modify the existing balance of power and achieve a dominant position in society. If it is true that “the neo-liberal ascendency and its corporate agenda are producing its own version of democracy” (Marden 2003: xiv), it is not unreasonable to assume that this will take on the features of an algorithm-based decentralized society. In such scenario, to advocate the idea of State means to reaffirm the primacy of politics over economics and to recognize the need for a coordination point in society, in which the tensions between individual interests and common good find a constructive, political compromise.

Whatever “primacy of politics” means in the context of the richer concept of sovereignty: in the following, the analytical focus is the search for valid clues to the indispensability of political accountability and the “coordination points in society” that do justice to the reach of pure public goods in the digital transformation. But first we need to look at another aspect. Atzori emphasises the profit opportunities of privatisation. One could now object to this: so what? In a market economy, profit opportunities indicate previously untapped, socially valuable potentials – analogous to the market for corporate control, which, according to the textbook, leads to the untapped potentials of companies being leveraged when they are taken over by the highest bidder. The quest for the primacy of politics and sovereignty depends on answers to questions such as: what are the core public tasks that are neglected, undermined, or even counteracted under certain digital transformation scenarios? The answer is much deeper than the level of neglected rail infrastructure or the like. In the digital context, it is linked to two aspects: (1) the public characteristics of digital technologies and their tension with private accumulation and (2) the role of the state as part of the background conditions of contracts, to which we now turn.

Widening the scope of private mechanisms

What you are, you are only through contracts.

Richard Wagner, Das Rheingold, Prelude, 2nd Scene

We may even go so far as to abstract from entrepreneurs and simply consider the productive services as being . . . exchanged directly for one another.

Léon Walras (1969: 225)

Exchange and contract are indispensable in modern societies for the mediation of various interdependencies. They do this on the basis of a diverse and complex structure of background conditions, a large part of which have been created politically and are condensed into differently situated and differentiated layers of formal and informal norms, rules (such as labour law or collective bargaining), standards, or taxes, but also authority relationships in companies or co-evolving behavioural dispositions such as reciprocity (cf. Bowles 1998). Moreover, the background conditions of market exchange include the respective alternatives in the bargaining situation that precedes the contract. The attractiveness of alternatives influences the bargaining power. Wealth distribution thus determines structural background conditions: those who have no viable alternatives are more likely to accept an “immoral offer”. Modern statehood as an effective institutionalisation of the public sphere is an essential element of background conditions. Without it, the market would not have been able to develop as a dynamic social productive force. All in all, the state-supported part of background conditions provides “solutions” to a
series of different strategic interaction problems. Some of those problems could not be solved at all, some only with great difficulty, by socially dis-embedded individuals who egoistically maximise utility in absence of institutional frameworks. (In societies with rudimentary institutional background conditions, exchange and market were marginal phenomena.)

Digital technologies such as Blockchain can now be considered as technological possibilities to support contract-like interaction without state-supported background conditions. The simplest concept for capturing the part of background conditions represented by formal and informal institutions is that of transaction costs. Transaction cost reduction is an obviously interesting potential of technologies such as Blockchain. However, technological transaction cost reduction is not a specific feature of Blockchain. It is not new that technologies change patterns of transaction costs, thus affecting the extent to which the price system is economically viable to coordinate economic activities. For example, the introduction of electronic toll systems facilitates pricing the use of urban traffic areas (even with efficient price discrimination), which would previously have been impossible in view of the high transaction costs – inducing an increase in the range of advantageous applications of price-based mechanisms. Davidson et al. (2018: 3), however, argue that Blockchain is not merely an exchange technology in the sense of Coase’s paradigm of reducing transaction costs, but an “institutional technology”. It extends the portfolio of modern institutions (company, state, commons, and relational contracting) by a new type of institutional coordination.

The observation that the functioning of Blockchain cannot be reduced to the reduction of transaction costs is correct and important. Additional functions come into view when we systematically use the theoretical concept of incomplete contracts. Davidson et al. (2018: 3) also refer to this concept, in two almost obvious directions: (1) Blockchains are part of a digital evolution towards more complete contracts; and (2) Blockchains lead to a kind of dis-intermediation, i.e. previously required institutions which complement incomplete contracts in the mediation of interactions become superfluous.

Cryptographically secured Blockchains are said to be “trustless” because they do not require third-party verification (i.e. trust), but instead use high-powered crypto-economic incentive protocols to verify the authenticity of a transaction in the database (i.e. to reach consensus). This is how Blockchains can disintermediate a transaction (a consequence of which is lowered transaction costs), resulting in new forms of organization and governance.

The implication is that Blockchains may not compete head-to-head with firms, but rather may carve out those parts of firms that can be rendered as complete contracts. . . . For instance, Blockchain-enabled smart contract-facilitated transactions should in principle experience fewer efficiency problems due to information asymmetries – adverse selection (prior to a transaction) and moral hazard (following a transaction). Smart contracts could also be effective ways to load significant numbers of low-probability state contingencies into contracts. These could function like open-source libraries able to be inserted into machine-readable contracts, reducing the complexity cost of writing large state-contingent contracts, and so lowering transaction costs. Both ex ante contractual discovery and ex post contractual renegotiation costs

---

7 These are contracts in which not all relevant eventualities are (or can be) contractually determined ex ante because this would be too expensive or also because relevant aspects, in which the contracting parties are very interested (e.g. work-effort), are difficult to observe and not verifiable at all (e.g. before a court). Employment contracts are typical examples of this, with regard also to the long-term nature of incomplete contracts (relational contracting).
(i.e. bargaining and haggling costs) are an expected consequence of incomplete contracts. Such contracts have dynamic benefits, enabling adaptation, but in the shadow of these expected but uncertain costs all parties will contract less than is optimal. Blockchains potentially enable the known parts of these relationships to be carved out efficiently from the unknown parts, and executed automatically based upon state conditionals, increasing the range to which economic coordination can extend into the future.

Both the “dis-intermediation” and the enhancement of complete contracts (which as “known parts” of these relationships are separated from the “unknown parts” with respect to which contracts remain incomplete) are associated with a further change in the institutional architecture. The socio-economic functions of Blockchain thus cannot be sufficiently understood with the concept of transaction cost reduction. It not only increases the number but also widens the scope of transaction types for which voluntary exchange conditioned by entry and exit can be considered as an unambiguously advantageous, non-hierarchical mode of self-regulating interaction: nobody is forced to participate in Ethereum. Those who do so, do so to their advantage. The “principle of free contract” underlying those attractive properties belongs to the DNA of economists (Basu 2007): voluntary contracts of responsible actors should not be obstructed, as long as they do not have a detrimental effect on third parties. Voluntary exchange generates a surplus that is distributed among the exchange partners in such a way that each of them is better, or at least not worse, off than with the next best alternative (“outside option”). If they failed to benefit or were made worse off, they would not agree to the exchange. Related principles have a long tradition, including “caveat emptor” or “volenti non fit iniuria” (cf. Sturn 2009, 2017). In the context of the present problems, the following two problems need to be discussed now:

1 Why does the extension of the range and the depth of the market pose problems? Why are transaction cost-reducing advances in contract technology ambivalent?
2 What are possible problems of changes in the institutional architecture that go beyond transaction cost reduction?

The answer to the first question seems to be simple in view of the explanations given in earlier. The function of institutions is not only to support the emergence of “desirable” (Pareto-improving) interactions and cooperation but also to reduce “undesirable” transactions (with negative third-party effects). The latter include the entrepreneurial marketing of private substitutes for public goods, when these private substitutes compete with core public goods and displace them, as the entire complex of background conditions may be moved outside the field of political collective decisions and corresponding forms of accountability.

The issue of distribution is at the core of the answer to the second question. Much beyond the fact that the incentive mechanisms underlying Blockchains are operating in the world with significant socio-economic asymmetries, this issue requires a more detailed analysis of the background conditions in light of the theory of incomplete contracts. This reflects the fact that background conditions typically combine two functions: (1) facilitating efficiency-enhancing contracts; (2) mediating distribution problems. However, pertinent considerations are often guided by transaction cost economics, which captures the functions and effects of institutions only under the efficiency aspect (cf. Williamson 2000). In the following section, it will be shown that the concept of incomplete contracts is of crucial importance for the assessment of the opportunities and risks of digital transformation, as it allows for capturing distribution aspects.
Utopias, dystopias, reclaiming state sovereignty: the role of incomplete contracts

As explained by A. Smith and Schumpeter, modern capitalism amounts to a process of the division of labour associated with specialisation, waves of innovation, unplanned redistribution, and concomitant uncertainties. These environmental conditions are conducive to persistent contract incompleteness. Governance is thus inevitably polycentric, as coordination tasks as well as the fuel for rent-seeking and the sources of factual power are co-evolving with economic change: new patterns of (quasi-)political governance are emerging in the public and the private sector, giving rise to polycentricty as a social fact. The latter is ambivalent, reflecting the duality of forces driving polycentric governance innovations: on the functional side, they are necessitated by incomplete contracts and other coordination problems associated with novelty in the economic domain. However, specificities of emerging polycentric governance solutions will reflect the distributive interests of those who have a more active (perhaps entrepreneurial) role in promoting them – possibly interacting with existing tendencies towards power concentration and distributive polarisation. In this setting, sovereign public agency has a crucial function: promoting ordered polycentricity by procedurally qualified and legitimatised rule-making, filtering distributive biases and precluding the cumulation of economic and political power.

Digital technologies such as Blockchain are often referred to as game changers. However, the nature of envisaged change depends on whether they lead us to a world of complete contracts – or whether the dynamism of novelty along with asymmetries in knowledge and power and the increasing complexity of contracts implied by widening extent of markets keeps setting the stage for persistent contract incompleteness, despite all progress in contract governance. Here are the two contrasting visions.

1 Re-inventing sovereign public agency. We basically remain in a world where governance is somehow attuned to incomplete contracts. The dynamism of division of labour and novelty keeps nourishing the forces of polycentric governance, which are additionally boosted by technologies such as Blockchain. We thus remain in the setting where the modern concept of sovereignty (sketched earlier) became pivotal, including procedures of legitimate rule-setting and enforcement in a broad sense. This sovereignty presupposes a public sphere: its raison d’être is developing adequately centralised coordination points and innovation-friendly distributive regulation precluding phenomena such as Medici vicious circles and oligarchic clusters of power.

2 Radical game change. Contract incompleteness is eliminated/marginalised due to technological perfection of contract governance. The architecture of governance becomes attuned to complete contracts. Under complete contracts, the private sector is (as construed by influential theoretical idealisations of the market) nothing but a power-free machinery for mutual advantage. However, this scenario gives rise to sharply contrasting visions, depending on whether issues of distribution do or do not matter – in the sense that distribution affects economic outcomes and becomes politically virulent at local or wider levels. Assuming irrelevance of distribution, the expansion of complete contractability (including contract-mediated arrangements for public goods) prepares the ground for market anarchism, or a static minimal state providing enforcement of property rights and contracts. In contrast, ambivalent perspectives arise if the issue of distribution is still factually virulent – perhaps because the blessings of Blockchain unfold in an already unequal society (and not in some harmonious Golden Age), or because the polycentric dynamism of division of labour and novelty brings about new inequalities and/or is distorted by rent-seeking.
If distribution matters, the complete contract model calls for conceptions of statehood/public authority contradicting the logic of sovereignty valid under polycentric governance. It is absolute rather than sovereign and may be complemented by different political visions.

To analyse the ambivalence of this radical game change scenario, consider public sector functions in a market economy in general and somewhat vague terms. Developing the background conditions of exchange and contract in such a way that the socially advantageous potential of contractually mediated interactions (the principle of free contract as a social productive force) comes to be employed as well as possible. While there will be broad agreement on this, transaction cost economics neglects the analytical potential of its factorisation in two subfunctions. Subfunction 1: as many people as possible in as many situations as possible benefit from the advantages of free exchange. Subfunction 2: the cases in which exchange occurs under background conditions giving rise to “coercive offers” and one-sided rent-extraction are constrained by innovation-friendly distributive regulation.

While systematic one-sided rent extraction is part of the regime of accumulation in nascent capitalism, maturing capitalism as well as the foundational principles of liberal democracy are associated with such distributive regulation. Transitory Schumpeterian innovation rents become the systemically dominating form of private rent-appropriation by entrepreneurs. This is done by a range of institutions combining subfunctions 1 and 2, with sovereign public agency at their core. Problematic forms of rent appropriation are mitigated by distributive regulation legitimised by due procedures, tending to neutralise rent-seeking as fuel for governance distortions. Enforcing such regulation requires sovereignty but is also an expression of sovereignty.

This background is pivotal for institutions that support the sustainable functioning of systemically relevant markets, notably the labour and capital market. Starting from incomplete contracts, the functionality of various norms, institutions, governance mechanisms, and forms of social embedding can be explained by their role in supporting the principle of free contract and making it sustainable by preventing contract-mediated exploitation. As mentioned, not all of those contract governance institutions are part of the state sector. Private sector and intermediary institutions are also involved in contract governance combining subfunctions 1 and 2. In this sense, firms can be understood as political institutions (Sturn 1994; Bowles 2004; Bowles and Gintis 2000: 1425). While the “private sector” is not a peaceful and harmonious sphere of solved political problems and harbours endogenous forces which may have irritating political potential, it also may be the locus of political solutions, including mechanisms of collective bargaining etc.

Polycentric governance thus includes mechanisms that endogenously promote contract enforcement when third-party enforcement is too costly or impossible (due to a lack of an “external” enforcement agency, or due to the relevance of non-verifiable information which is not usable by an enforcement agency such as a court), typically also combining subfunctions 1 and 2. The diversity and complexity of basic institutions, governance mechanisms, norms of behaviour, trust, and the limited yet important role of moral motivations (“fairness”) in modern market economies are all linked to “endogenous” enforcement. In other words, incomplete contracts are a key to the functions and ambivalences of complex background conditions supporting exchange in modern economies – and ultimately the awkward dance alluded to earlier.

Suppose now that the background conditions (formal institutions, legal rules enforced by the judicial apparatus, trust etc.) are substituted by privately operated technologies, including complete smart contracts supported by Blockchain mechanisms. Notice that pertinent claims by Blockchain enthusiasts typically apply to subfunction 1, while they are often unaware of subfunction 2.
Subfunction 1 is *carved out* from an institutional complex in which subfunctions 1 and 2 were merged. This kind of carving out may have more dramatic implication than the carving out discussed in the previous section: it may crowd out sovereign public agency, giving rise to either utopian or dystopian perspectives. Suppose that the process of such technological carving out is completed. Then we are in the complete contract scenario: subfunction 1 is fulfilled by Blockchains combined with smart contracts and new contractual forms. This could promote tendencies towards authoritarian, absolutist, or even totalitarian forms of statehood, unless we either live in a world where no power/distribution problems are disturbing the perennial harmony of voluntary contracts, or else those problems are perfectly solved by morally elevated public agency.

To see this, suppose a world where the support of digital technologies is allowing for perfectly complete contracts, including perfectly efficiency-enhancing background conditions based on Blockchains etc. Further suppose that the natural course of things in that world (due to technological and other factors nourishing tendencies of divergence) leads to distributive polarisation and/or systemically problematic forms of contract-mediated exploitation/rent appropriation. As digital technologies such as Blockchain enable complete contracts for all economically viable activities across the board (and remaining incompleteness can be dealt with using economic mechanisms), a public institution such as the state would “only” be confronted with subfunction 2: the challenge of distribution – this, however, in its entirety, in full sharpness, and in an environment that includes the technological possibilities of digitalisation, while at the same time the status of classic modes of peaceful political problem-solving is downgraded because they are no longer needed for non-distributive functions. Background conditions for market-based exchange would essentially consist of Blockchain-based ecosystems, given the distributive patterns that determine the individuals’ alternative options and their bargaining power. The state would have a reduced and at the same time notoriously difficult, politically contested role to play: fixing distribution problems. Thus, ubiquitous complete contracts are not only questionable as utopias because of their lack of realism but also (should Blockchain and the “new contractual forms due to better monitoring” discussed by Varian 2014, carry the day) promote dystopic tendencies even beyond Zuboff’s (2015) diagnoses and projections of “surveillance capitalism”: this world of complete contracts may be worse off as far as the background conditions of exchange are concerned – especially concerning the prospects of enlightened political reform of background conditions. It would be a world in which state sovereignty loses its self-limiting aspects (lucidly explained in quoted works by Georg Jellinek) and its association to the public interest combined with effective agency. Improving the background conditions would rely on redistribution according to the logic of the Second Theorem of Welfare Economics – in a world where Blockchain tends to amplify the opportunities for shifting economic activities away from spheres accessible as tax bases. Given that some redistribution is systemically essential, this could lead to an awkward dance even worse than the one that Buterin et al. (2018) wish to get rid of: the state employing all the power of surveillance technologies, alleviating the constraints on redistribution imposed by generalised digital tax evasion.

To grasp some features of worlds where this may happen, canonical idealisations implying complete contracts are useful as theoretical background. Consider static models of private property market economies à la Walras. In such a world, well-defined private property rights (i.e. background conditions set once and for all) are almost synonymous with the full utilisation of the welfare-enhancing coordination potential of voluntary exchange by rational market participants. Politics is an exogenous agency “solving” distribution problems, while the working of the market itself never entails “political” problems, i.e. problems in which “political forms of mediation” (including: argumentation/deliberation, negotiation, voting, fighting; cf. Elster 2000) play
Richard Sturn

a role. This model is the basis of the separation between economics and politics that Lerner (1972) summarised in the statement that economics is the queen of the social sciences — on the basis of solved political problems — i.e. on the basis of the determination of the distribution of property rights, which serves as a starting point for mutually beneficial exchange. This also corresponds to a common demarcation of the subject areas of both subjects among political scientists (Bowles 2004: 171–172 cites Lasswell and Kaplan, for example) and economists (J.St. Mill, Pareto, Robbins). Although unrealistic, this model illustrates some crucial conditions of a peaceful, depoliticised market world that is determined by the principle of free contract without leaving room for rents and distribution struggles — or other problems that ultimately require political mediation.

In combination with the conjecture that ubiquitously complete contracts are an unrealistic vision, their dystopic connotations lead to the conclusion that modern democracies should stick to the guiding idea of well-ordered polycentric governance by sovereign, accountable public agency. The use of digital technologies should not be seen primarily in the light of the welcome approximation to the ideal of complete contracts familiar from model theory. It rather should be seen in the context of the functionalities of and complementarities to historically evolved background conditions and their reform, including its role for a problem-oriented modernisation of public sector institutions and their capabilities: indeed, sovereign public agency needs to be re-invented in the global digital transformation (see Sturn 2021).

To be sure, the re-invention of accountable sovereignty will not be easy going. While the functionality of mechanisms of public choice and accountability may be augmented by digital technologies, some known problems cropping up in a setting of incomplete contracts may become more severe. This includes the vicious circles of data capitalism à la Zingales (2017) — referring to the rule-making potential of economically most powerful agents — as well as non-Walrasian behaviours such as price-setting, including personalised take-it-or-leave-it offers or exploiting the benefits of first Mover Advantages/Stackelberg Leadership. Asymmetric digital capability of data-based “personalization and costumization” (Varian 2014) may play a role, which may be used for the accurate determination of rent-absorbing offers and may interact with a cumulative causation mechanism that makes rent-appropriators even more powerful through network externalities.

State-mediated polycentric governance was key to the development of background conditions contingently justifying trust in the time-honoured principle of free contract. Despite all difficulties, modern democratic sovereign states under the rule of law developed background conditions enhancing the power of this principle. Modern legal systems ensured that more contracts could be concluded and that they were less incomplete. This increased the scope of contract mediation viz. the extent of the market. In addition, various constitutional and legal rules (e.g. labour law and consumer protection) and welfare state institutionalisations strengthened the position of disadvantaged market participants in the face of the dangers of background conditions triggering “coercive offers”. Non-state institutions and informal norms relieved/supplemented the state, which in turn promoted ordered polycentrism, by and large aligning the working of non-state governance and informal institutions with subfunction 1 and subfunction 2 as defined earlier. Finally, the scope of what can be contracted was deliberately limited in some cases. This applied, for example, to contracts with harmful third-party effects, but also to contracts (e.g. slavery contracts) in which the principle of free contract becomes questionable/incredible despite formal free consent.

In order to elucidate the challenges ahead, the following section concludes by sketching sets of conditions preparing the ground for three different visions of how sovereign public agency
may disappear, taking digital-based new contractual forms and fictional worlds of complete contracts as analytical reference point.

Varieties of post-sovereignty: techno-libertarianism, techno-liberalism, and techno-oligarchy

To summarise: digital technologies are game-changers. However, they are not likely to put the basic constellation of modern dynamism on its head, which required a specifically sovereign public agency coping with the challenges of polycentric governance and incomplete contracts. Re-inventing sovereign public agency hence should thus be the guiding idea for policy. In absence of public agency, the coordination and distribution problems in the transformation towards a digital economy and low-carb mode of production cannot be coped with. These transformations would be distorted by Medici vicious circles of economic and political power, inducing socially undesirable lock-ins and coordination failures. If arguments à la Zingales (2017) are sound, the latter will be much worse than problems of coordination and power in the epoch of Railroadisation and the Gilded Age (cf. White 2011: 110–111).

While state sovereignty will undergo major transformations, post-sovereignty is misleading as a guiding idea or leitmotif of institutional innovation. However, it may nonetheless become reality. Variation of assumptions regarding contract (in)completeness and polycentric governance is thus useful in view of diagnosis and scrutiny of current trends and visions, including varieties of post-sovereignty. Suppose that contemporary societies fail to re-invent sovereign public agency under conditions of the digital transformation. Taking on board the insights on new contractual forms and their implications for (in)complete contracts, we consider three different perspectives faced by market societies: techno-libertarianism, techno-liberalism, and techno-oligarchy. While techno-libertarianism and techno-liberalism are resting on the assumption of pervasive complete contracts, techno-oligarchy is framed by the following (fairly realistic) combination:

1 Significant digital technology-supported increase of the extent of markets.
2 Higher numbers of both complete and incomplete contracts.
3 Mainly private development of background conditions such as Blockchains and economic mechanisms relevant to incomplete contracts.

The combination 1–3 is the most likely scenario accompanying vanishing sovereign public agency. Despite Blockchains and new contractual forms, a comprehensively complete contractual world is unrealistic in view of capitalist innovation dynamics whose risky, uncertain, and unknown effects preclude scenarios of contractual perfectibility. Understanding the forces driving this scenario (such as some kind of techno-oligarchy emerging from a Medici vicious circle à la Zingales) is a top priority. Coping with tendencies of degenerate oligarchic polycentrism (possibly aggravated by populist counter-movements operating “in the shadow of accountability”; cf. Sturn 2021) is the main political challenge – enhancing conditions for re-invigorating public sector sovereignty and strengthening the capacity of public agencies.

Nonetheless, it is worthwhile to discuss the two other market-based scenarios (techno-libertarianism and techno-liberalism), as they exhibit radically different directions of superseding sovereignty, both playing a significant role in contemporary discussions. Indeed, views like free-marketeering techno-libertarianism and techno-liberalism are major trends among digital avantgardes. Considered as political agenda under realistic assumptions, they may be accompanied by unintended consequences: while techno-liberal recipes may trigger post-sovereign
forms of state governance, techno-libertarianism may boost oligarchic polycentrism as unintended consequence.

Techno-libertarianism/anarchism. Suppose a scenario of complete contracts, supported by Blockchain-based decentralised enforcement mechanisms. Digital market anarchists believe that nothing else is needed for supporting all desirable contract-mediated transactions, while libertarian minarchists attribute a residual role to the state regarding the protection of private property rights. While one might discuss the case for minarchist libertarianism à la Nozick (1974) vs. market anarchism under digital premises, we will not deal with this issue here, as two specific differences common to both are centre stage: (techno-)libertarianism and anarchism imply that contract incompleteness/contested exchange does not (no longer) compromise the advantages of voluntary contracts. In particular, in sharp contrast to techno-liberalism, techno-libertarianism and anarchism both imply that in contract-mediated exchange no problems occur which would require or justify distributive regulation.

In getting a libertarian position off the ground, two levels of arguments play a crucial role, including normative theory on the one side and positive theory and empirics of market processes on the other. Regarding normative theory, market libertarianism traditionally connotes a specific set of assumptions regarding the background conditions of exchange: while libertarians may admit the possible existence of “coercive offers” in contractual settings, objectionable coercion is diagnosed only in case of offers based on morally objectionable behaviour by one of the parties (notably “force and fraud”, e.g. threats made credible by a gun put under your nose, accompanying the take-it-or-leave-it offer “money or life”). However, background conditions which are the basis of diagnoses of “coercive exchange” are broader and more multi-faceted than environments where “money or life offers” are common – including in particular distributive asymmetries (Zimmermann 1981; Scanlon 1988; Peter 2002; Sturn 2009 and 2017). For libertarians, distributive asymmetries (the existence of disadvantaged parties lacking reasonable alternatives to accepting some offers), however, never pose problems justifying political reform of background conditions, including distributive rules.

Such a view gains in prima facie plausibility when we assume a specific positive theory and empirics of market processes: a libertarian view is easier to sustain if market remunerations are determined in a competitive way, mainly reflecting relative scarcities. According to this theory, systemically entrenched divergences in income, wealth, and power (as e.g. discussed by Zingales 2017 or Piketty 2014) do not occur. Incidental income inequalities are triggered by individual preferences and hence are not morally objectionable, exemplified by Nozick’s (1974) famous Wilt Chamberlain case (who earns a lot of money due to the willingness-to-pay of his fans who like watching him play basketball). On the grounds of such an optimistic view of competitive markets and of the incidence of exchange-mediated coercion, libertarians welcome withering away of sovereign state agency, once property rights and contract enforcement are managed by technologies like Blockchain.

With regard to background conditions and their dynamics, the problem of market libertarian interpretations of the principle of free contract can be described as follows. The more the principle of free contract is taken at face value without reflection of the background conditions related to distribution, the less problems of lacking consent come into view. However, even when starting with a scenario of pervasive complete contracts, in the context of the potentials of digital markets, such problems should be considered in view of asymmetries triggered by the following developments:

1 The range of market-based mediation increases, i.e. “new markets” also emerge in the area of what was previously not considered tradable.
Digital transformation

2 Digital technologies (Blockchain, digitally supported monitoring) increase the potential for complete contracts.

3 The potential for asymmetries in the “private” development of background conditions is considerable, whether through asymmetries between platform developers, managers, and users, or through unintended consequences in the spontaneous further development of the “ecosystem” of platforms.

If 1–3 and/or other factors render distribution sufficiently unequal such that privileged agents can constantly make the dispossessed successful take-it-or-leave-it offers, (a) complete contracts are insufficient for the political neutrality of the exchange process and (b) a dystopia threatens: complete contracts fix an iron cage of asymmetrical bondage in which the libertarian principle of free contract becomes an ideology falsely attributing all this to the action of anonymous economic forces of nature or fancy preferences like those in the Wilt Chamberlain case.

Techno-liberalism. Techno-liberalism (see e.g. Posner and Weyl 2018) can be considered as the search for a way out of those problems. Consider again the extreme scenario of ubiquitous complete contracts, assuming that digital technologies extend the reach of complete contracts to cover all economically relevant interdependencies and goods. Even pure public goods are provided by decentralised mechanisms à la Buterin et al. (2018).

Notice that the textbook ideal of a depoliticised market sphere (cf. v. Weizsäcker 1999; Lerner 1972) thus becomes reality. In contrast to the techno-libertarian scenario, however, techno-liberals believe that distributive problems are still virulent and in part exacerbated by the just-mentioned tendencies of the digital world: for them, the market sphere is fully depoliticised on the basis of complete contracts if and only if suitable mechanisms of distributive regulation are implemented, preventing the just-sketched drawbacks of libertarianism. The distribution of individual “endowments” is considered a political issue.

As indicated earlier, in a world of complete contracts, political agency confronted with this issue faces specific difficulties. Digitally depoliticised background conditions of a perfect market world leave the state (apart from maintaining its own authority against internal and external threats) only one essential area of responsibility: pure distribution policy. Two implications follow. (1) The entire problem of power and distribution is shifted to the political system. Private governance or intermediate institutions no longer are part of the mediation of distribution problems: that is, negotiation processes in firms, collective bargaining between social partners, but also certain moralised motives such as fairness or reciprocity (which sometimes support contract efficiency while at the same time addressing distributive problems) simply have no function in a complete contract world. (2) Government action is strictly limited to correcting the distribution. The form of its action would somehow resemble the pure redistribution of the textbook according to the Second Theorem of Welfare Economics. Moreover, in such a world redistribution is an all-purpose weapon against contractual asymmetries and exploitation in all their forms. However, there would be no room for more far-reaching social or educational policies, or for other background conditions whose function is to deal with incomplete contracts. Put another way, in the case of complete contracts, the distribution-related outside options in exchange situations become the defining moment of the background conditions: the more the ideal type of complete contracts permeates a society, the more important the structure of alternative options becomes as a regulator for the distributional outcomes of exchange, and also for the asymmetries in the co-evolution of the economic system and the other social spheres. Notice that this logic explicitly shapes the arguments in favour of an unconditional basic income, as elaborated in a rigorous economic–philosophical analysis by Van Parijs (1995). An unconditional basic income would systematically push back coercive offers.
Let us now look more closely at political processes that deal with redistribution in such a scenario. What about the functioning of a political sphere that is a priori specialised at pure distribution politics as a zero-sum game? It seems obvious that organising discursive political accountability with regard to such a zero-sum game will be demanding. Distributional discourses entail conflicting interests and often polarising ideas of justice. Even if it is not true that this constellation can ultimately only be mastered by fighting (Friedman 1953: 5) or that fighting is the only elixir of life of “the political” (Schmitt 1933), acceptable modes of distribution (through argumentation, bargaining, and electoral mechanisms) are more likely to emerge if it is worked out to what extent such modes are the basis for dealing with cooperation problems in a way that is socially advantageous in the sense of a positive-sum game. Rawls (1971) articulates this impressively in his conception of the economic circumstances of justice under conditions of society as a cooperative venture. The specific principles of justice derived by Rawls are not in the focus of our interest. What matters here is rather his approach of emphasising the socio-economic contextualisation of market–societal distribution problems: as stressed by Rawls, those problems are not pure cake-distribution zero-sum games, but games in which the conditions of the cooperative production of the cake must be taken into account. As Rawl’s exercise shows, it turns out that (somehow paradoxically) acceptable distributive principles are easier to derive when distributive problems are intertwined with the solution of cooperation problems. Accordingly, “successful” redistribution is more difficult if the state is reduced to an isolated redistribution function. This, however, puts the state in a dilemma – especially when initial endowments are very unevenly distributed, or when endogenous polarisation-promoting mechanisms obtain (cf. Zuboff 2015; Piketty 2014; Zingales 2017). It is then impossible to embed distributive regulation in a generally advantageous reform of the background conditions and thus communicate it as a long-term win–win situation (as is the case with certain social and educational policies) – unless perhaps with the dubious argument of revolution prevention.

Institutionally, pure distribution policy requires a lean, yet specifically powerful public agency, specialised in the implementation of a tax-and-transfer scheme such as a tax-financed basic income. This agency must be sufficiently informed and powerful in particular to prevent the erosion of tax bases by tax evasion. The latter are most likely an even greater problem than in the past, because Blockchain-like technologies and digital business models may favour the shadow economy and tax evasion. In this scenario, all politics would entail a problematic starting point: redistribution will be associated with an “excess burden” due to induced adjustment reactions, unless the state has a perfectly informed and effective redistribution bureaucracy. The model of “markets as constraints” of politics as elaborated in Hammond (1987) would become more and more real. The public sector must react with surveillance state means – or wither away.

Under such conditions, an unconditional basic income à la Van Parijs (1995) would be a redistribution machinery that most closely corresponds to egalitarian-liberal values (cf. Posner and Weyl 2018). However, its effective implementation (like other tax and transfer policies under these conditions) would require an effective surveillance state, unless an “ethos of solidarity” (which Van Parijs 1995: 230 wishes to promote “resolutely”) or generalised reciprocity is sufficiently strong to minimise tax evasion and avoidance. Otherwise, this model would be associated with an amalgam of surveillance capitalism and surveillance statism, with respect to which an additional question crops up: in what socio-geographical context could such an arrangement best be organised? An answer would go beyond the scope of this entry. It seems obvious, however, that the relatively small European nation states, but also cosmopolitan models, would find it difficult to meet the challenges of such a scenario.

Techno-oligarchy. As stated by way of introduction of this section, the most realistic post-sovereignty scenario assumes that although digital support for more complete contracts is effective,
incomplete contracts remain an important phenomenon, while unpolitical “private” governance is virulent as ideological fiction permanently nourishing talks about the obsolescence of state regulation – entailing an overall tendency undermining sovereignty. Policy tends to be pushed (with similar implications as in the techno-liberalism scenario) towards the distribution function, yet in a much less systematic manner than in techno-liberalism à la Posner and Weyl (2018). The classic mediation mechanisms of politics are eroding – combined with the erosion of political accountability mechanisms. Potentials of deliberative democracy (Elster 2008; Habermas 1997) remain untapped or are not developed further on an appropriate scale (Habermas 2013). On the other hand, the political problems of incomplete contracts (cf. Zingales 2017) remain virulent. Compared with the previous extreme scenarios, the more realistic scenario is more ambivalent with regard to the levels of interplay of neo-feudalist power and surveillance state. In this scenario, complex background conditions of incomplete contracts would form a tense environment of crisis-threatened economy and crisis-threatened statehood.

Even before digitalisation, neither the market nor the state could generate the preconditions of their stability by their own means, but instead had to rely on other sub-systems of society for stabilisation. Ultimately, re-inventing sovereignty will be contested by amalgams of interests and ideologies. Making the development of the background conditions a public matter under relevant technological and ecological premises will thus be a major challenge. However, sovereign public agency promoting ordered polycentrism by accountable rule-setting and regulation will be necessary for

- Preventing coordination gaps endangering the market system.
- Enhancing the innovation-promoting social productive power of free markets.
- Precluding markets from operating as one-sided appropriation mechanisms.

Two aspects of such a milieu should be kept in mind: (1) the state is complemented in its distribution and regulatory function by intermediary institutions and (2) the interplay between distribution problems, regulation, and the provision of public goods is addressed in a problem-responsive way. Conflicting situations can thus be transformed into win–win scenarios, as illustrated by the prisoner dilemma in public goods games. In this process of strengthening the public sector, two theoretical insights play a significant role. First, consistently complete contracts are not only empirically implausible but also have an ideological potential and are questionable as a regulative idea. Second, state sovereignty, including public institutions with collective decision-making and political accountability, is a historically contingent, difficult, and unstable construct. However, the development of social productive forces/public goods will not occur without it, not least in the light of the digital and low-carb technology transformation. Like the great transformation of the Industrial Revolution, the transformation processes of the 21st century require the institutionalisation of the public sphere adequate to the far-reaching challenges.

**References**


Digital transformation