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Marx's Legacy, *Régulation* Theory and Contemporary Capitalism

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ABSTRACT
The 2008 financial crisis has challenged the merits of standard economic theories and sparked surprising references to Marxist analyses. A monetary economy is prone to crises, the interaction of competition with capital–labour relations launches relentless accumulation and over-accumulation crises exacerbate the built-in contradictions of the capitalist mode of production. Nevertheless, until now, these imbalances have not unfolded into its rapid and complete collapse. From the social and political struggles of labour and citizens, the 1929 crisis and finally the Second World War, new configurations emerge for the wage–labour nexus, the form of competition and the monetary and credit regime. These delineate an unprecedented accumulation regime, Fordism. In turn, Fordism enters a structural crisis and a dramatic change in institutionalized compromises favours a still different accumulation regime (finance-led) that evolved from one speculative boom to another till the 2008 American financial collapse. Thus the mobilization of Marx's foundational hypotheses by *Régulation* theory allows a better understanding than most alternative theories of major contemporary stylized facts: productivity slow-down and social polarization in mature economies, tensions between capitalism and democracy, new industrial capitalisms and limits to globalization.

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1. Introduction

Contemporary economists used to be proud of the advances of their discipline far away from the impressionistic approach of classical political economy. If Smith and Ricardo are still mentioned as precursors of the analysis of a market economy or as the founders of international trade theory, by contrast Marx had been totally removed from the cursus of professional economists: is he not clear evidence of the danger in confusing ideology and science, historical narrative with analytical rigour (Samuelson 1971)?

The early 21st century was celebrated as the entry into a new stage in the scientific endeavour of economists for understanding the functioning of contemporary market economies and delivering to policy makers the technical tools needed to monitor economic activity (Lucas 1981) and enhance growth (Lucas 1988). The Real Business Cycle model was generalized into Dynamic Stochastic General Equilibrium models and they

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have been used by central banks to orient their policies (Smets and Wouters 2002). Exogenous shocks were supposed to drive the cyclical adjustment of the real economy with no reference to credit and in the absence of any financial market. Symmetrically, the progress of mathematical finance has fed the explosion of options and futures markets (Black and Scholes 1973) because they allowed their pricing by simple but erroneous formula (Mandelbrot 2004) that assumed the full and instantaneous liquidity of all and interrelated financial instruments.

This dubious alliance of a new classical macroeconomics without credit and finance and a theory of finance, without any link with liquidity at the macro level, experienced its day of reckoning on 15 September 2008: brutally, the liquidity vanishes and the frozen financial system triggers the blocking of economic activity (Boyer 2015). The political economic actors and policy makers are in disarray because their cognitive maps built upon the structural stability of a market economy and the positive role of derivatives in diffusing risk appears dramatically irrelevant. It is the Minsky moment: the endogeneity of a credit led accumulation cycle has to be recognized (Minsky 1986), and the need for a lender of last resort is recognized even among the market fundamentalists.

But the more impressive reversal relates to the statement by some chief economists working for financial institutions: 'Karl Marx is back!' (Artus 2002, 2010). The media (BBC 2008) and movie makers (Barker and Weltz 2011) find a convincing narrative in his writings. This is not an oddity but evidence for the open crisis of standard economic theory, unable to capture the forces that shape the evolution of contemporary economies.

The objective of the present article is therefore threefold. First, contrary to the beliefs of most economists, reading *Das Kapital* might define an enlightening starting point for the reconstruction of an alternative to a failed economic discipline. Clearly, the notion of a market economy is unable to capture the built-in instability that generates cycles and structural crises. This is explained by its benign neglect of money and credit, the reduction of the capital–labour relation to a mere market transaction and the misrepresentation of the role of investment in economic dynamics. By contrast, the concept of the capitalist mode of production takes seriously how the interplay of competition and the capital–labour relation sets into motion a relentless accumulation process, prone to minor or major crises. The whole society is therefore transformed by deeply-rooted historical processes and the project of pure economic theory has to be abandoned (Section Two).

Second, *Régulation* theory was designed as a critical mobilization of Karl Marx's foundational concepts in order to understand the transformation of capitalism since the 19th century. Basically, the two core capitalist social relations—competition and the capital–labour nexus—have been embedded into institutional forms such as the competition regime and the wage–labour nexus. They then must be compatible with a monetary regime led by credit creation, the extension and complexification of the economy–State nexus and, finally, the degree of integration into the international system. Therefore, there is no longer a unique reproduction scheme but a variety of accumulation regimes associated with each institutional architecture. The unique dynamics of the capitalist mode of production postulated by Marx are thus replaced by the repetition of economic cyclical crises that wipe out the tendency to over-accumulation, typical of this genuine socio-economic regime. Nevertheless, the contradictions inherent in accumulation manifest themselves by the endogenous destabilization of any accumulation regime: this implies a major crisis, when the viability of the institutional architecture that shapes the *régulation* mode, i.e. the adjustment processes that drive accumulation are at stake. All these notions are used to analyze the emergence, maturation and major crisis of the post-Second World War Fordist accumulation regime built upon an unprecedented capital–labour compromise facilitated by the political transformations generated by the 1929 great crisis and the 1939–1945 world war. These advances in *Régulation* theory show the strength of Marx's heuristic when one tries to understand the long-run transformations of different capitalisms (Section Three).

Third, all economic paradigms and approaches have to deliver an interpretation of some puzzling contemporary phenomena. Why the cluster of innovations brought by digitalization has not generated a recovery of productivity? How to explain that financial innovations—supposed to diffuse the risk to resilient actors—have been the source of the near collapse of the American financial system? What interpretation is there for the widening of income inequality in most societies? Why has the feeling of belonging to a large middle class vanished and shifted towards the perception of an acute social polarization between winners and losers? How have the newly industrializing countries overcome the past development barriers erected by leading nations? The process of globalization is weakening and putting at risk the adhesion to free trade as an engine of growth: is it a tipping point in the history of international relations? Will national public opinions perceive an irreconcilable conflict between democratic principles and global capitalism? Standard economic theory performs quite badly in a benchmarking of competing paradigms: all these puzzles are supposed to originate in external shocks and/or the violation of economic rationality by governments or traders. Post-Keynesians and neo-Schumpeterians deliver some interesting insights but dramatically underestimate the social and political forces that transform present societies. By contrast, the Marxist tradition and heterodox contemporary political economy deliver suggestive and highly relevant interpretations and analyses about each of the quasi-stylized facts reviewed (Section Four).

A short conclusion stresses the paradoxical reversal of fortune of orthodox and heterodox theories. The inability to explain the contemporary world destroys the pretence of orthodoxy to be more and more scientific (Caballero 2010), away from ideologies and vague descriptions: it is now clear that orthodoxy was built upon shaky and finally erroneous foundations—the unwarranted belief that market economies are structurally stable (Stiglitz 2010). By contrast, the political approaches derived from Marx, yesterday considered as ideological and unscientific by the economics profession, provide the basic concepts that allow the development of fully-fledged analyses of the contradictions that move contemporary capitalisms. They point out both the recurrences (the instability of unleashed competition) and novelties (for instance, the end of the synergy between capitalism and democracy) of this new epoch rich with uncertainties and future surprises (Streeck 2016).

2. Understanding capitalism: reading Marx again

Few contemporary professional economists ever read Marx and the present curricula of economic departments rarely mention his work and, if they do so, present it as irrelevant and misleading. It is a pity since one may challenge the conclusions of Marx but his basic concepts can still be the starting point for a deep understanding of the economic dynamics of present societies.

2.1 Take seriously the built-in instability of a monetary economy

Karl Marx is fighting against bourgeois economists who focus upon barter between two commodities, money being a simple veil converting relative prices into nominal prices. Of course, Marx is considering that a specific commodity is singled out and becomes money that is the necessary medium for exchange. Such a conception is in line with the configuration of monetary systems in the mid-19th century: it is the time of creation of large commercial banks but they are supposed to be based on a metallic standard whereby prices are measured in terms of a given metallic standard.

The important breakthrough is the shift from the bilateral exchange of barter to a generalized exchange of a given commodity against money:

> The function of money as the means of payment implies a contradiction without a terminus medius. In so far as the payments balance one another, money functions only ideally as a money of account, as a measure of value. In so far as actual payments have to be made, money does not serve as circulating medium, as a mere transient agent in the interchange of products, but as the incarnation of social labour, as the independent form of existence of exchange value, as the universal commodity. This contradiction comes to a head in those phases of industrial and commercial crises which are known as monetary crises. (Marx 1967, p. 2121)

Therefore, there is no guarantee regarding the dual correspondence of the needs of the two commodity owners. Under the name of the perilous jump of the commodity, Karl Marx is the de facto founder of modern money theory: its invention allows a remarkable extension of the basic process 'commodity–money–commodity', typical of a simple exchange economy, but simultaneously it brings a significant degree of uncertainty– will the seller of a commodity find a buyer at the current price or will s/he have to accept a reduction of price or even keep the commodity until she encounters a new buyer? This peril is still higher when money is converted into the means of production, including labour power, that are used to manufacture a commodity that has to find a buyer. The longer the production process, the higher the probability of mismatch between the initial expectations and the real juncture when the commodity reaches the market.

2.2 Not a market economy but capitalism: the two basic social relations

This is a second and crucial breakthrough of *Das Kapital*. Some possess money and can invest in the production of commodities by recruiting labourers who have no money to be independent producers. This is the core of the capitalist mode of production, a creation of modern history:

> Nature does not produce on the one side owners of money or commodities, and on the other men possessing nothing but their own labour-power. This relation has no natural basis, neither is its social basis one that is common to all historical periods. It is clearly the result of a past historical development, the product of many economic revolutions, of the extinction of a whole series of older forms of social production. (Marx 1967, p. 3137)

2.2.1 The first cornerstone: the capital–labour relation

The labour contract is conceived by standard economic theory as an exchange between equals, since nobody is forced to transact if s/he does not gain a benefit from this exchange. Marx objects that the exchange of labour power versus the money wage is constrained by the fact that the proletariat is weaker than capital: the capitalist can call another labourer, the labourer has no alternative if s/he belongs to the proletariat and has access neither to the means of production nor to land:

> If we consider the process of production from the point of view of the simple labour process, the labourer stands in relation to the means of production, not in their quality as capital, but as the mere means and material of his own intelligent productive activity. (Marx 1967, p. 6926)

This dependency is binding both at the individual and macro levels, and this is the foundation of two classes, simultaneously structurally interdependent and in frontal conflict: 'From a social point of view, therefore, the working class, even when not directly engaged in the labour process is just as much an appendage of capital as the ordinary instruments of labour' (Marx 1967, p. 13040).

Consequently, the capital–labour relation is the foundation of the polarization of two classes, basically in conflict of interest but de facto structurally dependent. Some conflicts might, however, alter the precise configuration of the capital–labour relation. This is the starting point for *the concept of the wage–labuor nexus* coined by *Régulation* theory in order to capture the qualitative transformation of capital–labour relations resulting from recurring social and political struggles.

2.2.2 The second pillar: competition sets the dynamic of capitalism

In a monetary economy, the firm is facing the need to find buyers and to resist the competition created by other firms that also look for buyers of its commodity:

> The division of labour within the society brings into contact independent commodity-producers who acknowledge no other authority but that of competition, of the coercion exerted by the pressure of their mutual interests. (Marx 1967, p. 7835)

This principle of competition is also binding for labourers who have to struggle to get access to employment because the conversion of their labour power into a commodity breaks the solidarity inherent in pre-capitalist modes of production:

> There the capitalist regime everywhere comes into collision with the resistance of the producer, who, as an owner of his own conditions of labour, employs that labour to enrich himself, instead of the capitalist. The contradiction of these opposed economic systems, manifests itself here practically in a struggle between them. (Marx 1967, p. 17788)

When the capitalist mode of production invades new spaces, the changing degree of competition among capitalists is retroactive over the condition of labourers: 'The competition thus created between the labourers allows the capitalist to beat down the price of labour, while the falling price of labour allows him on the other hand, to screw up still further the working time' (Marx 1967, p. 12461).

When these sources of profit become common to all capitalists, they have to face an acute competition among themselves, and this is a core characteristic of this specific mode of production: 'Free competition brings out inherent laws of capitalist production as external coercive laws, having power over every individual capitalist' (*Capital*, Book I, p. 5866).

Nevertheless, Marx puts forward the idea that free competition is not necessarily the rule because other configurations can be observed\; 'Here competition rages in direct proportion to the number, and in *inverse proportion to the magnitudes* of the antagonistic capitals' (Marx 1967, p. 14209, emphasis added).

The very dynamics of competition mean the bankruptcy of the weakest capitalists and the rise of large firms that tend to control a growing share of each commodity market. In other words, competition leads to the concentration of capital, its socialization and possibly the emergence of monopolies:

> Hand in hand with this centralization, or this expropriation of many capitalists by few develop on an ever-extending scale the cooperative form of the labour process, the conscious technical application of science, the methodical cultivation of the soil, the transformation of the instruments of labour into instruments of labour only usable in common, the economizing of all means of production by their use as means of production of combined, socialised labour, the entanglement of all peoples in the net of the world market, and with this, the international character of the capitalistic regime. (Marx 1967, p. 17745)

This quotation from Marx implies that there is no stable configuration for competition: it can evolve dramatically from one epoch to another. This is the starting point for the study by *Régulation* theory of *competition regimes*. Competition became oligopolistic after the First World War in the United States (Berle and Means 1932), and even today in the era of globalization, competition is more actively defended by public authorities in Germany than in the US (Ergen and Kohl 2017). These differences matter in terms of accumulation and growth.

2.3 Accumulation is the coercive law of capitalism

The very opening of *Das Kapital* points out the dynamic nature of this mode of production: the wealth of those societies in which the capitalist mode of production prevails, presents itself as 'an immense accumulation of commodities' (Marx 1967, p. 67).

This multiplication of commodities is the outcome of the fact that money is invested in labour power and machines with the explicit aim of generating and realizing a profit, derived from surplus value that is then reinvested into a new cycle of production and exchange. Consequently, accumulation is the typical pattern of this socio-economic regime: 'Employing surplus-value as capital, reconverting it into capital is called accumulation of capital' (Marx 1967, p. 13204). But this process is far from automatic, as pointed out by the image of the somersault of the commodity:

> The first condition of accumulation is that the capitalist must have contrived to sell his commodities and to reconvert into capital the greater part of the money so received. (Marx 1967, p. 12888)

The second condition relates to the organization of the production process, the nature of machinery and the use of labour power in order to generate the expected surplus value. This brings a form of historicity in the process of accumulation that follows different stages, from early mechanization to continuous innovation in production organization:

> The first period, during which machinery conquers its field of action, is of decisive importance owing to the extraordinary profits that it helps to produce. These profits not only form a source of accelerated accumulation but also attract into the favoured sphere of production a large part of the additional social capital that is being constantly created, and is ever on the look-out for new investment. (Marx 1967, p. 9585)

Consequently, a relentless accumulation means a long-term qualitative transformation of the social relations of capitalism, in terms of monetary and credit regime and competition: 'Commensurately with the development of capitalist production and accumulation there develop the two most powerful levers of centralization—competition and credit' (Marx 1967, p. 14216).

2.4 How contradictions recurrently generate economic crises

The core features of a capitalist mode of production are thus: money is necessary for transactions and the interactions between the capital–labour relation and competition launch accumulation as a coercive law. The first feature makes crises possible, the second necessary:

> If the interval in time between the two complementary phases of the complete metamorphosis of a commodity become too great, if the split between the sale and the purchase become too pronounced, the intimate connexion between them, their oneness asserts itself by producing a crisis. (Marx 1967, p. 1751)

Various devices can be deployed to postpone such a crisis but they are bound to fail as time elapses: 'Such a crisis occurs only where the ever-lengthening chain of payments, and artificial system of settling them, has been full developed' (Marx 1967, p. 2126).

Consequently, Marx provides one of the very first theories of endogenous business cycles and he explains their unfolding with the successive phases of inflation and deflation, typical of capitalism during the early 19th century:

> Thus, when the industrial cycle is in the phase of crisis, a general fall in the price of commodities is expressed as a rise in the value of money, and in the phase of prosperity, a general rise of the price of commodities, as a fall in the value of money. (Marx 1967, p. 14091)

There is never convergence towards the steady state postulated by contemporary new classical macroeconomics and Marx anticipates Joseph Schumpeter in his analysis of the superposition of cycles of different periodicity:

> The course characteristic of modern industry, a decennial cycle (interrupted by smaller oscillations) of periods of average activity, production at high pressure crisis and stagnation, depends on the constant formation, the greater or less absorption, and the reformation of an industrial reserve army or a surplus population. (Marx 1967, p. 14312)

Clearly, cycles are not pure economic phenomena because they are associated with the evolution of the condition of the working class, via the size of the pool of the unemployed: 'One need only glance superficially at the statistics of English pauperism to find that the quantity of paupers increases with every crisis, and diminishes with every revival of trade' (Marx 1967, p. 14504).

2.5 An impressive analysis of financial crises: the actuality of Das Kapital

The crises acquire a further complexity when the circuit of capital (money–means of production–production– commodity–conversion into money) experiences an extension via the circuit of credit. It favours accumulation but simultaneously over-accumulation is exacerbated and the probability of a collapse of the economy increases:

> If credit is the principal lever of overproduction and speculation, this is so because the process of reproduction, naturally very elastic, is forced to the extreme, which is due to the fact that a large part of the social capital is applied by individuals who do not own it and use it with much less caution than the capitalists producing with their own capital. The impediments and immanent limits which capitalist development opposes to production in capitalist society are continually broken by the organization of credit, which accelerates the material development of the productive forces and the creation of the world market, the material basis of the advent of the new form of production. The dissolution of the old form is also activated by the crises whose credits increase the frequency. (Marx 1967, Section V, Chapter XXVII, p. 572)

Please note that this quotation anticipates modern theories about the role of moral hazard in the genesis of crises. When in the US during the 2000s the securitization of mortgage credit removes the responsibility of the banker, the quality of borrowers declines and makes crisis highly likely, and the collapse more severe, the longer the period of speculation on house prices (Boyer 2011b). Therefore, money and credit are not at all neutral because they contribute to the accelerated transformation of productive forces, social relations and the geography of capitalism.

The chase for the liquidity of money signals the climax of any financial crisis. The economy turns brutally from a configuration of abundant and highly liquid assets to the complete freezing of transactions between financial entities. The 2008 crisis is a new example of the relevance of Marx's description. Nevertheless, he considered that the Bank of England was unable to intervene and buy depreciated assets and thus restore the continuity of the payment system. Since the 19th century, the repetition of banking crises has called for a new role for central banks: they have become lenders of last resort to illiquid bankrupt commercial banks, collectively unable to convert their assets into money (Bagehot 1897). The economies dominated by capitalist logic have evolved and new institutions and rules of the game have been invented to alleviate the dramatic consequence of financial crises. The pressures exerted by social and political movements have altered the pure capitalist logic and generated genuine configurations for basic social relations (Hollingsworth and Boyer 1997). *Régulation* theory has been designed as an extension of Marx's analyses to the contemporary world by taking into account these institutional changes in the social relations of production:

> In a production system whose coherence rests entirely on credit, a crisis and a violent demand for means of payment must inevitably arise when credit is suddenly abolished and only cash payments are allowed. At first sight, everything must be reduced to a crisis of credit and money, since only the possibility of converting bills into money is concerned. But these bills represent on the one hand—and this is the largest bulk—real sales and purchases far exceeding the needs of society and by that very fact are the causes of the crisis and, on the other hand, of the crooked affairs which only then come to light, from unfortunate speculation made with the capital of others on depreciated and unsaleable goods. In these circumstances, the artificial system to which the violent expansion of the process of reproduction has resulted cannot, of course, be made normal by the intervention of a bank, the Bank of England, for example, which would use its paper to constitute the capital they lack and buy at their initial nominal value all the depreciated goods. Moreover, everything seems to be reversed in this world of paper, where nowhere do actual prices meet with their real moment, and where there is never any question of bullion, cash, banknotes, bills, securities, mainly in financial centres like London, where all the financial affairs of the country are concentrated. (Hollingsworth and Boyer 1997, p. 581)

Money and credit are not at all a veil since they are the stings of capitalism transformations. Speculation that is generally assessed as harmful and irrational by standard economic theory, is a normal pattern of a credit economy and it is the unintended process that materializes in deeply-rooted long-term trends of capitalism. Even financial crooks do finally contribute to new forms of socialization of the economy. Their narratives go back to the two bankers, Law and Pereire, concern Ponzi and end up with Madoff's mass Ponzi scheme:

> Credit therefore has this double character of being, on the one hand, the pivot of capitalist production, the factor which transforms enrichment by the labour of others into a colossal game of speculation and which brings back to a restricted number of those who exploit national wealth; on the other hand, to be an agent preparing the transition from present production to a new form. It is this double aspect that makes preachers of credit, from Law to Isaac Pereire, both charlatans and prophets. (Hollingsworth and Boyer 1997, p. 585)

2.6 Capitalism set into motion the history of modern societies and of the world

Marx assigned to capitalism the power to change labour processes, production techniques, forms of organization, legal systems and, by extension, class relations:

> But when surplus-value has to be produced by the conversion of necessary labour into surplus- value, it by no means suffices for capital to take over the labour process in the form under which it has been historically handed down, and simply to prolong the duration of that process. The technical and social conditions of the process, and consequently the very mode of production must be revolutionised, before the productiveness of labour can be increased. (Marx 1967, p. 7043).

In a sense, for Marx the history of mankind seems to begin with the emergence of international trade under the sting of commercial capitalism, quite an achievement indeed:

> The modern history of capital dates back from the creation in the 16th century of a world-embracing commerce and a world-embracing market. (Marx 1967, p. 2629)

This socio-economic regime cannot last for ever. The succession of crises expresses the contradictions inherent in this mode of production and the class conflicts become more acute with the concentration of capital and means of production. As it matures, capitalism is preparing the emergence of another mode of production: that was the prognosis of Marx:

> By maturing the material conditions, and the combination on a social scale of the process of production, it matures the contradictions and antagonisms of the capitalist form of production, and thereby provides, along with the elements for the formation of a new society, the forces for exploding the old one. (Marx 1967, p. 10558)

One century later, capitalist economies have experienced many transformations in capital–labour relations, the level and form of competition, the nature of the State under the pressure of crises, wars and the diffusion of electoral democracy, but they have not morphed into a totally different socio-economic regime, supposed to be socialist or communist (Boyer 2015). This is the central issue addressed by *Régulation* theory: why this surprising resilience of capitalism beyond its built-in contradictions?

2.7 Social and political movements and their impact on economic dynamics

A common reading of Marx stresses—and frequently blames—the over-determinism of his analytical framework. This feeling can be substantiated considering only *Das*

Kapital, but one can find some exceptions, at the margin, of the construction of the concepts previously presented:

> France limps slowly behind England. The February revolution was necessary to bring into the world the 12 hours' law, which is much more deficient than its English original. … In the United States of North America, every independent movement of the workers was paralysed so long as slavery disfigured a part of the Republic. (Marx 1967, p. 6166)

Marx recognizes the differences across nations in the evolution of labour laws and they are related to the history of workers' movements and the legacy of past modes of production, such as slavery. Therefore this opens the possibility of a significant variability of codification of capital–labour relations. The subsequent evolution of capitalism has confirmed this intuition and it is the starting point for *Régulation* theory.

The other writings of Marx about contemporary social and political movements might define a good starting point for such an opening of collective strategies. They build political coalitions and finally transform the precise configuration of social relations:

> The election of the 10th of December was a reaction of the peasants, who had to pay the expenses of the February revolution against the other classes of the nation, a reaction of the countryside against the city. It was very well received by the army, to whom the republicans of the National had procured neither glory nor profit, under the great bourgeoisie, who saluted Bonaparte as the bridge which led to the monarchy, and by the proletarians and petty bourgeois, who saw in him the man who would chastise Cavaignac. (Marx 1967, p. 5187)

Mixing the conceptualization of *Das Kapital* with the rich analyses of social and political movements by Marx may define a path for understanding the transformations of capitalism since the 19th century. This could overcome the hypothesis of a unique and deterministic trajectory for the economies dominated by this mode of production.

3. Evolution and diversity of capitalism: *Régulation* theory

At the end of the 1970s, *Régulation* theory was designed as 'the *analysis* of the way in which the *transformation*s of *social relations* create *new economic and non-economic forms*, organized in *structures* that reproduce a determining structure, the *mode of production*' (Aglietta 2000, p. 15, emphasis added). The inspiration is clearly from Marx. First, it is illusory to disconnect economic forms from the *basic social relations* that define a given economic system. Their embeddedness into institutional forms matters, now a quite common statement in old and new institutionalism, but the main concern is about *the processes* that govern their transformations (Cepremap-Cordes 1977; Lipietz 1979). Second, it is a structural approach with a *holistic a priori* since individual behaviours cannot be understood without assessing their compatibility/coherence with the structures that define an *overall structure*: the mode of production (Billaudot 2001). Third, *Régulation* theory aims for a *dynamic analysis* of the long-run historical evolution of social relations and their impact upon macroeconomic processes (Boyer and Coriat 1985). The reproduction of any socio-economic system supposes its transformation, either continuous and seemingly minor (Jullien 2009), or brutal during structural crises when the viability of the system is at stake. Thus *reproduction*, *change* and *crises* can be analyzed within the same framework (Boyer and Saillard 2001). From the large body of research inspired by these foundational hypotheses (Jessop 2001), seven core features define this approach.

3.1 From social relations to institutional forms: a mid-level analysis

When confronted with the history of American capitalism, the categories of Marx have been the starting point but they have appeared as confusing the abstract level of a mode of production with its embodiment into a given society (Aglietta 2000). For instance, the emergence of labor was not repeating the British trajectory because immigration, slavery and access to land had a definite impact upon the structuring of the capital–labour relation. Similarly, in France the evolution of capitalism has followed another different trajectory because State interventions have molded all institutional forms (Cepremap-Cordes 1978). The notion of the *wage–labour nexus* intends to capture these specificities, which are quite important for any empirical analysis of the labour process, work duration, productivity and wage formation.

More generally, all the core social relations are embodied in *institutional forms*: the relation to money can be organized within different *monetary and credit regimes* (Aglietta and Orlean 1998, 2002), competition might be more or less intense and this is codified within *competition regimes* that vary through time (Berle and Means 1932) and in space (Ergen and Kohl 2017). These institutional forms operate at an intermediate level between the abstract one, that of the mode of production and the traditional domain of prices, wages, profits formation and all the variables defining macroeconomic activity. The level of the production mode is the realm of value theory; the level of institutional forms deals with qualitative analysis and the nature of the *accumulation regime*. The third level is where alternative economic theories compete to explain growth, inflation, unemployment and the *mode of régulation* aims at capturing these short- to medium-term adjustments (Billaudot 2001) (see Figure 1).

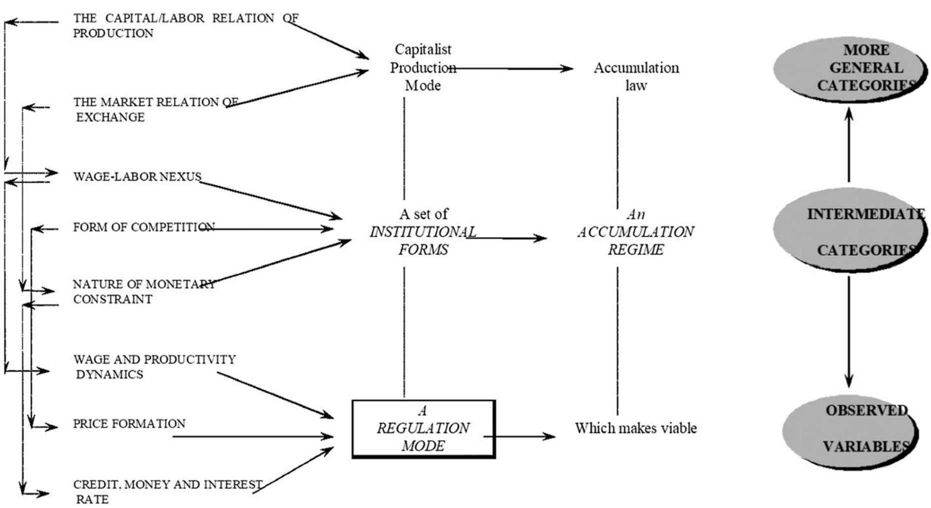

Figure 1. From social relations to institutional forms and accumulation regimes.

This analytical framework has several implications. It is first an invitation to study the precise nature of institutional forms that may imply a variable distribution of power among firms (cut-throat competition or a cartel?) between capital and labour (are workers entitled to defend collectively their interest or is collective coordination an exclusive attribute of capitalists?) and among labourers themselves (is there a reserve army that disciplines them or are they relatively immune from pauperization when unemployed?). Consequently, the coercive law of accumulation, intrinsic and common to all capitalist modes of production, does not necessarily imply the existence of a single accumulation regime because the regularities governing profit, its reinvestment into the production process and the consumption patterns of capitalists and workers are largely affected by the three institutional forms previously mentioned. Last but not least, the viability of these diverse accumulation regimes is up to the compatibility of a wage–labour nexus and a monetary regime with a form of competition as simple models suggest (Boyer 1988). *A priori* there is no guarantee that the mode of *régulation* will monitor the accumulation process along a structurally stable trajectory: a major crisis can be the logical outcome of the contradictory implications of the institutional architecture that emerges out of social and political struggles for defining the overall rules of the game. In a sense, this approach brings together the economic analysis of Das Kapital with the political analyses of class struggles (Marx 1852).

3.2 From a canonical reproduction scheme to the diversity of accumulation regimes

Marx thought that the logic of capitalist social relations was so strong as to imply a determined trajectory for any economy ruled by this socio-economic regime: a succession of economic crises would exacerbate two basic contradictions, i.e. the tendency of the profit rate to fall with the deepening of capital accumulation and the socialization of the forces of production destroying the legitimacy of private property. Until now, history has not confirmed this prognosis and *Régulation* theory has investigated why and thus developed multiple long-run historical studies and contemporary international comparisons. Let us present some of the key regimes observed in the US and France (Table 1).

An extensive accumulation regime with a competitive *régulation* mode prevails during the majority of the 19th century. An industrial revolution allows the development of new labour processes in which the intensity of work is a key variable in the genesis of profit. Workers are forbidden to form and join labour unions in order to defend their collective interests. The process of capital concentration is at work but both nominal wage and prices are highly competitive. The tendency to over-accumulation is wiped out by recurring crises that seem to exhibit a typical business cycle (Benassy, Boyer, and Gelpi 1979).

An intensive accumulation regime emerges out of the First World War in response to new technological opportunities. The large unbalanced public budgets call for the first trial of credit money to replace transitorily the gold standard. The inflationary pressures call for new mechanisms for nominal wage formation and embryonic components for the welfare state are observed. The State plays an increasing role in monitoring the monetary regime, the wage–labour nexus, the forms of competition and finally integration into the world economy. But since wage formation is still governed by competitive mechanisms, the surge of productivity leads to a paradoxical contradiction within the accumulation regime: an unprecedented high profit rate, but insufficient demand (Boyer 1988). This

Table 1. A different mix of institutional forms, contrasted accumulation regimes and *régulation* modes: the examples of France and the United States.

Period	Wage–labour nexus	Form of competition	Nature of monetary constraint	Accumulation regime	Mode of regulation
19th century	Work duration and labor intensity, commodification of labor	Acute	Constrained by the metallic basis of money	Extensive without wage-earners' integration	Competitive
Interwar period	Embryonic institutional codification of some components but still competitive wage	Concentration of production and capital	Transitory credit-based money regime	Intensive with limited wage-earners' integration	Still largely competitive
Post-Second World War	Full integration of workers into capitalism by collective agreements, welfare, public services	Monopolist domination by large holdings	Pure credit money and administered financial system	Intensive, mass production and mass consumption	Administered or monopolist
1990–2017	Slimming down of welfare individualization of labour contracts, growing heterogeneity, stress and loss of bargaining power of labour	Internationalization implies new forms of competition	Financial liquidity as a complement to credit	Innovation and global finance-led	Rise of global competition

contradiction between capital valorization and realization is the direct origin of the 1929 great crisis. It is also an example of a structurally unstable accumulation regime due to the contradiction between the forces of production (high productivity increases) and unchanged social relations (still a competitive wage–labour nexus).

An intensive accumulation with an explicit capital–labour compromise is the outcome of the post-Second World War era. One observes a synchronization of all institutional forms around an accumulation that proportions mass consumption with mass production. The national currency becomes a pure credit-based money, the concentration of capital allows a moderation of competition, more oligopolistic than pure and perfect, and crucially the nominal wage becomes largely immune from the direct pressure of the so-called reserve army, since full if not over employment becomes the rule and it precipitates the insertion of women into the labour force and the migration from countryside to cities. Such a socio-economic regime was difficult to anticipate, in the light of the observations of mid-19th century British capitalism: the reference is then the American configuration that tends to inspire equivalent transformations in other industrial economies. The institutionalization of the wage–labour nexus was determinant in creating the virtuous cycle of this Fordist accumulation regime (Bertrand 1983; Juillard 1993).

A finance-led accumulation is still another regime observed in the US and the UK after the 1990s (Boyer 2000). A dominant coalition between high-level managers and financiers transforms the logic and governance of firms in the direction of the optimization of portfolio management and not so much productive capital. Wage-earners consider the valuation of their pension fund as a core determinant of their wealth and thus of their consumption. The State itself is under the control of international finance in all domains of public policy: low taxation for mobile capital, privatization of public services, 'rationalization' of the welfare state and adoption of a freely-floating exchange rate regime.

Surprisingly enough, such a regime could prosper during the 15 years before entering the 2008 major crisis.

An equivalent diversity is observed in the contemporary world: in spite of global competition different institutional configurations coexist (Boyer 2004) and, in a sense, the finance-led and industrial innovation-led capitalisms are complementary along with a rentier regime based on the export of natural resources (Boyer 2015). Neoliberal policies have been implemented in almost all European Union member countries but the labour and macroeconomic regimes remain different (Amable, Guillaud, and Palombarini 2012; Baccaro and Howell 2017). The diversity of capitalisms is confirmed for OECD (Organisation for Economic Co-operation and Development) economies (Amable 2003) and new forms emerge in East Asia (Boyer, Uemura, and Isogai 2011). This is the consequence of contrasted paths to capitalist institution building.

3.3 From cyclical movements to the structural crisis of an accumulation regime

Régulation theory sticks to the hypothesis that the contradictions of capitalist social relations express themselves through the repetition of crises but it proposes three levels for crisis severity (Boyer and Saillard 2001) (see Figure 2).

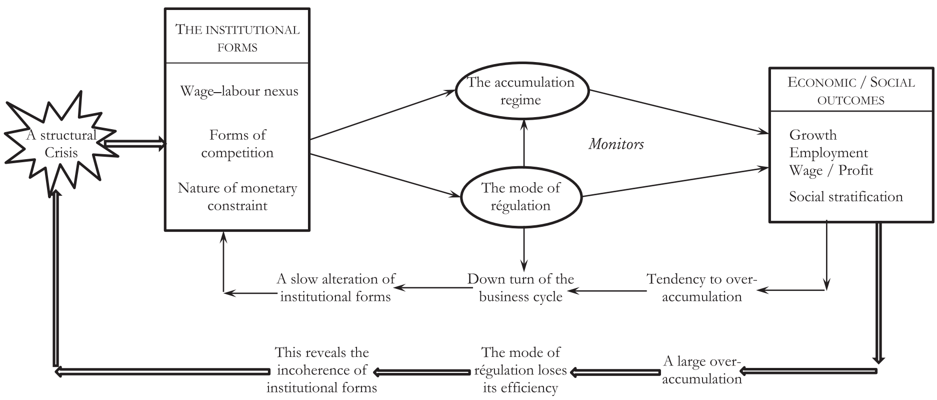

Figure 2. A succession of business cycles slowly erodes the resilience of the accumulation regimes, which creates a structural crisis.

Within a transitorily *coherent accumulation regime*, the mode of *régulation* has the task of periodically counteracting the over-accumulation that is associated with each economic boom. The effective process may vary from one regime to another (bankruptcy of weaker capitalist, countercyclical public spending, accommodative monetary regime) but the built-in mechanisms associated with the mode of *régulation* do not require any reform in the existing wage–labour nexus, the form of competition or the monetary regime: the ups and downs of accumulation are essentially endogenous, possibly affected also by external events. What the economic literature call the business cycle is then diagnosed as a *minor or small crisis*.

Nevertheless, *each cycle of accumulation slowly alters* the labor process, the technological capabilities, the sectoral components, the power relations between capitalists and workers, and the distribution of firms by size. Consequently, the institutional forms undergo some qualitative changes that in turn alter the adjustment processes embedded into the mode of *régulation*. Up to a certain threshold, accumulation can no longer be channelled and the economy enters a zone of structural instability: within the past institutionalization of the relations of production, a cumulative slump of accumulation takes place and some institutionalized forms are circumvented, eroded or destroyed. The brutal fall of the profit rate expresses the limits reached by the accumulation regime. This *structural crisis is qualitatively different from a minor crisis* and it is more than a deeper business cycle downturn: the viability of accumulation is at stake.

A still more severe episode takes place when no alternative mix of institutional forms succeeds in stopping the catastrophic collapse of the economy. Neither capitalists nor the labourers can find a reconfiguration of the capitalist social relations. This is a crisis of the mode of production that Marx anticipated, but for different reasons. *Das Kapital* considers that the full expression of *the tendency of profit* to fall would be *the final crisis of the capitalist mode of production*. The historical analysis by *Régulation* researchers shows that political forces mobilized by social movements have been strong enough to stop a complete economic collapse in the name of survival of the society. A trial and error process started in order to design more protection for labour, to mitigate cut-throat competition and to institute a public central bank able to monitor credit and monetary creation and be the lender of last resort for ailing commercial banks and a frozen financial system. Until now, 1929, 1973 and 2008 have not meant the terminal phase of capitalism but a *structural crisis of some of its configurations* forged by history.

Thus capitalism is simultaneously *highly contradictory and surprisingly resilient* via the pervasiveness and malleability of its core social relations: they are open to innovations and new configurations in response to pressures by workers, citizens and so-called anti-systemic social movements. This does not mean that capitalism is guaranteed to rule forever. Remember the unexpected collapse of the Soviet regime (Sapir 1992, 1996): once supposed to be the follower of capitalism, it finally turned out to be unable to reform itself while preserving its two pillars, the monopoly of the Communist Party for political power and economic planning as an alternative to market mechanisms.

3.4 Cycles and crises differ from one accumulation regime to another

The previous distinction between three graduations in the severity of crisis is valid for every accumulation regime summarized in Table 1. Nevertheless, there is neither a canonical business cycle nor a unique form of structural crisis (see Table 2).

The extensive accumulation regime in tandem with a competitive mode of *régulation* is the implicit reference of classical economists and Marx. In retrospect, the constraint explicit to a metallic-based money and the atomistic nature of production is limiting the amplitude of over-accumulation at the origin of a new industrial (Bouvier 1973, 1989) business cycle, quite different from the 'Ancien' regime that originated from bad harvests and food crises (Labrousse 1976). The rise of industry matures and economic dynamism encounters some structural limits: international

Table 2. As many cycles and structural crises as accumulation regimes.

Accumulation regime	Business cycles 'minor crises'	Structural crises 'major crises'
1. Extensive	Over-accumulation and then downwards reversal	Growing conflicts, first economic and then political among European nations
2. Intensive, with limited integration of wage-earners	Transition from war to civil economy	Contradiction between a still competitive wage–labour nexus and productivity revolution
3. Intensive, mass production, mass consumption	Stop and go economic policy is monitoring accumulation	Endo-metabolism: limits to Fordist productive organization, internationalization, rise of global finance
4. Innovation and globalization led	Succession of technological breakthrough (internet, securitization)	Diffusion of toxic derivatives destroy the informational content of financial prices

competition and emerging modern financial crises but also the growing conflicts about the recognition of labour demands in terms of reduction of work duration, unionization and capital's responsibility concerning industrial accidents. This was characterized as the deflationary phase of a long Kondratieff wave, after a reversal of the ascending phase.

The intensive accumulation with limited integration of wage-earners is specific to the interwar period. The conversion of war economy innovations into opportunities for civil needs generates a boom then a halt and this cannot be qualified as the typical business cycle. The war generated many transformations in most institutional forms: a credit-based monetary regime, a productivity revolution, a large extension of the domain monitored by the State, but only an embryonic advance in the status of labour. This discrepancy between dynamic mass production and a still competitive wage formation triggers a structural crisis quite atypical indeed: a high but an unsustainable profit rate but inertia of demand manifests in the incoherence of the institutional forms that feed the accumulation regime. It is why the 1929–1932 depression is more than a larger than usual business cycle (Vidal 2000). There is no endogenous recovery before the entry into the Second World War and only the catharsis of this dramatic episode opens a new configuration of capitalism that makes possible another and more coherent accumulation regime.

The intensive accumulation with mass production and mass consumption is emerging out of intense restructuring of institutional forms after the Second World War. The main change relates to the full integration of labour into capitalism: basically, nominal wage increases become institutionalized in line with the productivity generated by Fordist labour processes and public spending and welfare reduce the volatility of the economy that grows at an unprecedented rate. Thus the over-accumulation tendency is under control and *new and mild business cycles*—recessions replace depressions—originate in the conduct of economic policy: booms are associated with an acceleration of inflation that calls for restrictive monetary policy and/or counter-cyclical public spending and taxation and the policy is reversed to stimulate a recovery. Standard theorists concluded that this meant the end of large and costly business cycles. This ignored two basic features of capitalism. First, the limits of the Fordist labor process and of mass production techniques result in a stagnation of productivity that destroys the pillar of the accumulation regime. This idea can be conceptualized by the notion of endo-metabolism and formalized by a model with two timescales: short-term economic activity versus slow alteration of the key parameters associated with a set of institutional forms (Lordon 1997a)—the post-Second World War capital–labour compromise. Second, in the search for extended increasing returns to scale, capital crosses national borders and this erodes a second premise of the accumulation regime: a domestic oligopolistic competition shifts towards a fierce international competition (Boyer 2015). This opens an original structural crisis that does not reproduce the 1929 crash since the underlying accumulation regime differs.

An innovation and global finance-led regime is still different since it is moved by two main engines: international competition and a succession of financial innovations. *The business cycle is now moved by the anticipation* of startups and financiers of large profits generated by technological breakthroughs, be they the internet revolution or the promise of securitization applied to real estate markets. It is the time of shareholder value (Aglietta and Reberioux 2004). The downturn comes when imagined profits do not materialize and trigger bankruptcy of numerous firms. The central bank has to limit the risk of depression and adopt a very accommodating policy of zero interest rates but this is an invitation to a new speculation phase built upon an easy access to credit in spite of the quasi-stagnation of wage-earners' income. Ultimately, *the structural crisis* is not at all the consequence of over-accumulation of productive capital but of the explosion of toxic financial assets wrongly evaluated by 'quants': in September 2008 the whole American financial system is frozen because a densely connected network is unable to restore confidence in the valuation of each financial entity. The overwhelming power granted to financiers has finally *destroyed the informational content of price signals* (Boyer 2011b). Only a coordinated plan by public authorities that socializes the losses of the banks prevents the repetition of the 1929 collapse.

The French historical school used to state that each society displays the crises specific to its economic structure (Labrousse 1976). Marx has theorized the crises of an emerging industrial capitalism and anticipated that it would soon be replaced by another mode of production. Informed by subsequent economic history, followers can extend the methodology and try to prove that e*ach capitalism has the cycles and crises of its institutional forms*, and expose the regime that will replace capitalism.

3.5 Social and political struggles matter: the surprising Fordist era

Why do capitalisms change in the long run? A first reason relates to the fact that structural crises point out the limits of a configuration and they open conflicting projects among actors in order to explore alternatives for accumulation to recover again. But no determinism seems to govern this complex process: visions and political processes are required. Experience has taught that a socialist mode of production does not follow logically from the financial collapse and structural economic crisis of a capitalist economy. A second and crucial reason deals with class and political struggles: they may shape institutional forms that alter past economic regularities that were (falsely) interpreted as quasi-natural laws (Boyer 2011a). For instance, in the Marxist tradition capitalism is assumed to require the constant formation of a reserve army in order to defend surplus value and profit. Similarly, the State is intrinsically analyzed as the collective organization of capitalists. Let us quote Marx:

> The bourgeoisie, at its rise, wants and uses the power of the state to 'regulate' wages, i.e. to force them within the limits suitable for surplus value making, to lengthen the working day

> and to keep the labourer himself in the normal degree of dependence. This is an essential element of the so called primitive accumulation. (1967, p. 17182)

Since the end of the 19th century, *the collective organization of workers* and the use of political citizens' rights have partially redefined the balance of power between capital and labour. Precisely, the length of the working day has been limited by law and responsibility for industrial accidents has been recognized despite the direct immediate interests of the bourgeoisie, to use Marx's terms. This was not the outcome of any rational calculus by firms and workers but of open conflicts about the recognition of new rights for labour (Boyer and Orléan 1991).Therefore the value of the workforce is no more set by the value of commodities required to reproduce labour at an invariant subsistence level, but it is the outcome of struggles in the firm, at the sector and ultimately State levels. Under favourable conditions—for instance, full or over-employment—the gains by the workers can be converted into better wellbeing. This makes possible a paradoxical accumulation regime whereby the endogenous transformation of workers' consumption patterns checks the overproduction tendency, typical of early industrial capitalism. Consequently, the concessions granted to wage-earners are not paid by a lower profit rate but they deliver a high and stable one in the context of moderate competition among capitalists.

This is the *history of the Fordist accumulation regime*: it was not the natural outcome of the corrections of interwar unbalances but the unintended consequence of the world war that had delegitimized the power of financiers and the political elite and redefined the interests of industrialists, workers and the State elite. Intense political struggles end with a complete redesign of the institutional forms under the aegis of a State that appears as the warrantor of a new institutionalized compromise (Delorme and André 1983). Only ex post do contemporary actors perceive that the 1950s and 1960s are not the repetition of the interwar catastrophic unfolding but the entry into a new epoch of fast and rather steady growth that mitigates and transforms the conflicts intrinsic to economies dominated by pure capitalist logic.

Let us mention that these compromises are binding only within the boundaries of a nation-state. Therefore two other institutional forms need to be brought into the picture (Boyer and Saillard 2001). First, *the relation between the State and the economy* captures all the interventions in terms of public spending, collective services and taxation but also the monitoring of the compatibility or complementarity of the other institutional forms. Second, the relations between the domestic economy and the rest of the world are not only a matter of pure economic transaction but also of national sovereignty: the nature of *the integration into the international* regime is much more than the opposition between protection and free trade (Mistral 1986). For instance, the post-Second World War regime was viable under the condition of a coherent international regime under Pax Americana and the use of the exchange rate as adjusting the potential imbalances generated by the domestic accumulation regime (Figure 3).

If the emergence of an accumulation regime is not a pure economic process but mobilizes political power in response to social demands, it is no surprise if an equivalent intervening prevails during major crises.

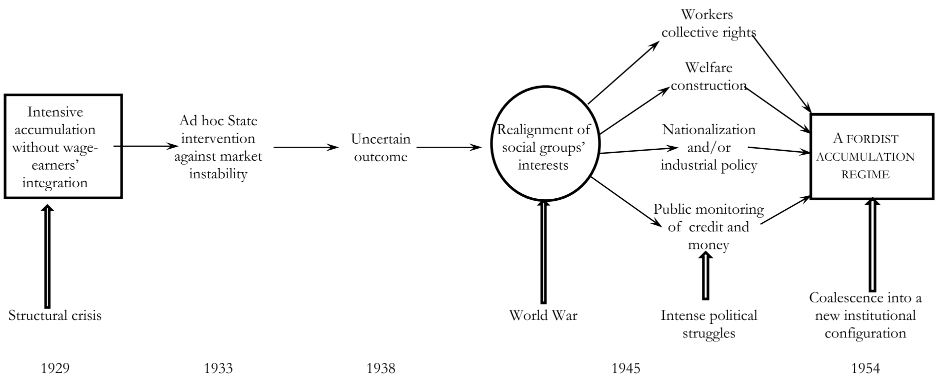

Figure 3. The origins of the Fordist accumulation regime: 1929 structural crisis, Second World War, social struggles.

3.6 Why structural crises are simultaneously economic, social and political

The last two accumulation regimes were the consequence of one precise core socio-political compromise between industrialists and workers, respectively, during Fordism, and between financiers, high ranking managers and a group of new rentiers for finance-led accumulation. The (transitory) viability of these regimes was not obtained by mere hazard but it did express the hierarchical distribution of institutional forms. In the first regime, the wage–labour nexus allowed oligopolistic competition, called for a welfare State and supposed that the nominal wage had become the pivot of monetary policy under a fixed but adjustable exchange rate international regime (see Figure 4, supra). Similarly, the domination of financial capital constrains State autonomy and sovereignty, and it demands a flexible wage–labour nexus; the international financiers' expectations set the evolution of the national exchange rate, a market-determined variable; finally, the task of the central bank is not only to create price stability but also the overall stability of the financial system. The hierarchy is upside down with respect to the Fordist era (Figure 5).

Thus, both accumulation regimes require simultaneously a *stable socio-political alliance and a resilient institutional architecture*. Consequently, their structural crises manifest themselves first via growing economic unbalances but as times elapses, because no economic recovery takes place and the integrity of institutional forms is eroded, the past alliance breaks down. A new and uncertain epoch begins, torn between the illusion of a pure technical solution to the crisis and an impatient political activism. This duality of economy and polity is typical for major crises but not for minor ones. The depth of a depression is not the necessary benchmark for diagnosing a structural crisis: a long stagnation with recurring minor cycles can be associated with an ongoing and lasting decomposition of the past institutional architecture (Figure 6, infra).

3.7 The dialectics of State and capitalism: from Marx to Gramsci

The nesting of the economic domain and the sphere of polity is at the core of institutional forms. Let us now address more directly their theoretical relations and derive some consequences for the dynamics of modern capitalist societies (Théret 1992).

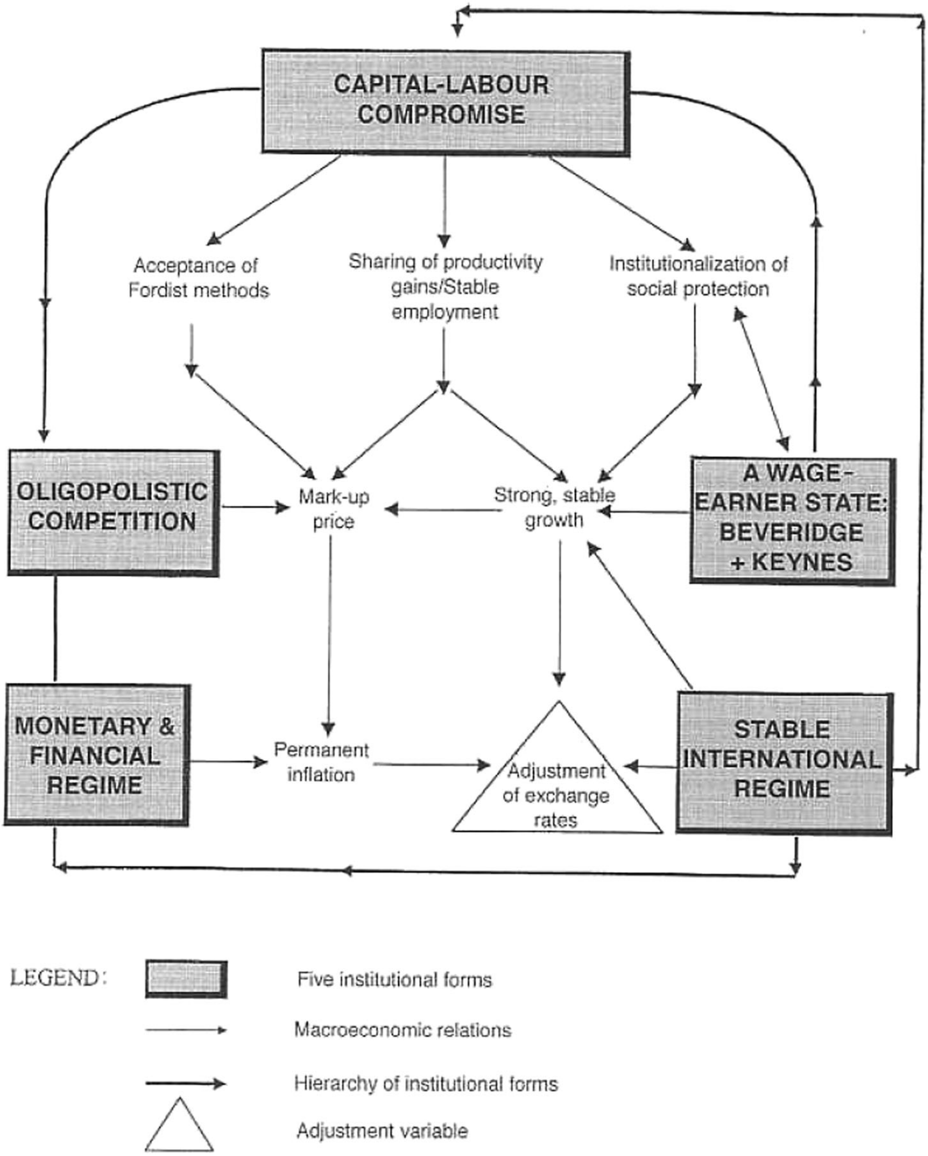

Figure 4. The primacy of the national compromise between capital and labour: the novelty of Fordism.

The first step recognizes, from a conceptual point of view, *the autonomy of the two fields*. The economic field deals with the accumulation of wealth in the space governed by market exchanges. The political field is focused upon the accumulation of power and calls for a principle of legitimate coercion. At the most abstract level, these two spaces are orthogonal. This geometric image aims at resisting the temptation to project a space on to the other: on one side, *economism*—yesterday that of a certain Marxism, today that of Chicago economists—and, on the other side, *politism*, now forgotten, by virtue of which everything in the economy would be directly political.

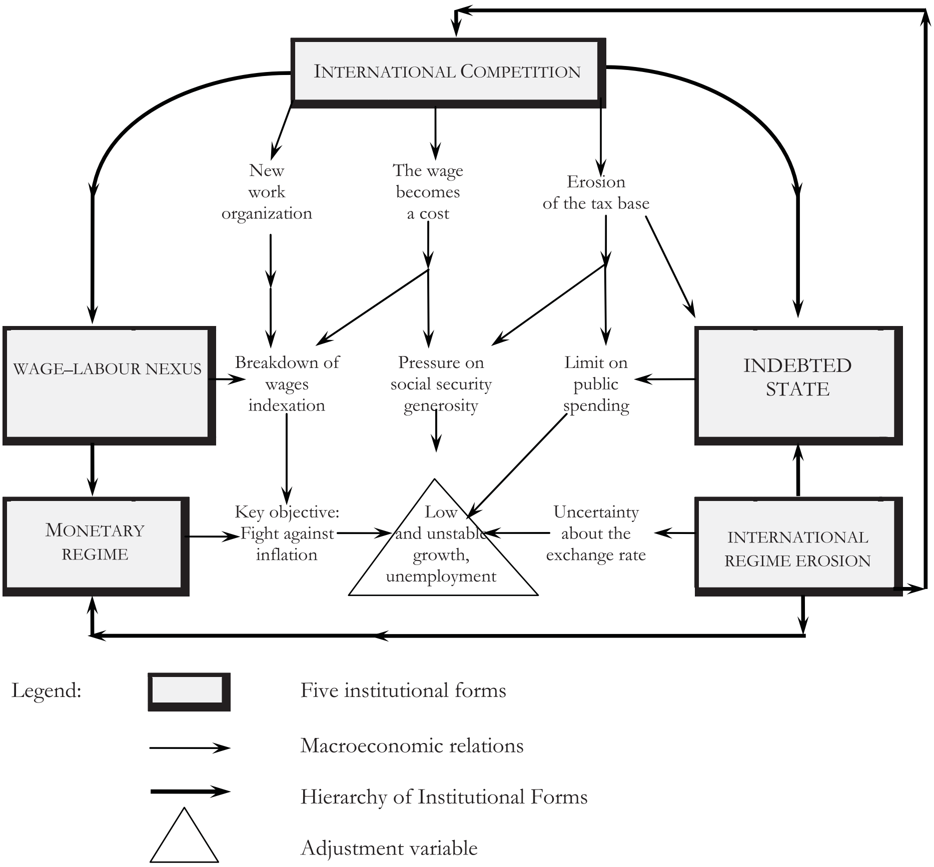

Figure 5. The domination of international competition: still another political alliance and hierarchy of institutional forms.

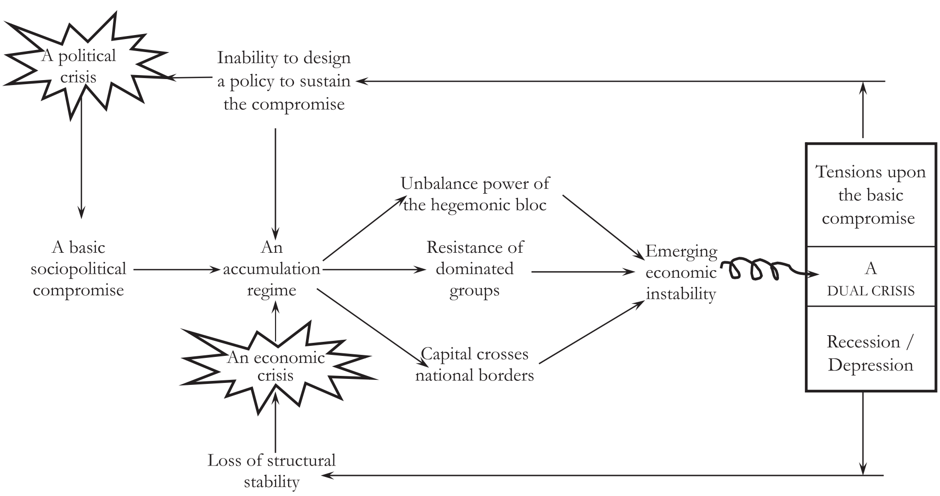

Figure 6. A structural crisis is also an episode of political turmoil.

At a second level of analysis, the proper operation of *each of the fields makes use of resources coming from the other field*, for reasons that are not purely contingent. On the one hand, economic logic in order to operate requires preconditions that can only come from another sphere: a stable monetary and credit regime; commercial and labour laws; a legitimate public authority preserving national sovereignty and the required collective infrastructures; and as many institutions which the economic logic left to itself is unable of engendering or even sustaining in the long term. On the other hand, without financial resources and integration into the economy, polity will not be able to satisfy its primary objective, the accumulation of power, which is not directly economic, but needs to be to be realized through a tax system and public spending.

Consequently, *the two fields tend to evolve in concert* since one form or another of compatibility must prevail *ex post*. Historical experience suggests an important result: neither of the two logics, whether economic or political, has succeeded in imposing itself on the whole socio-economic system. When the market is pervasive and becomes omnipotent, it ends up with the impossibility of its own logic to produce and reproduce three of its pillars and preconditions: money, labour and nature (Polanyi 1946). Symmetrically, the failure of the Soviet regime illustrates the inability of the polity to completely seize the material reproduction of society; in short, to manage both goods and people and to merge them into a unified sphere. Thus, the *political regime and the economic regime are condemned to co-evolve*, since any of the two extreme configurations (i.e. 'all is polity' or 'all is economy') are unable to prevail in the long run (Théret 1992).

Researchers must therefore give up the ideal of neoclassical theory built on the concept of a static equilibrium that is also a Pareto optimum. The function of economic policy cannot be conceived as the intentional search for such a configuration (Lordon 1997b). By contrast, for *Régulation* theory, a *political coalition is launching a dynamic process* that ultimately escapes the control of even the most powerful and best-informed actors. A steady state is an exception; the rule is a *complex evolution* with cycles and from time to time a *structural crisis*, simultaneously political and economic (Palombarini 2001). Macroeconomic performances are the unintended consequences of a given political alliance. For example, the full employment that Keynesian economists see as achievable by the use of effective demand theory is not so if employees are not part of the ruling coalition. One measures the gap between a *normative theory* (according to theory X, this is the best or at least a good policy) and a *political economy* approach (what are the factors that explain the effective adoption of policy Y?).

Thus *Régulation* theory encounters the concept of the *hegemonic block* and *socio- political alliance* proposed by Gramsci (1978) and Poulantzas (1968). This is a significant deviation with respect to the traditional Marxist vision of a State basically dominated by the bourgeois because their power originates in the economic sphere and cannot be challenged as long as private property of the means of production prevails. By contrast here, the political rights of workers as citizens give them the opportunity, at least on special junctures, to affect the codification of some institutional forms, especially the wage–labour nexus; that is, the interventions of the state concerning public spending and welfare. But it is not a one for all status quo, because both polity and economy are endogenously evolving. The economic contradictions reverberate into the sphere of politics and, conversely, the political conflicts affect economic policy and the reforms of institutional forms as well. This is why crises, both minor and major, continue to be a key

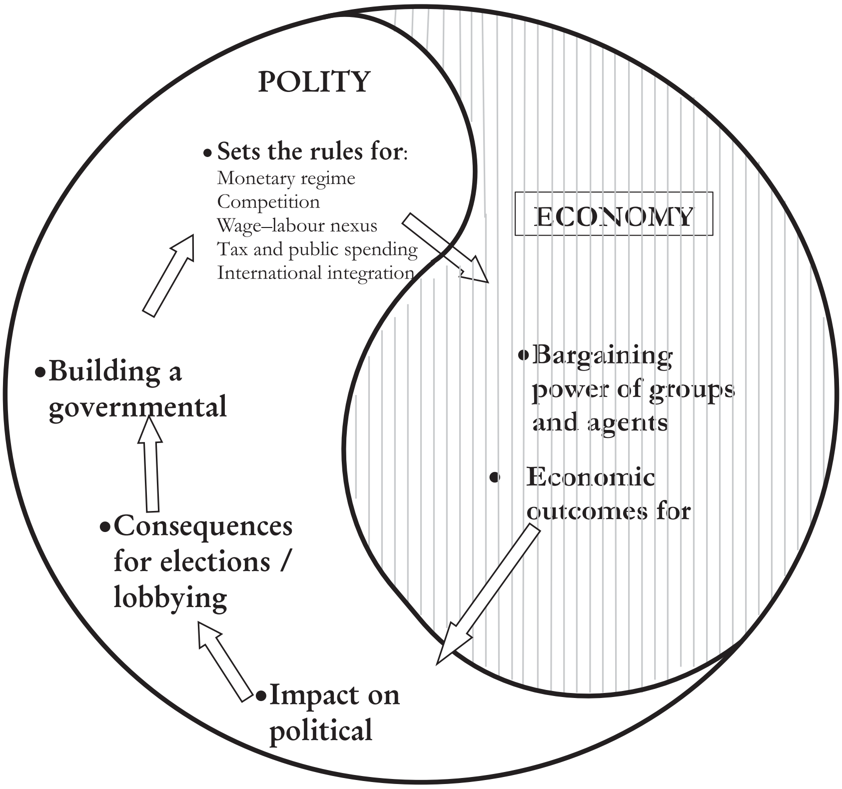

Figure 7. The interweaving of political and economic spheres launches an endless dynamic process.

feature of contemporary capitalisms under democratic regimes or more authoritarian ones (Figure 7).

As a final consequence, it is no longer possible to propose from the outset 'a general theory' and to derive immediately precise results for any society, since any analysis has to start from *a given society at a precise period of its history*. It must clarify the nature of the political system and explain the structuring of the relevant social groups in relation to the formation of governmental coalitions; the existing *régulation* mode largely determines the relevant variables that guide the adhesion to or the rejection of the different socio-economic groups. This is a striking contrast with the research agenda of the 'New Political Economy' that applies neoclassical tools to political choices and presents the optimal policy as universal (Drazen 2002). De facto, it frequently extrapolates without precaution a precise configuration somehow representative of a country, often the US, but problematic in most other cases. Indeed, there are at least as many forms of democracy (Tilly 2007) as there are forms of capitalism; therefore, numerous political-economic configurations are observed with distinctive features.

4. Relevance of Karl Marx today: towards a renewed political economy

Before 2008, Marx was rarely mentioned within the economics academic literature because, after the Second World War, the US-inspired economic analysis conquered the core of the discipline. It originated from an impressive clarifying effort of the concepts inherited from British political economy (Samuelson 1947). Theorems could be deduced from quite a few axioms and propositions from pure theory could be tested by adequate econometric techniques (Cowles Commission 1952). The Keynesian approach had proposed the revision of some core hypotheses concerning labour and finance in light of the observation of new characteristics of the interwar British economy. In turn, the maturing of the post-Second World War growth regime—monitored according to Keynesian ideas—feeds the return of the more fundamentalist approach of a pure market economy. This culminates in the domination of the new classical macroeconomic theory; the Walrasian model becomes the benchmark and it reassesses the primacy of axioms over observation, simulation and calibration over refutation by econometric test. The structural transformations of contemporary capitalisms are simply ignored as negligible compared with the intrinsic and universal properties of a market economy. This opens an avenue to a revival of Marxian research and to an ambitious political economy project (Table 3).

It is no surprise, then, if the *new classical macro theory* (Lucas 1981) is the less equipped to explain the seven stylized facts under review: productivity stagnation is tautologically explained by a negative technology shock; finance does not exist and thus it cannot cause any economic crisis; the representative agent conceals completely the polarization of most societies; polity and economy are conceptually autonomous spheres; and, for simplicity's sake, the economy is closed and this prevents any contagion of disequilibria from one country to another. Furthermore, why have emerging economies been catching up since the 1990s and not before if, according to neoclassical growth theory, frontier technology is a public good available to any firm or country? The search for axiomatic purity clashes with the criteria of relevance, i.e. the provision of analytical tools that help understand present economies.

The *Keynesian and post-Keynesian theories* are more respectful of some features of the 2000s (Lavoie 2014). The Minsky model proposes some of the mechanisms that generated the internet and then subprime bubbles. It can be extended to explain how the high return of financial instruments has diverted capital allocation away from the productive investment that would have engineered a recovery of productivity and growth. The contrasted dynamics of wage and capital remuneration have definite consequences for personal income distribution. For post-Keynesians, erroneous austerity policies have exacerbated the social divide between rich people and the majority of the population. The hot issue of globalization is not easily dealt with within this paradigm that continues to consider isolated national economies. Nevertheless, Keynesians do have a point of view on some key issues of the contemporary world.

The *neo-Schumpeterians* are part of a larger evolutionary paradigm that points out the endogeneity of innovation in terms of products, processes and organizations and its leading role in economic dynamics (Dosi 2012). The stagnation of productivity in mature economies is interpreted by a long period of adjustment of all organizations and institutions to technological opportunities. The emergence of new industrializing countries is up to their diffusion outside North America and Europe in response to the delocalization of value chains under the aegis of multinationals. Nevertheless, no development can be indefinitely exponential because the typical pattern of any social system of innovation looks like a logistic curve. Growth can only recover with a cluster of

Table 3. The last decade stylized facts: testing alternative theorizing.

Stylized facts/ theory	Productivity slow down	Finance-led economies	Inequality	Catching-up of developing countries	Social polarization	Peak of globalization	Capitalism/democracy conflict
New Classical	Only negative exogenous productivity shock	Black spot	Myth of representative agent hides the issue	Implicit (neoclassical) growth model)	Only individuals, no society	Mainly closed economies	Separation economy/ polity
Keynesian/post-Keynesian	Negative impact of financial volatility and high returns on productive investment	Minsky cyclical accumulation model and financial instability	Sources of slow growth	No clear concern	Indirectly via consumption and saving	No concern	Caused by erroneous policies
Neo-Schumpeterian	• Misdirection of innovations from production to finance • Large lag between innovation and production	Diversion of innovation from production to finance	Consequence of a new wave of entrepreneurs	International diffusion of techniques	Can be mitigated by training and redistribution	Maturing of international division of labour	Social democracy versus liberal capitalism: the distribution of innovation benefits matters
Marxism	Exhaustion of past source of exploitation (capital deepening, labour intensity, delocalization)	A typical feature of mature capitalism (*Capital*, Book III)	Direct consequence of unleashed competition	Pervasiveness of capitalism that removes past barriers	Return to pre-Second World War societies: labour versus (financial) capital	The endogenous limits of capital accumulation at the world level	Domination of State by capitalist interests
Institutionalist Political Economy	• Impact of labour flexibility on incentives for technical innovation • Uncertainty about the next development mode inhibits investment	Consequence of a new hegemonic bloc dominated by financiers	Consequence of de-institutionalization of wage formation	Role of developmental states in Asia	Consequence of deregulation	Endogenous creation of protectionist/ nationalist social movement	Loss of autonomy of State intervention

innovations powerful enough to trigger another wave of growth. One line of research points out that any set of radical innovations initially fosters mechanically a widening of income and wealth inequality but their wide diffusion reduces progressively the rents from innovation and leads to a more balanced distribution of income. Another approach inspired by socio-economic investigations stresses that some institutionalized compromises distribute rather smoothly the dividends of innovation whereas in typical market-led capitalisms, innovators are part of a competitive game in which the winner gets all. Thus a technological paradigm only captures a fraction of the processes operating in actually existing economies that have to interact with the inherited institutional forms.

Contemporary Marxian analysts take seriously the transformation in basic social relations that define a capitalist economy (Duménil and Lévy 2002, 2013, 2014). In response to the deregulation of so many markets, the typical patterns of competition led accumulation to resurface in modern economies. Finance is leading the ups and downs of the economies where productive capital is submitted to the logic of high returns and the contradictions of capital show up during severe financial crises. Under its own laws of motion, the capital–labour conflict leads to recurring crises and it unleashes widening income inequality among two groups: wage-earners living on the sale of their labour power on one side; capital owners, let them be entrepreneurs, financiers or rentiers, on the other (Piketty 2013, 2015). The new industrialized countries show that capital accumulation naturally tends to cross political borders and thus the domestic political processes are overwhelmed by the opportunism of transnational capitalists. Nevertheless, no source of exploitation can continue forever unchanged and the so-called productivity puzzle—more innovations than ever but no hike in productivity indexes—can be partially explained: capital deepening encounters limits; work intensity and wage concessions find clear social resistance; and delocalization ends up against the rise of skilled workers' wages. Karl Marx is back but not with the victory of the proletariat since the winners of class struggle are, for the time being, the capitalists themselves. From a purely analytical point of view, the Marxist paradigm is too enlightening to be discarded as nonsense and ideology. This is the surprising outcome of a bizarre return to the past, i.e. a partial return to competition and finance-led capitalisms.

Institutional political economists build upon the heritage of all the previous approaches and they aim at taking seriously the variability in time and space of the complex interactions between polity and economy that allow a multiplicity of socio-economic regimes (Hall and Soskice 2001; Thelen and Streeck 2005; Blyth 2008; Boyer 2015). The productivity slow-down might be the long-run consequence of the flexibility of wage formation that finally inhibits the search for productive breakthroughs through radical innovations but it is also evidence of the radical uncertainty about the next productive paradigm. The hierarchical domination of finance over all other institutional forms is not the unintended outcome of deregulation and innovation but the very expression of a new hegemonic bloc that aligns financiers, managers and a new class of rentier. The economic risk that was largely assumed by firms is now borne by wage-earners in order to deliver stable and high returns to investors and shareholders. This widens income inequality and erodes the support for neoliberal strategies of low-skilled and low-paid workers. They are excluded from governmental alliances and form part of the nationalist movements that challenge capital-led globalization. The existing party system cannot cope with the superposition of two orthogonal dividing lines: along the right/left axis concerning the mix between State and markets, and along the opposition between internationalism and defence of national sovereignty. Hence the crisis of electoral democracy that is here to last given the structural factors that have eroded the legitimacy of domestic political institutions.

This approach is indeed quite marginal among the economics profession but it promotes *an observation-based socio-economic discipline*, i.e. a precious antidote to the axiomatic and normative approach of most contemporary research. If capitalisms experience large structural and political transformations, why should academic economists look for a canonical, universal and a-temporal theory? Economic sociology recognizes the paradoxical status of mainstream economists: confident in their superiority but not really respected for their contribution to the intelligibility of contemporary societies (Fourcade, Ollion, and Algan 2015).

5. Conclusion

This article proposes a simple idea: revisiting Marx is not only a matter of exegesis but a useful if not necessary step in building a paradigm to understand and explain the transformations of capitalisms.

The recurrence of financial crises in emerging economies, the near collapse of the North American financial system in September 2008, the growing social inequalities and the rise of anti-free trade political movements dramatically challenge the claim that standard economics had reached the stage of a truly scientific discipline. In retrospect, the 2003 statement by Robert Lucas that the central problem of depression prevention has been solved, for all practical purposes and has in fact been solved for many decades, suggests that beliefs, arrogance and hubris had replaced analysis, rigour and relevance as the driving forces of the economics discipline. By contrast, some if not many observers of the last decade—including financiers—have pointed to the surprising come-back of Karl Marx, who still proposes the starting point for a deeper understanding of contemporary capitalisms. This means an impressive twist. On one side, modern economics can no more pretend to be a science: it was actually built upon beliefs and a market fundamentalism that have proven to be falsified by many empirical evidences. On the other side, the Marxist paradigm delivers many key insights about the disequilibria and contradictions that move modern societies, whereas it was previously assessed to be pure ideology and reduced to a dangerous activism that prevented any analytical approach.

Das Kapital proposes clear foundations for an understanding of capitalism as an evolving and dynamic genuine socio-economic regime, far away from the naturalist approach embedded into the notion of a market economy, devoid of any link with the history of societies. The *institution of money* is a necessary intermediary of exchange; it thus opens a large space in the extension of economic transactions and launches the realm of commodities and, by extension, the commodification of all social relations. A monetary economy sets in motion *the competition* among firms that have to overcome the uncertainty typical for any commodity: will the offer find a buyer? This is the basic source of economic crises, a factor largely underestimated by contemporary macroeconomic theories. *The capital–labour relation* is the core of Marx's theory: under the appearance of an exchange among equals, it formalizes the asymmetry of power associated with capital that organizes the subordination of labourers through the setting of the labour process. Again, this is a rupture with respect to the conventional representation of a labour market as the strict equivalent of a typical commodity exchange.

These three social relations have been forged by a long-run historical process. The *capitalist mode of production* follows the maturation and structural crises of previous modes of production. Its extension launches modern history by its conquest of new domains at home and by its geographical extension via trade and capital. The pervasiveness of commodities and capital changes *all* other social and political relations, and this pattern calls for a social science approach, whereby the changes are endogenous under the pressure of a tendency to over-accumulation. Both acute competition and an unbalanced income distribution between capital and labour feed recurring industrial and economic crises. Observing the evolution of the English economy until the mid-1800s, Marx had concluded that the ineluctable collapse of the capitalist mode of production occurred under the deepening of its contradictions: the immense concentration of income, capital and ownership and the long-term tendency of the profit rate to fall when countervailing forces lose strength. Until now this prognosis has not been confirmed in spite of dramatic episodes when the very existence of capitalism was at stake (the 1929 crisis; the 2008 world crisis). This failure, along with a hot controversy about value theory and the capture of Marx's legacy by failed revolutions and then political activists, largely explains the disrepute of Marx's theory in academia.

Such a trajectory does not mean the irrelevance of all the concepts developed by Marx. The 1970s was the starting point for the *Régulation* approach because it relied upon Marx's key theoretical (and unprecedented) insights but it had to explain the structural crisis of the post-Second World War socio-economic regime, the success of which had contributed to the loss of influence of Marx's concepts and analyses. Such a crisis was assumed to be easy to overcome by the new classical macroeconomists and followers of Robert Lucas but also by Keynesians, post-Keynesians and neo-Schumpeterians. This major crisis exhibited both *recession* and *inflation*, at odds with the 1929 depression that was associated with deflation. This puzzle could be addressed by a careful analysis of the transformation of social relations since the 1930s. Workers' unions had succeeded in institutionalizing nominal wage increases in line with productivity advances and past inflation, an oligopolistic competition meant mark-up rigidity and credit money had become a new standard and price formation called for an active monetary policy. After the 1970s, the fall of profits and investment limited the productive capacity response, the public sector deficit and an accommodating credit creation were converted into more inflation and not employment creation. *Yes major crises* still are a recurring feature including of contemporary new socio-economic regimes, they are *not the simple repetition* of those of competition-dominated capitalisms. Their patterns have changed because social relations have been transformed after each major crisis, the wars and the implementation of democratic political regimes that have given a say to citizens, i.e. a majority of wage-earners.

Conceptually, *Régulation* theory proposes two advances. First, the 150 years after the publication of *Das Kapital* have revealed *new configurations* for capitalism that have to be interpreted within an extended approach with respect to the early 19th century capitalism that inspired Marx. Second, each social relation can be embedded into quite *different institutional forms*. For instance, after the Second World War, the Fordist wage–labour nexus recognized the defence and progression of standards of living, an access to welfare and in some cases a 'voice' of wage-earners on the boards of firms. This is an important change with respect to the situation of the British working class analyzed by Engels but both configurations are embodiments of the general capital–labour relation proposed by Marx. *Régulation* theory builds an *intermediate level* of analysis between the mode of production and the empirical observation of micro and macro adjustments. This applies to each institutional form: not only the wage–labour nexus, but also the competition regime, the monetary and financial system, the State–economy nexus and, finally, the degree of integration into the international economy. *The mix of these institutional forms defines or not a viable accumulation regime*, i.e. a generalization of Marx's reproduction schemes.

The teaching of American and French history is that such different accumulation regimes have been observed over two centuries. Similarly, the contemporary world shows the coexistence of different accumulation regimes and some of them can even be complementary. Nevertheless none of them is long-lasting since *the contradictory nature of accumulation* remains whatever the configuration and it manifests itself through the occurrence of so-called 'business cycles' that periodically destroy the overproduction typical of capitalist competition. Last but not least, the succession of these minor crises slowly changes the parameters that govern the accumulation regime. This process, labelled *endo-metabolism*, explains why and how all past accumulation regimes entered a structural crisis, but this has not implied the end of the capitalist mode of production. Of course, the dynamics of *the profit rate* are central but economic historians do not observe a cumulative decline of the profit rate from one accumulation regime to another.

Resilience and diversity of capitalism are the two main 'ruptures' with the Marxian orthodoxy put forward by *Régulation* theory (Boyer, 2018).

Various *long-term historical investigations* of the US, France, Japan, South Korea, Chili and Argentina have found that major economic crises—and frequently wars—have not implied the final collapse of the capitalist mode of production but have triggered unprecedented innovations in social relations and not only in terms of a technological paradigm: the creation of a central bank as a lender of the last resort, anti-crisis public policies, a form of planning during world wars, a welfare covering most economic risks including unemployment, labour laws to protect wage-earners' bargaining power and the recognition of a minimum wage and then its indexation to growth in some societies when near full employment made this instrument necessary to curb inflationist pressures. The largely unintended outcome has been to discover some new and viable regimes of accumulation in which the pauperization of the proletariat was no longer the dominant method of sustaining profits. This was so when, after the Second World War, an institutional compromise between capital and labour launched the synchronization of mass production and mass consumption, i.e. the Fordist accumulation regime.

Multiple *international comparisons of contemporary socio-economic regimes* have shown the co-existence of a multiplicity of forms of capitalism: they are the outcome of the coalescence of a succession of political compromises that have generated a specific architecture of institutional forms. Actually, all the national configurations of mature economies cluster into a limited number of capitalisms: finance-led liberal, state intermediated, social democratic, meso-corporatist or family own. All of them are moved by the logic of capital accumulation but they display contrasting wage–labour nexuses in spite of the so-called neo-liberal deregulation strategies, different enforcement of competition, unequal redistribution via the tax and welfare systems, and varied degrees of autonomy with respect to their integration into the international economy. All these differences are translated into a diversity of micro- and macro-economic adjustments, i.e. of modes of *régulation*. When the structural crisis of finance-led capitalism explodes in the US, the interdependence resulting from international relations diffuses the crisis into quite different macroeconomic outcomes, for instance between China and the US and between Northern and Southern European Union member states. This is a confirmation of the French *Annales* historical school: 'Any economy experiences the crisis of its structure.' In other words, each accumulation regime suffers from a specific form of cyclical and structural crisis. Nevertheless, all of them are expressions of contradictions embedded within the capitalist mode of production.

This analytical framework built upon Marx's insights is thus enriched by the surprising teaching of economic history: the remarkable resilience of capitalism in spite of all the contradictions it periodically develops. This kind of contemporary political economy has consequently a definite comparative advantage with respect to standard economic theory and of its challengers, let them be Keynesian or Schumpeterian. For instance, it was possible to detect a rather new accumulation regime led by financial innovation and globalization to show that it could not be generalized outside the US and the UK and, more importantly, that this regime was bound to enter a structural crisis, even if it was nearly impossible to forecast exactly when.

Many old and new stylized facts observed since 2008 can find an explanation or interpretation. The stagnation of productivity might well be the consequence of the diverging rate of returns between productive and financial capital. The explosion of income and wealth inequality in finance-led capitalisms is evidence for their lack of social and political sustainability. The polarization of societies along a new dividing line between the winners and losers of deregulation and globalization destabilizes the party systems inherited from the period when compromises could be negotiated, given a significant national autonomy and the search for solidarity within domestic borders. The rise of Asian economies is showing that the club of industrialized economies was not closed contrary to a common interpretation of imperialism. China is clearly exploring a new path to capitalism with a low probability of converging towards an already known form of capitalism. A final contribution of this enlarged framework relates to the characterization of the 2008 crisis: the comparison with the 1929 Great Depression is not especially relevant since the international economy and national social and political configurations have changed dramatically. Maybe the long depression of the end of the 19th century is a better benchmark.

How to conclude? Marx's theory stressed the role of *class struggle* in the emergence and transformation of societies. For him, the proletariat would be the ineluctable winner and would then instal a totally new socio-political system. Unfortunately, with the collapse of the Soviet Union after 1989 and in spite of a severe structural crisis in 2008, *the capitalists are the winners of contemporary class struggles*. So they can afford the luxury of using some Marxist concepts to understand this crisis—impossible and thus not explained by new classical macroeconomics—and develop policies that will consolidate their economic and political power. It might not be sufficient to overcome the impressive nexus of contradictions that the present juncture displays. 'History lasts long,' said a forgotten French Marxist (Althusser 1992).

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