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## Revolution or Reform? Socialism's Dilemma as a Rational Choice Problem

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**Abstract** The long-standing socialist dilemma between revolution and reform is modeled as a rational choice problem faced by political producers intent on selling promises to their constituencies. To control the customer trust and worker incentive problems inherent in this exchange, revolutionaries are driven to organize their party as a producer cooperative and to set up a parallel commercial, or reform, sector. Once it has come into being, the commercial sector represents a permanent temptation away from revolution. As reform is subject to market competition, increases in competition will drive the cooperative to expand the reform sector if the latter, driven by a dominant trust/incentive factor, is large to begin with. The opposite reaction obtains if the reform sector is kept small because it is so profitable as to threaten the pursuit of revolution. The model's predictions turn out to accord well with the broad pattern of divergent national developments within the socialist movement of the 20th century.

*JEL Classification* D72, D74, P13, P16

*Keywords* cooperative enterprises, potential competition, reform, revolution, socialism

### 1. Introduction

Why did many of the world's socialist movements in the 20th century branch out into revolutionary and reformist strands in different countries, and why did others try for a long time to keep a precarious balance between revolution and reform? More generally, why do some political organizations committed to a long-term mission of drastic social change, such as nationalist movements, environmentalists, or religious fundamentalists, remain radical whereas others turn to more moderate, short-term policies? Answers to such questions have traditionally been sought by historians in the domain of ideology and the specifics of

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politics, economics, and institutions at different times and places. These explanations typically invoke a large number of case-specific factors and hence raise problems of consistency and comparability across cases. By contrast, this paper applies economic theory: it relies on only a handful of factors that are grounded in the economists' standard assumptions of rational behavior and are applied consistently throughout. Such an approach, if successful in dealing with the relevant facts to be explained, is clearly superior to the historical approach as it saves on *ad hoc* assumptions and permits meaningful comparison across cases.

In a nutshell, the paper focuses on revolutionaries as rational political suppliers who endeavor to sell promises to their public. The credibility and incentive problems raised by transactions which involve promises drive the revolutionary organization to take on the form of a producer cooperative, and to supplement its long-term revolutionary effort with short-term, cash-yielding activities, i.e., to develop in fact a "commercial" sector alongside the political sector proper. Because these commercial activities are subject to competition from other producers, and as a cooperative tends to react to market competition in ways different from a profit-maximizing firm, these reactions provide a key to explaining why either the political or, alternatively, the commercial sector (in the socialist case, either revolution or reform) may become predominant in different circumstances.<sup>1</sup>

The approach taken in this paper departs from the existing theoretical modeling of insurgencies and revolutions in economics, pioneered by Grossman (1991). For the most part, Grossman's models have no room for a firm that produces revolution by employing political activists; instead, in a general equilibrium set-up, the representative family decides whether to allocate any time to insurgency, i.e., to appropriating the current income of the ruling class. Here insurgents are in fact indistinguishable from bandits. In later work, Grossman (1995, 1999) extends the analysis to revolution proper, defined as a permanent change in the structure of property rights. Here the revolutionary leader hires insurgents but his "firm" is a standard wealth-maximizer which pays its workers a flat expected wage. By focusing on the effectiveness of revolutionary technology and the (possibly stochastic) factors that affect it, and incorporating the incumbent ruler's deterrence policies, Grossman's analysis aims to offer a very general solution to the problem of revolution by determining the probability of revolutionary outbreak, the probability of its success, and the social cost thereof. It does

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<sup>1</sup> The approach to revolutionary organizations as producer cooperatives, enriched by their ability to change their package of promises along the way, can also provide a rational argument for the changing degree of extremism of these organizations during their lifecycle. Especially the puzzling observation that revolutionary regimes so often turn more extreme upon success can be explained. See Ferrero (2002).

so, however, at the cost of paying only nominal attention to the workings of the revolutionary firm as shaped by the constraints it faces, hence missing some important behavioral and organizational features that are key to the problems addressed in this paper. Foremost among these features are the need for full-time, professional revolutionaries, as opposed to part-time insurgents or soldiers, and the related need to give them the appropriate incentives. Although in principle any model can be improved, it is difficult to see how problems that, e.g., Marxist revolutionaries faced could be meaningfully addressed within Grossman's framework.

This paper, though ambitious in scope, has more modest aims as a modelling exercise. Its focus is on the firm, that is, an organization that operates in product and factor markets in a partial equilibrium framework, where the optimizing choices of customers and suppliers are not directly modelled. As the technology of revolution is deterministic and the responses by other players are not directly modelled, the likelihood of success of the revolution does not even arise as an issue. The model only studies the optimal effort expended on revolution relative to reform. The novel feature is the introduction of three kinds of constraints on the firm: a credibility constraint vis-à-vis its customers, an incentive constraint vis-à-vis its workers, and a liquidity constraint on its current operations. Coupled with alternative opportunities for profitable side activities, these constraints shape the firm's organizational form and its resulting behavior in a way that hopefully permits a richer analytical description of the very special "political market" that the revolutionary organization serves. Though still at a high level of abstraction, this modelling strategy comes a step closer to the real-world problems of revolutionaries than has so far been achieved within Grossman's framework.

The basic hypothesis that the revolutionary party will tend to behave as a cooperative is developed in Ferrero (1999). It will be briefly summarized in Section 2 below, which elaborates the implications for commercial production that are of central concern. Sections 3 and 4 contain a formal model of a two-product political cooperative and its comparative statics implications. The derived equilibrium defines the relative size of political and commercial production given the technology and the demand parameters; in turn, relative size determines the two sectors' reaction to price changes in the commercial market. The properties of this equilibrium and its reaction to market conditions are applied in Section 5 in order to rationalize the broad pattern of socialist development and explain the divergent routes it took in different countries.

## **2. The revolutionary party as a producer cooperative**

For the purposes of this paper we will focus on political organizations which spe-

cialize in the business of selling promises of a more or less extensive and radical reorganization of society. A prime example is a Marxist socialist party, which will be our chosen test case; its promises can be summarized as a comprehensive redistribution of income and wealth to the benefit of the working class. It will be convenient to refer to such an organization as a revolutionary party, although its “revolution” may in principle be carried out through democratic means given the appropriate institutions.

The goal of the revolutionary organization is assumed to be the maximization of expected income from the conquest of, or the participation in, power. The organization is tied to an ideology which frames its platform and makes it intelligible to its constituency, but ideology has an instrumental value only. In other words, the organization’s goal is not the actuation of a good social order *per se*. Its leaders and activists are not motivated by the provision of a public good (the income redistribution) but are self-interested in the private, excludable benefits from the revolution. The promise of the public good is their road to popularity and power. Hence, free-riding does not arise as an issue in this approach.

Expected income is the present value of the rents to be gained from power times the probability of success. As more popular support is likely to increase the former (through increased influence) and certainly increases the latter, more support implies higher expected revenue. In the pure form of a revolutionary organization, however, the benefits for supporters and the income for members do not materialize until and unless the organization succeeds in achieving its power goals. Hence the organization is, in essence, selling *promises* to its potential supporters (“customers”), and therefore also to its members (“workers”). Selling promises involves exchanging current support from the target population for future, i.e., expected benefits, and exchanging current labor from its workers for future, i.e., expected compensation. Hence a basic feature of this political enterprise is that it is a *volunteer enterprise*. Its workers are “volunteering” in the descriptive sense that they are not receiving any *current* wage for their labor. They are self-interested people who make an investment in labor time, i.e., who engage in unpaid effort today, in exchange for expected reward tomorrow (Menchik and Weisbrod, 1987). Their compensation is the present value of the reward the firm promises to pay them in the event of success weighted by the probability of success.<sup>2</sup>

Typically, revolution is a very labor-intensive activity. For simplicity, we abstract from the need for capital inputs and focus on labor, leadership, and ideology as inputs. Given the firm’s platform or program, an increase in labor effort

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<sup>2</sup> This formulation suggests risk neutrality on the part of workers if rewards are not measured in utility. However, the reward can be interpreted as including a risk premium, as seems reasonable. As argued below, the cooperative form of organization, among other functions, provides risk insurance.

increases popular support and/or command on resources and thereby the organization's expected income, though with decreasing returns. As leadership is a fixed factor that sets a limit to economies of scale, the size of the "firm" is, in principle, well defined. Ideology, however, is a kind of public good. Hence, an established organization can always be challenged by outsiders claiming a "truer" interpretation of the ideology and setting up a rival organization with an alternative platform competing for the public's support. Given adequate leadership, therefore, entry is easy and the market for a specific brand of revolution is potentially very competitive.

An exchange of promises for current support, or for current labor effort, is naturally fraught with opportunities for mutual cheating, which must somehow be held in check if mutually beneficial exchange is to take place. Shirking, i.e., workers' cheating on the organization, is controlled by giving them a share in the organization's expected revenues instead of promising them a fixed expected wage. This is about the only way to provide incentives when dismissal bears no cost; in an environment in which dismissed workers can easily re-enter the revolution market, the threat of getting fired fails to deter shirking in the way envisaged by efficiency wage theory. The organization's cheating on its customers is a problem of moral hazard, magnified by the one-time, irreversible nature of the transaction (the revolution is advertised, and perceived, to occur once and for all, if at all). This problem can only be solved by the imposition of a constraint on the leader's future utility stream that is verifiable *ex ante*, and that, like posting a bond, makes it in the leader's self-interest to exert his best effort today in order to maximize his expectation of reward tomorrow.

Such self-imposed constraints take the form of the twin requirements (often enshrined in the ideology) that the leader be frugal in personal consumption and work side by side with the other members of the revolutionary organization. The latter requirement, coupled with revenue sharing, turns the organization into a *de facto producer cooperative*, "owned" and managed by its members, even though the income shares may be very unequal. Another, concurring line of argument that strongly suggests that a volunteer revolutionary organization will function like a labor-managed organization starts from the observation that revolution as understood here, i.e., producing the conquest of state power, is a highly risky line of business, of a type of risk for which no market insurance is available.<sup>3</sup> Then if activists are, at least moderately, risk-averse like everybody else, pooling risks through income sharing and participatory decision-making,

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<sup>3</sup> Revolutionaries are often exposed to huge downside risk in case the revolution fails: they cannot just quit their jobs in the revolutionary organization and "blend back" into the general population, as assumed by Grossman (1999, *ftn.* 5). At best, they have forgone alternative opportunities that cannot be recouped; at worst, the state may inflict heavy punishment on them.

like a mutual insurance company, is an efficient way of providing collective insurance “in-house”.

If we accept the proposition that a political organization engaged in long-term operations of the kind described will function like a producer cooperative, then the standard model of the labor-managed firm (LMF) can be readily put to use.<sup>4</sup> The “natural objective” of the political organization then is to maximize expected net income per capita under the usual technology and demand constraints. Unlike a profit-maximizing firm, expected labor income is not a market parameter (a wage) but an endogenous variable that is determined by the organization simultaneously with the employment level. Per capita worker income is maximized at an employment (and therefore output) level at which this income equals the marginal revenue product of labor (MRPL). A well-known implication of this equilibrium, which will be exploited in the comparative statics analysis below, is the “perverse” price effect. If, due perhaps to a fixed factor (here, leadership), the per capita income curve has an inverted-U shape, then a parametric increase in marginal revenue product (such as an exogenous increase in output price) has the perverse effect of lowering labor demand and hence output. This yields a backward-bending output supply curve.

In what follows, we will assume that our political organization is a monopolist of revolution, i.e., it faces no serious competition for its brand of revolutionary promise. This can be justified in two ways. One way focuses on the product market and assumes that one dominant interpretation of the ideology, spelled out in a policy platform, has established itself by defeating all alternative interpretations or proposals. This closely mirrors socialist history in which, by the end of the nineteenth century, the Marxist program of public ownership of the means of production had everywhere become the officially accepted definition of socialism, effectively displacing all previous competitors in the market for socialist ideas. Another way of explaining the revolution monopoly focuses on the labor market. When the fixed factor (here, leadership) is different in each firm, inequalities in per capita incomes and MRPL’s across firms persist in the equilibrium of a competitive industry made up of cooperative firms. Labor allocation is therefore inefficient in this equilibrium. The chief decentralized mechanism available to improve allocative efficiency in the system is merger, which allows relocation of labor towards its most productive uses. This process may be expected to go on until all opportunities for efficiency gains from merger are exhausted and a single firm, or an all-embracing cartel, is reached. On this

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<sup>4</sup> For a good introduction to the labor-management model, see the survey by Bonin and Putterman (1987) and the literature cited therein. A full analytical treatment is in Ireland and Law (1982). The multi-product case and the labor-supply constraint are analyzed by Domar (1966) while a model with substitution by hired labor is developed in Ben-Ner (1984).

interpretation, monopoly occurs not because entry is difficult but because entry is easy but competition is inefficient. Monopoly supply of revolution is but the consequence of monopsony demand for revolutionary labor, which in turn is the final outcome of a concentration drive that is set into motion by the inefficiency of competition among cooperatives. In our case, the various rival socialist sects and groups soon discovered that it was to everyone's benefit to make alliances and eventually merge into one socialist party, even if at the cost of bitter struggles for primacy.

In most cases, revolutionary organizations do not confine themselves to just selling promises. They also undertake a broad range of activities that yield pecuniary revenues in the short term, here and now. As a consequence, they can afford to pay their members some cash, not just promises. These activities take very different forms. In some cases they are commercial operations in the strict sense: current examples range from Colombia's FARC which engages in drug trade and extortion to finance its guerrilla activities, to Palestine's Hamas which operates a vast network of charities and fund-raising to buttress and finance its military operations. The revolutionary socialist parties fighting, at the same time, for national independence and the overthrow of colonial rule in the Third World typically operated "liberated areas" in which the organization's volunteers provided the peasantry with basic literacy, sanitation, mutual help and insurance in exchange for peasant support to their armed struggle.<sup>5</sup> The European socialist parties of the 19<sup>th</sup> and 20<sup>th</sup> centuries engaged in varying degrees in the organization of labor unions, consumer and producer cooperatives, professional schools, charities, mutual savings and insurance funds, cultural and recreational clubs on behalf of their worker constituencies. They also fought for the extension of the franchise and the democratization of government, and engaged in electoral politics and pressure on all levels of government. Participation in elections and lobbying, if successful, yielded both salaries for elected representatives, who typically turned the money back into the party's common fund, and social legislation which was valuable to the workers. We shall call the latter activities "social reform", a special subset of "commercial" production in general.

The common element of all this multitude of activities is that, in one way or another, they yield cash revenue (or its equivalent in kind) which helps finance the organization's main task, much in the way that nonprofit organizations cross-subsidize, e.g., their environmental education campaigns by selling post-cards and T-shirts for cash (James, 1983; James and Neuberger, 1981) – hence the "commercial" label. However, the scale of such side-activities undertaken by revolutionary organizations has often been very substantial, sometimes in fact

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<sup>5</sup> The economics of this "socialist nationalism" and its comparative advantage vis-à-vis "bourgeois nationalism" are examined in detail in Ferrero (1995).

overshadowing, and in the end displacing, their purported mission. A whole, parallel “counter-society” often came into being, catering to the workers’ daily needs and grievances. As we assumed that revolutionary production requires labor and management (plus ideology, which is free) only, and that labor and management are paid in promises, how are we to explain the enormous growth of commercial production by revolutionary organizations?

One crucial factor, at least in the initial stage, is the need to build consumers’ trust in the firm. Even granting that these revolutionaries are honest and well-meaning, how do we know that they are not hopelessly incompetent? After all they are trying to take us along on a grand project of radical transformation. We will be wise first to put them to test on something tangible for close delivery and see what they manage to accomplish. The political organization, however, does not have a monopoly of the supply of these commercial goods: they can be, and often are, supplied also by competing producers uncommitted to its particular political product, or to any political product at all. But buying these goods from the revolutionary organization yields indirect but valuable additional information on the quality of its political product and on the trustworthiness of its management. This information is not easily communicated to nonbuyers and is therefore in the nature of an excludable, private benefit, which remains with those consumers who directly transact with the organization. Therefore the larger the organization’s commercial production, up to a point, the more extensive the customers’ experience of its dealings and the higher their willingness to patronize (or “pay for”) its political product. Sooner or later, however, commercial production will reach a threshold size beyond which it begins to adversely affect the customers’ willingness to pay for the political good: the commercial good turns out to be so beneficial and helpful in itself as to diminish the public’s demand for revolution.

Furthermore, if consumer trust was the sole factor, then only the firm’s delivery of the commercial good would matter, not the way it is produced. It could and presumably would be produced by sorting out the coop’s workforce into two separate groups, one engaged in political production and the other in commercial production, thereby reaping the benefits of specialization. Moreover, when cheaper labor is available on the market that can effectively substitute for the members’ labor in commercial production (as must be the case given that the same good is at least potentially produced by other, noncooperative firms), it would be to the members’ advantage to replace cooperative production of the commercial good with capitalist production by salaried employees. Neither of these developments are usually observed in revolutionary organizations: the good is typically produced in-house even when this is obviously not the least-cost solution, and every member is requested to take a turn in commercial production at least for some period of his/her tenure with the political organization.

As these apparently inefficient production practices are routine, the reasons must lie deep in the exchange relationship between the firm and its workers, i.e., the revolutionary organization and its members.

These reasons are twofold. First, offering to pay some cash compensation on a current basis as a supplement to a share of promises for the indefinite future, and thus recruiting workers who are only part-volunteer, may be crucial to securing a better self-selection of candidates for membership and therefore a workforce better suited to the political work. Specifically, this has been a real problem in the life of European working-class movements. Due to an obvious liquidity constraint, if the rewards had been only promises they would either have recruited only millionaires and well-to-do intellectuals – hardly an appealing prospect for an organization that purported to represent the working class—or part-time amateurs. Socialists soon realized that the political work had to be entrusted, in Lenin’s words, to *professional revolutionaries*, thoroughly dedicated to the cause and forsaking all alternative opportunities once and for all. Second, and at least as important, effort expended on commercial production is more easily monitored and shirking more easily detected than on political production. Therefore, putting everyone to do some commercial work is a device for the organization to gain information on each worker’s behavior and to lessen the all-important difficulty of monitoring effort in political production.

For these two reasons, working in the commercial production up to a point enhances productivity in political production. Beyond some critical level, however, further growth of the commercial sector begins to adversely affect political productivity. On the monitoring interpretation, workers become so involved with, and competent at, commercial production as to feel less and less committed to the political perspective. Political work deteriorates into a *corvée*, or an entry fee, that earns access to the wages of the commercial sector. On the self-selection interpretation, the selection turns from favorable to adverse and attracts more money-minded, less “idealistic” types.

To summarize, resort to the cooperative form of organization is usually not sufficient to control the customer trust and worker incentive problems of a mass-based revolutionary movement. The lesson of history seems clear that those revolutionaries who, for whatever reason, were unwilling, or unable, to undertake a parallel production of short-term benefits were doomed to failure.<sup>6</sup>

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<sup>6</sup> I am indebted to Terry Sicular for calling my attention to this point. The experience of the anarchists is almost a textbook illustration of such a rejection of piecemeal reform, and the lesson of their total failure was not lost to their Marxist socialist successors at the head of European working-class movements. As a careful scholar of anarchism nicely puts it, a “disturbing feature of the anarchist future was that its achievement was indefinitely postponed until the millennial day of reckoning; it was a kind of revolutionary pie-in-the-sky, and one was expected to fast until mealtime (...)” (The

However, the above reasoning also suggests that commercial production and the employment of coop members' labor in it may either be carried beyond, or held below, the level that would be justified on strictly commercial grounds alone. Commercial production and revenue was originally started not for its own sake but for the purpose of cross-subsidizing revolutionary activity; once started, however, it becomes embodied in the per capita income objective pursued by the cooperative by supplementing promises with cash. As the commercial good market is competitive, the organization cannot charge an extra fee to subsidize revolution or else it would be outbid by competitors. Rather, the subsidization is implicit: the organization forgoes potential profits on the commercial good, by producing a nonoptimal amount of it, in order to foster revolution via demand and technology, as described above. These forgone profits are a measure of the opportunity cost of revolutionary production from the organization's point of view. This, however, creates a problem. Precisely because of these unexploited profit opportunities, in the longer term commercial production may threaten to get out of control and take on a life of its own. In other words, by setting up a commercial sector, the cooperative has built into itself a permanent *temptation* for its members to concentrate solely on commercial production if it turns out to be profitable enough. This is a source of strain and conflict within the organization.

The idea that profit opportunities should be seen as a dangerous temptation may seem puzzling. If prospects for commercial activity are so bright, why should they be resisted, in the interest of both workers and customers? The problem is that jettisoning revolution and embracing only reform, while profitable in itself, would amount to making past investments in specialized, "revolutionary" human capital worthless. The professional revolutionaries, mentioned above, play a key role in this conflict. These people have made an irreversible commitment to revolution by incurring a "sunk cost", i.e., by forgoing any alternative career opportunities; as argued in footnote 3 above, one does not move in and out of a revolutionary organization without costs. Of course, if reform becomes really rewarding, successive generations of revolutionaries will invest less and less in revolution proper, until the latter can be laid to rest for good – as indeed happened in most social democracies. But the current generation of cooperative members will naturally resist a strategic turnaround that would turn all their cumulative efforts into a net loss for them. Upholding revolution and fearing reform is therefore rational from the standpoint of current decision-makers. As a consequence, the organization's objective must be a combination of political

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anarchists) displayed an infinite and consistent contempt for piecemeal reform or for the kind of improvements in working conditions and wages which trade unions sought (...) Many of the poor thought otherwise, and followed the reformists." (Woodcock, 1975, p. 447)

and commercial revenue, and its maximization dictates that commercial production be kept undersized if it threatens to become too profitable to the detriment of revolution, and grow oversized if it is unprofitable but furthers revolution.

Furthermore, the dilemma posed by the temptation is likely to be exacerbated by the fact that the profitability of commercial production is affected by market competition. If this production becomes very profitable, the temptation may grow very strong to discontinue political production altogether. On the other hand, if sales revenues fall, should the coop increase commercial production to make good for the shortfall in its cash intake? Or should it curtail production or even terminate it to specialize in revolution alone? In short, will competition enhance reform or revolution? These questions are addressed by the model that follows.

### 3. A model of a two-product political cooperative

Consider a producer cooperative which uses only its members' labor,  $M_1$  and  $M_2$ , to produce two goods: a "commercial good"  $q$  which sells on a competitive market at price  $p$  and a monopoly "political good", the expected rent from office, whose present value is  $R$ . There is no capital and no fixed costs. The use of members' labor in  $q$ -production enhances productivity in the production of  $R$  because it permits indirect monitoring and reduces shirking. Moreover, it allows recruitment of better qualified workers by paying them cash instead of just promises. Furthermore,  $q$ -production enhances the customers' "willingness to pay" for the political good because it builds trust in the cooperative and thereby enhances the credibility of its revolutionary promise. Thus, while  $R$  production requires direct labor  $M_1$ ,  $M_2$  enters its production function as a productivity-augmenting factor.<sup>7</sup>

Technologies are assumed to exhibit diminishing returns to factors as usual:

$$R = R(M_1, M_2) \quad \text{with} \quad \frac{\partial R}{\partial M_1}, \frac{\partial R}{\partial M_2} > 0; \quad \frac{\partial^2 R}{\partial M_1^2}, \frac{\partial^2 R}{\partial M_2^2} < 0; \quad (1)$$

$$\frac{\partial^2 R}{\partial^2 M_1 \partial M_2} > 0; \quad R(0, M_2) = 0$$

<sup>7</sup> We could allow for the possibility that beyond some level an increase in  $M_2$  decreases  $R$  for any given level of  $M_1$ , so that  $\partial R/\partial M_2$  and  $\partial^2 R/(\partial M_1 \partial M_2)$  become negative. This extension would not change the qualitative results of our analysis.

$$q = q(M_2) \quad \text{with} \quad \frac{\partial q}{\partial M_2} > 0; \frac{\partial^2 q}{\partial M_2^2} < 0 \quad (2)$$

As in the standard LMF model, the cooperative seeks to maximize net income per worker, or dividend,  $y$ , which under our assumptions is total revenue from both outputs (net of non-labor costs, which are assumed away for simplicity) divided by total labor input:

$$y = \frac{R + pq}{M_1 + M_2} \quad (3)$$

It should be noted that only part of this dividend is in monetary form;  $R/(M_1 + M_2)$  is the expected value of per capita promises, not cash.  $pq$ , however, is cash (or its equivalent in kind), i.e., by setting up a commercial sector a temptation to seek current revenue is built into the organization's objective. Clearly, this temptation bulks larger the higher is the selling price  $p$ , i.e., the higher is the demand for the short-term benefits (in our historical applications, for social reform) supplied by the organization. Assuming away the members' work/leisure choice and positing fixed work hours per member, increasing  $M_2$ , given  $M_1$ , implies hiring new members and, at the same time, devoting more of each member's hours to  $q$ -production, and vice-versa.

The cooperative's problem is to maximize  $y$  with respect to  $M_1$  and  $M_2$ , subject to constraints (1) and (2). Assuming that, in equilibrium, the firm's labor demand is not rationed by a shortage of labor supply, the first-order conditions for this problem yield:<sup>8</sup>

$$\frac{\partial R}{\partial M_1} = y \quad (4)$$

$$\frac{\partial R}{\partial M_2} + p \frac{\partial q}{\partial M_2} = y \quad (5)$$

The economic interpretation of these conditions is straightforward. In each sector, the cooperative increases employment as long as the dividend,  $y$ , increases. The dividend reaches a maximum where it equals the marginal revenue product of labor in each sector. Thus the optimal employment pair ( $M_1^*$ ,  $M_2^*$ ) will be such as to equalize MRPL's in the two sectors.

<sup>8</sup> For the second-order conditions, see the Appendix.

The MRPL's are measured by the left-hand sides of equations (4) and (5). The interpretation of the LHS of (4) is obvious, though care must be taken that the position of the marginal revenue schedule depends on  $M_2$  via the trust and incentive effects. The MRP of  $M_2$  in equation (5) is not just  $M_2$ 's marginal value product with respect to  $q$ , but also  $M_2$ 's marginal influence on political sector revenue via  $R$ . This shows that although  $q$  sells at the competitive price  $p$ , in equilibrium commercial production "technologically" subsidizes political production.

Further insight into the nature of the equilibrium can be gained by substituting (3) into (5) and rearranging terms, yielding:

$$p \left( \frac{\partial q}{\partial M_2} - \frac{q}{M_1 + M_2} \right) = - \left( \frac{\partial R}{\partial M_2} - \frac{R}{M_1 + M_2} \right) \quad (6)$$

The LHS of (6) would be zero if the coop were separately maximizing its per capita income from the commercial sector. Given a strictly convex technology, marginal product  $\partial q/\partial M_2$  is always lower than average product  $q/M_2$  and both are decreasing in  $M_2$ , so for a given  $M_1 > 0$ ,  $\partial q/\partial M_2$  will initially be larger and then at some point become smaller than  $q/(M_1 + M_2)$  as  $M_2$  increases. Therefore  $\partial q/\partial M_2 = q/(M_1 + M_2)$  would be the condition for an optimal level of  $M_2$  if the coop were taking no account of the externalities between the two sectors. This level of  $M_2$  is independent of  $p$  (due to this technology with no fixed costs). The same holds for the relationship between  $\partial R/\partial M_2$  and  $R/(M_1 + M_2)$ : the RHS of (6) would be zero if the coop were separately maximizing its per capita income from the political sector in  $M_2$ . But as the coop is maximizing joint per capita income from both sectors, there is no reason, except coincidence, why the level of  $M_2$  that solves each of these three maximization problems should be one and the same. Hence, in general, the two parentheses in (6) will have opposite signs in the equilibrium.

For our purposes, it is useful to define as "large" (respectively, "small") a commercial sector whose equilibrium size (measured by employment,  $M_2^*$ ) is larger (respectively, smaller) than the size which would maximize per capita commercial income alone ( $pq/(M_1 + M_2)$ ). Hence the sector is "large" ("small") if  $\partial q/\partial M_2$  is lower (higher) than  $q/(M_1 + M_2)$ . Let  $M_2^c$  be the level of  $M_2$  that would maximize this commercial income, and  $M_2^p$  the level of  $M_2$  that would maximize per capita political income alone ( $R/(M_1 + M_2)$ ). An  $M_2^c$  lower than  $M_2^p$  implies that the commercial sector is not very profitable. Then, as joint income  $y$  is maximized somewhere in between  $M_2^c$  and  $M_2^p$ , the commercial sector will be large. Its employment and output will be pulled beyond the purely commercial optimum by the need to provide trust and incentives to the political sector, i.e., by  $M_2$ 's large contribution to  $R$ . Here the reformist temptation is

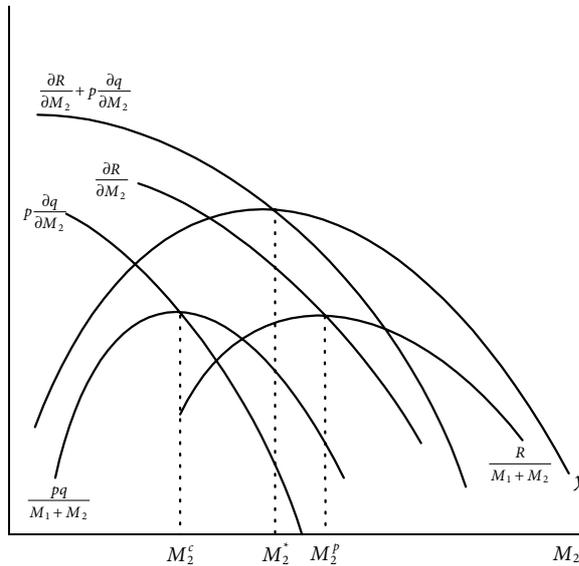


Figure 1 Case 1: “Large” commercial sector

weak. Conversely, if the opposite relation between the  $M_2$ 's that maximize each sector's income obtains, implying that the commercial sector is potentially very profitable,  $M_2^*$  will be small in equilibrium. The sector's size will be held below the commercial optimum by  $M_2$ 's small and declining contribution to  $R$ . Here the reformist temptation is strong. This yields two cases defined as follows.

**Definition 1**

Case 1  $\frac{\partial R}{\partial M_2} - \frac{R}{M_1 + M_2} > 0; \frac{\partial q}{\partial M_2} - \frac{q}{M_1 + M_2} < 0.$

The curve  $R/(M_1 + M_2)$  peaks at a higher level of  $M_2$  than the curve  $pq/(M_1 + M_2)$ , i.e., the size of the commercial sector is driven by trust/incentive problems. The sector is “large” relative to its separate optimum ( $M_2^c$ ).

Case 2  $\frac{\partial R}{\partial M_2} - \frac{R}{M_1 + M_2} < 0; \frac{\partial q}{\partial M_2} - \frac{q}{M_1 + M_2} > 0.$

The curve  $R/(M_1 + M_2)$  peaks at a lower level of  $M_2$  than the curve  $pq/(M_1 + M_2)$ , i.e., the size of the commercial sector is driven by its own

profitability. The sector is “small” relative to its separate optimum ( $M_2^c$ ).

Case 1 is illustrated in Figure 1. Total per capita income  $y$  is a weighted average of  $R/(M_1 + M_2)$  and  $pq/(M_1 + M_2)$ , so it peaks somewhere in between the two separate curves’ peaks, at  $M_2^c$  and  $M_2^p$ . In this case,  $M_2^c$  is lower than  $M_2^p$ , i.e., a relatively low profitability of commercial production holds down the sector’s size, so that its contribution to the productivity of revolutionary production is not fully exploited. Thus equilibrium occurs on the upward-sloping portion of  $R/(M_1 + M_2)$ , where the latter is lower than  $\partial R/\partial M_2$ . Seen from another angle, the commercial sector’s size here is “large”, i.e., it is driven beyond the level that would be warranted by per capita commercial profitability alone thanks to its contribution to political production. Thus equilibrium occurs on the downward-sloping portion of  $pq/(M_1 + M_2)$ , where the latter is higher than  $p(\partial q/\partial M_2)$ . Case 2 would be illustrated by a figure which is identical to Figure 1 except that the marginal and average  $q$  curves would switch places with the marginal and average  $R$  curves:  $M_2^c$  would be located to the right of  $M_2^p$ .

#### 4. The effects of competition in the commercial sector

How will the cooperative react to a reduction of price  $p$ , typically brought about by the entry of new producers? Is it possible that increased competition in the commercial good market might drive the coop towards a corner in which production of one good is closed down and the coop specializes in the other output? These questions can be addressed by performing a comparative statics analysis of equilibrium conditions (4) and (5) and inquiring about the signs of the total derivatives  $dM_1/dp$  and  $dM_2/dp$ . Our central results are summarized in Proposition 1, which is phrased in the revolution-reform language to facilitate the historical applications of the next section.

##### Proposition 1

*Scenario 1* Cases 1 and 2 with a sufficiently small  $\frac{\partial q}{\partial M_2} - \frac{q}{M_1 + M_2} > 0$ .

The trust/incentive problem is big, the reform sector is not very profitable but “large” in size. Increased competition for reform unambiguously increases both reform and revolution outputs:  $dM_1/dp < 0$ ,  $dM_2/dp < 0$ .

*Scenario 2* Case 2 with a sufficiently large  $\frac{\partial q}{\partial M_2} - \frac{q}{M_1 + M_2} > 0$ .

The trust/incentive problem is small, the reform sector is potentially very profitable but “small” in size. Increased competition for reform unambiguously de-

creates reform output:  $dM_2/dp > 0$ . Then:

- A. Revolutionary activity increases,  $dM_1/dp < 0$ , if reform work has little effect on the productivity of revolution work at the margin, i.e.,  $\partial^2 R/(\partial M_1 \partial M_2)$  is sufficiently small.
- B. Revolutionary activity decreases,  $dM_1/dp > 0$ , if  $\partial^2 R/(\partial M_1 \partial M_2)$  is sufficiently large.

The proof is given in the Appendix. The intuition is as follows. The first-order effect of a change in “reform price”  $p$  is on the reform sector itself; the revolution sector only reacts to a change in its own productivity,  $\partial R/\partial M_1$ , brought about by changes in  $M_2$ . In Scenario 1, because of the strength of the trust/incentive push, a relatively unprofitable reform sector is driven close to, or beyond, its own-income-maximizing size in equilibrium. Being relatively large-sized, this sector contributes a great deal to total per capita income  $y$ . When hit by a rise in reform price (a decrease in competition in the reform market), the sector paradoxically reacts by *curtailing* employment and output, thus exhibiting the “perverse” or backward-bending supply response to price change which is predicted by the textbook model of the single-product LMF. The rationale for this is that as the own marginal product of reform labor,  $\partial q/\partial M_2$ , is low to begin with (see the Definition of Case 1 above), an increase in reform price  $p$  shifts up the  $MRPL_2$  curve but not by much, while the  $y$  curve is shifted up relatively more for given levels of  $M_1$  and  $M_2$  because average reform product,  $q/(M_1 + M_2)$ , is relatively high to begin with. Therefore, as the  $y$  and  $MRPL_2$  curves must cross for per capita income to be maximized (see equation 5), the new optimal level of  $M_2$  will

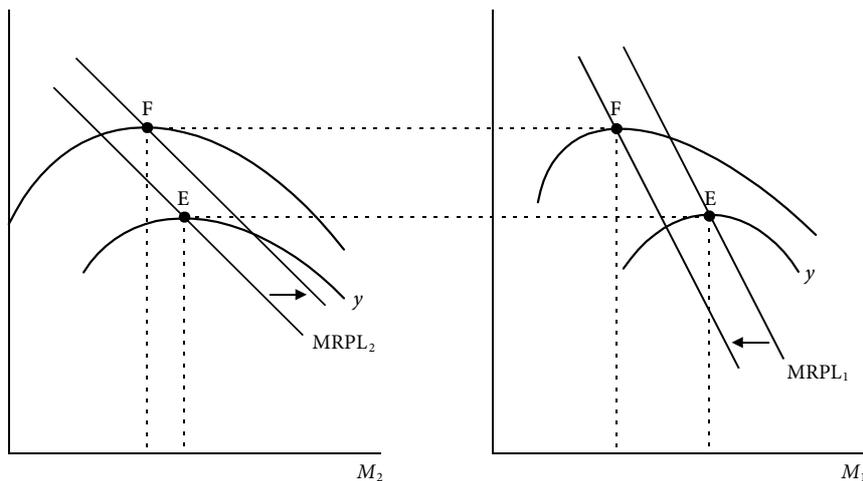


Figure 2 Scenario 1

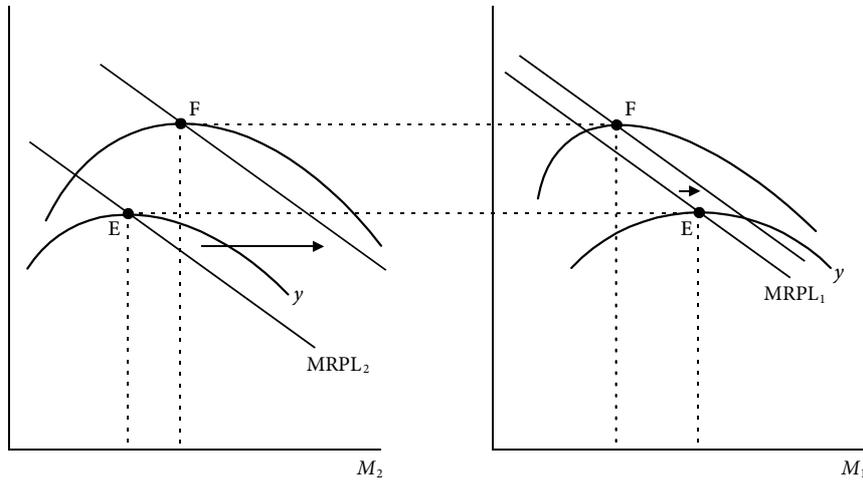


Figure 3 Scenario 2A

be lower than before the rise of price. In Figure 2, the price rise shifts up both the  $MRPL_2$  and the  $y$  curves in the  $M_2$  diagram: we move from the initial equilibrium at E to the final equilibrium at F. In turn, the reduction in  $M_2$  shifts down the  $MRPL_1$  curve in the  $M_1$  diagram (as  $\partial^2 R / (\partial M_1 \partial M_2) > 0$ ), lowering the marginal product of revolutionary labor. As the equilibrium is at the intersection of the  $y$  and  $MRPL_1$  curves (equation 4), the new equilibrium at F will also involve a lower optimal level of  $M_1$ . As the figure clearly shows, then, it can never be the case that  $dM_1/dp > 0$  if  $dM_2/dp < 0$ . (See Appendix.)

In the equilibrium of Scenario 2, because the trust/incentive problem is not so substantial, a potentially very profitable reform sector is held back far below its own-income-maximizing size; being relatively small-sized, it contributes little to total per capita income  $y$ . As  $\partial q / \partial M_2$  is high whereas  $q / (M_1 + M_2)$  is low (see the Definition of Case 2 above), a rise in reform price increases  $MRPL_2$  by more than it increases  $y$ . In this case the cooperative is “well-behaved”, reacting to a price increase by increasing its reform employment and output. In the  $M_2$  diagram of Figure 3, the upward shift of the  $MRPL_2$  curve is larger than in Figure 2, hence the new equilibrium at F occurs to the right of the initial equilibrium at E. Because  $M_2$  increases, the  $MRPL_1$  curve is shifted upward in the  $M_1$  diagram. Then if this latter shift is small (because  $\partial^2 R / (\partial M_1 \partial M_2)$  is small) as drawn in Figure 3, the new equilibrium at F features a lower optimal level of  $M_1$  than at E, and we have Case A of Scenario 2. The organization still behaves as a producer cooperative in its revolution sector: the increase in  $p$ , like an exogenous subsidy, drives the organization to curtail employment and output in the revolution sector to maximize total per capita income.

Case B would be depicted by a diagram similar to Figure 3 except that, due to a larger upward shift in  $MRPL_1$ , the new equilibrium at F would occur to the right of E in the  $M_1$  diagram. In this case, the technological interdependence ( $\partial^2 R / (\partial M_1 \partial M_2)$ ) would be so strong at the equilibrium that the increase in  $M_2$  would make it profitable for the coop to increase revolution employment and output as well.

A better understanding of the mechanism at work can be gained by contrasting the comparative statics of our cooperative with the comparative statics of a twin “capitalist” firm facing the same technology and market conditions (see Domar, 1966). If the firm maximized profit, as one would expect,  $dM_2/dp > 0$  in all cases. Then  $dM_1/dp > 0$  if the two products behave as technological complements, whereas  $dM_1/dp < 0$  if they behave as substitutes. Thus a profit-maximizing firm would fully replicate the outcome of Scenarios 2A and 2B, which obtains for the coop, however, only when the reform sector is “small” in the equilibrium. In no circumstance, on the other hand, would a profit-maximizing behavior yield an outcome like our Scenario 1, where due to a “large” reform sector, the organization behaves like a producer cooperative in both sectors, cutting back employment and output when demand increases.

It should be noted that the range of parameter values that would allow Scenario 2 B to occur is fairly narrow, as  $\partial^2 R / (\partial M_1 \partial M_2)$  cannot become very big without overturning the sign of  $dM_2/dp$ . If  $dM_2/dp$  becomes negative then  $dM_1/dp$  is also constrained to be negative by the second-order conditions for an equilibrium (see Appendix), hence we are back to Scenario 1. Perhaps not entirely a coincidence, we have been unable to identify a 2B-type of behavior in the range of historical observations under review, although it remains a theoretical possibility. In the next section we will therefore make use of Scenario 1 and Scenario 2A for the interpretation of historical cases.

In a nutshell, the range of possible evolution paths for the reform versus revolution dilemma that are supported by our theoretical findings is as follows. Under Scenario 2A, increased competition could eventually terminate reform efforts altogether, leaving the cooperative to specialize in revolution only. Under Scenario 1, oddly, competition drives the cooperative to increase both outputs. Only a reduction in competition, such as collusion or barriers to entry in the reform market, might here shrink both outputs and perhaps finally terminate revolutionary effort because it was relatively smaller to begin with. Under Scenario 2A, on the other hand, a sustained reduction in competition could in the longer run reverse the relative weights of the two sectors until revolution shrinks to insignificance compared to an ever-expanding reform sector. Naturally, under whatever scenario, an eventual extinction of revolution would eliminate the rationale for having reform production organized as a cooperative. This production could, if profitable enough, be finally organized as “capitalist” production

hiring wage labor, thus terminating the life of the cooperative as such.

### **5. Revolution versus reform: disentangling the socialist dilemma**

The dilemma between political and commercial production is likely to confront any labor-managed organization which is torn between a long-term goal and a short-term set of constraints. The long-term goal promises members a distant and uncertain, even if substantial, payoff, whereas, here and now, the organization is pressed by the twofold need of providing incentives to its workers and earning the trust of its potential beneficiaries or customers. So, in principle, the model could be applied to a variety of organizations based on social class, property class, ethnicity, race, nationalism, gender, social reform, and even religion. We single out the history of working-class organizations and movements, which under the flag of socialism or communism shaped so important a part of European and world history over the last couple of centuries.

Characterizing a socialist party as a cooperative or labor-managed organization, which is the basic hypothesis of our model, may at first seem an unlikely proposition, especially if one has in mind the Leninist party with its highly hierarchical structure, exclusive membership, and centralized direction. The proposition, however, can indeed be defended by a three-step argument. First, careers within the party and each of its collateral mass organizations, from labor unions to youth leagues, were always based on encouraging volunteer effort and evaluating its performance. Positions at all levels, from admission to membership up to the top leadership, were awarded as a prize to the best performer from the party's point of view, i.e., to the winner of a free-entry, competitive volunteer contest. This compensation system was routinely used because a volunteer contest provides an efficient mechanism to maximize aggregate effort in the party's best interest (Cugno and Ferrero, 2004). Thus the party member's card was offered to workers who signalled themselves in trade union action in their factory. A position in the local party committee was offered to ordinary members who signalled themselves in their party local's propaganda activity, and so on up to the uppermost ranks. Secondly, informational asymmetries dictated that one's say in the formulation and, especially, the day-to-day implementation of policies was not exclusively concentrated at the top but was in effect proportional to one's position in the ranking. Thirdly, the common expectation, confirmed *ex post* by actual practice, was that in the event of victory, positions at all levels in the new government, from prime minister down to boss of a city's neighborhood committee, would be allocated in proportion to the ranking of the positions members had achieved in the party structure. Hierarchy and "democratic centralism" notwithstanding, a socialist party met the basic requirements of the

standard definition of a producer cooperative: compensation is a share of the organization's expected income (net of non-labor costs) instead of a fixed wage, and both this share and one's share of decision-making powers are a function of one's share of the total effort expended in the organization's service.

In other words, first, an explicit contract (perhaps never written down but embedded in the standard practice for recruitment and promotion) stipulated that party positions had to be allocated proportionally to effort in party service. Secondly, an informational constraint, fully recognized in the party's working rules, dictated that decision-making and control rights were to be proportional to each position's hierarchical standing. And thirdly, an implicit, rational contract stipulated that the rewards or rents attached to power positions in the revolutionary state were to be consistent with one's party position achieved before the revolution. All this sounded in tune with the standard Marxian slogan "to each according to his/her work". Another way of making the same point is to observe that in a socialist regime political rewards cannot be cash gifts but must be tied to jobs if a contract between the party and the individual for political service is to be incentive-compatible and therefore mutually credible (Ferrero, 2001, 2004). Since in any modern state bureaucratic, managerial, and political positions naturally come hierarchically ordered, a socialist party that paid its activists a flat cash wage and reserved all the residual (all responsible positions and rents therefrom) to its leaders/owners would be unable to maintain political incentives in the running of the post-revolutionary state. If the activists rationally anticipated this from the start, by backward induction the party would then also be unable to maintain incentives for political loyalty in the pre-revolutionary, volunteer phase for all but its bosses.

As is well known, socialist movements were torn from the beginning by a real dilemma between revolution and reform – as we will henceforth call the political and commercial goods respectively. "Revolution" was the attainment of the remote, hazardous, somewhat misty goal of thoroughly replacing capitalist property relations with a socialist order based on collective ownership of the means of production. "Reform" was anything that paid tangible rewards for effort and benefits for the followers here and now. This included, in different degrees under different circumstances, trade union action, consumer and producer cooperatives, workers' self-help clubs, savings and loans mutuals, winning power in local governments, providing workers with basic literacy and professional training, and finally and crucially, fighting for universal franchise and then running in national elections with the goal of wresting concessions from the class enemy in parliament. In many cases, "reform" may also be taken to encompass political action which was on demand but was not unique or specific to a socialist party: a democratic struggle against a dictatorship, a national struggle for independence from a colonial power, a liberation struggle against foreign military occupation,

or a struggle for state unity overcoming ethnic or national cleavages.

The roots of the socialist dilemma can be easily formulated in terms of the credibility, incentive, and liquidity constraints of our model. There is no doubt that initially reform action enhanced the credibility of these hitherto unknown revolutionaries in the eyes of their prospective constituencies, showing the workers that these socialists were good at something and therefore their revolutionary crusade was worth following. But beyond a certain point the reforms might prove so helpful in and of themselves that these began to substitute for revolution in the workers' demand. On the other hand, since revolutionary effort by individual party activists could easily be misdirected or undisciplined, putting them to work on more readily monitored reform tasks for some of their time would ease monitoring and therefore improve productivity in revolutionary work as well. At the same time the pecuniary revenue from reform activities could improve the quality of recruitment from the party's point of view (professional revolutionaries, even if they are propertyless workers, need to eat every day). But beyond a certain point the temptation of concentrating on reform might prove so rewarding per se that its further expansion would distract party members from their revolutionary commitment and lower the expected income from revolution.

Finally, socialist revolution was a monopoly output in each country. Each socialist party had its own unique version of the total restructuring of society it was fighting for,<sup>9</sup> and the various socialist groups and sects learned through experience that collusion or unity in a single party, even if beset by internal struggles, was more advantageous than open competition. On the other hand, there was real competition in the market for reform: much the same kind of short-run, tangible benefits could be and usually were supplied by alternative, non-revolutionary, even non-political competitors. The competitors that were observed in each case were usually few, a fact that might seem to call the paradigm of perfect competition into question. However, the competition was as intense and relentless as in a rent-seeking contest with a heavy entry fee: the benefits supplied were basically a homogeneous good and the competitors were scrambling for a prize – political influence or downright conquest of state power – such that losing out involved heavy losses or even disaster. Our assumption that reform producers

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<sup>9</sup> The common revolutionary platform on which all national parties converged revolved around public ownership of the basic means of production, which became the hallmark of revolutionary socialism in the 20th century. This particular, Marxist version of the socialist promise was far from compelling from the start, and achieved dominance only at the end of a lively struggle with many competing platforms and schemes. This process that replaced competition with monopoly in the market for revolutionary programs can itself be explained by the fact that in conditions of extreme informational asymmetry, public ownership turns out to be the optimal agency contract between a workers' party and the workers. This is argued in Ferrero (2004).

are price-takers seems thus adequate. All in all, the historical setting of the problem seems to fit well the basic assumptions of our model.

By the end of the nineteenth century, after a first round of bitter infighting which marginalized various brands of utopian socialism and brushed the anarchists aside, the Marxist socialist parties across Europe (and shortly later across the world) were more or less agreed on a broad platform and practice that, somewhat precariously, mixed revolution and reform.<sup>10</sup> Then, as the new century unfolded they parted company, often dramatically. The Russian revolution sparked the Big Schism in the world's worker movement. One group, led by the Russian Bolsheviks and later followed by the Yugoslav, Chinese and Vietnamese communists, clung to revolution first and achieved it. A second group of parties, broadly spanning Northern Europe (the Scandinavian countries, Germany, and Austria), gradually postponed and downsized revolutionary action. Eventually they discarded it altogether and turned into modern social-democracies bent on reform and electoral politics, without losing any substantial constituency to their left. In a third group of countries of Southern Europe, including Italy, France, Portugal and Spain, the original workers' party split into a reformist (socialist) and a revolutionary (communist) wing, and the communist wing kept on furthering both reform action and revolutionary ideology for the next half-century, which made for strange bedfellows after a while.

As mentioned in the Introduction, standard histories of socialism (see for example Landauer, 1959; Cole, 1960, 1961) account for these divergent developments by appealing to different ideological evolution and the hard test of reality in different political environments. By contrast, we will now try to show that the broad pattern of events can be given a unified, consistent explanation that centers on the different impact of market competition for reform under different sets of technological and demand parameters. All that our explanation requires is that the starting hypothesis of a two-product, income-maximizing cooperative be accepted as a fair description of the working of a socialist or communist party in a capitalist society.

The key to our explanation turns around the relative weight of the trust-incentive factors versus the temptation of reform, as well as the degree of competition in the reform market in the relevant period. The importance of the monitoring or incentive problem depends on how different the tasks of revolutionary work are from the tasks of reform work, and thus on the politico-economic environment and the nature and heterogeneity of the target constituency. The importance of the trust problem grows directly with the heterogeneity of the

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<sup>10</sup> The case of Britain, though important in its own right, is left out of the account that follows because its Labor Party can only with difficulty be placed on the same starting line as the other socialist parties: it never was Marxist nor really revolutionary to begin with.

public targeted as revolutionary constituency, and is further enhanced by competition on the reform market. If this competition increases, the beneficiaries are faced with competing demands for trust by alternative providers. Hence, other things equal, the stronger the competition for reform the more acute the credibility problem for the revolutionary party. Thus in practice credibility and incentive factors tend to be positively correlated with each other.

The degree of competition for reforms is itself partly exogenous and partly a product of the splits that may beset the original party under pressure. On the other hand, the importance of the reformist temptation depends first of all on the politico-economic environment which may make reform potentially profitable. As will be recalled from the model, in this case the reform sector is initially kept small precisely because it is “too profitable” (Case 2), and the coop’s reaction to demand changes is well-behaved (Scenario 2). Given this setting, how the temptation itself then evolves depends partly on the degree of competition and partly on exogenous factors that affect the demand for non-revolutionary or democratic action. These factors may include war, colonial domination, foreign military occupation, dictatorship, or ethnic conflict. These factors temporarily swell the demand for reform but at the same time spur the competition from non-socialist political suppliers; when the war, occupation, or dictatorship are over, the competitors remain and are well-entrenched. Hence the net final effect is likely to be a reduction of the price of reform,  $p$ . Finally, it must be emphasized that the focus here is exclusively on the organization’s production decisions in the revolution and reform fields; whether a revolutionary effort actually succeeds or fails depends on a host of circumstances that lie beyond the model’s reach.

Successful, “autoctonomous” revolutionaries fall into two classes. One has the Russian Bolsheviks as a prototype. An urban, working-class party, they were selling their revolution to a proximate, relatively homogeneous industrial constituency, so customers’ trust was a relatively minor problem. For the very same reason, worker incentives and monitoring were relatively easy to control. On the other hand, the potential for reform – the temptation – was very big: the “bourgeois-democratic revolution”, in Lenin’s terminology, was still to be accomplished in a backward, authoritarian country like Russia. As a consequence, the Bolsheviks built up a reform sector, exploiting whatever opportunities existed for legal, parliamentary action, but kept it on a small scale; Lenin was always keen to insist that democratic action and reform should not be allowed to hinder or derail the ultimate goal of the party. We are thus fully in the setting of Scenario 2A.

As World War I ran its course and Russian society was disintegrating, competition on the reform market escalated on the part of the more moderate, evolutionary socialists (the Mensheviks), bent on parliamentary action, the Socialist Revolutionaries, based on middle-class, agrarian constituencies, and other social reformers. These forces finally overthrew the autocracy and took over the gov-

ernment in February 1917. As our model would predict, the Bolsheviks reacted by further distancing themselves from the competition, curtailing their own democratic activity, radicalizing their stance, and almost exclusively specializing in revolution. When they conquered power in October 1917, they were solidly rooted in the small urban working class but completely estranged from the peasantry, a fact whose long-lasting consequences are on the historical record.

Turning to the second class, the Chinese and Vietnamese communists,<sup>11</sup> after some disastrous beginnings with the minuscule urban proletariat, soon turned to the countryside and targeted the overwhelming majority of the population, the peasantry, as their customers. This constituency, being very heterogeneous in itself, politically conservative, and as remote as anything from urban, educated, middle-class revolutionaries, posed a very substantial credibility problem to the communists and a parallel problem for the party to monitor its activists scattered through the countryside. The temptation to overly indulge in reform was, however, small because there were no big rents to be extracted from the countryside. At the same time, colonial rule in Vietnam and Japanese occupation of both countries before or during World War II drove the communists to overstretch themselves in the task of national independence, even though this was a distraction away from their fundamental goals. For these reasons they built up a very large “reform” sector, providing *quid-pro-quo* benefits to the peasantry in exchange for support in the revolutionary and anti-imperialist struggle: the liberated areas. This is clearly a Scenario 1 setting. Mutual aid, literacy, sanitation, easy credit, and other tangible benefits, as well as the fighting of foreign imperialism, were also offered to the peasants by a very active competition: the Kuomintang in China where it held control, and a variety of non-communist, populist, anti-imperialist organizations in Vietnam. The communists predictably responded to the competition by further expanding both revolution and reform, finally achieving power with a relatively broad base of consensus among the peasantry, in sharp contrast with the Russians.

The Yugoslav communists<sup>12</sup> provide a variant on the same Scenario 1 story. An undeveloped country up to World War II, Yugoslavia offered the communists a tiny base of industrial working class, creating once again a substantial credibility problem for them to solve. But in this case the real “reform” problem that tested their claim to national leadership was the long-standing, deep-seated conflict between ethnic and national groups. So during the underground partisan warfare against German occupation they purposely built up a revolutionary organization which carefully balanced the different nationalities and downplayed ethnic cleavages for the sake of unity against the enemy.

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<sup>11</sup> Basic references here are Johnson (1962) and Popkin (1979).

<sup>12</sup> Useful analyses of the Yugoslav case are Johnson (1962) and Shoup (1968).

With the end of World War II, militant competition from sundry nationalist forces, striving to “solve” the Yugoslav nationality problem by one or another chauvinist or divisive arrangement, became very intense and aggressive. Because the commitment to inter-national unity was in itself an unrewarding distraction, the communists could have skirted the ethnic question by staking their claims to power separately within each national group. This, however, would have put them at a disadvantage in the confrontation with the nationalist parties: the escalating nationalist competition had to be met on its own ground. Under Marshal Tito the communists went out of their way in the direction of ethnic compromise and threw up the winning card: they proposed Yugoslav unity under communism as an inter-national covenant that could in time bridge the ethnic gaps, redress the national-territorial inequalities, and make all nationalities share in economic and social development under public ownership. The commitment to checks and balances among nationalities remained so basic to the Yugoslav communist experience thereafter that, after a short-lived period of Soviet-style central planning, it was one of the driving forces behind the decentralization process. This process began with the “self-managed market socialism” and went on to wholesale devolution of powers and economic functions to the national republics, leading eventually to the undoing of the Yugoslav federation.

In a different national and international environment, our Scenario 1 also provides the setting for the peculiar development of South European communism.<sup>13</sup> Focusing on the Italian case for concreteness, here too retarded industrialization implied that a broad, heterogeneous constituency had to be targeted for revolutionary propaganda and mobilization, ranging from factory workers to farm laborers (who made up a very substantial share of socialist electorate and membership). On the other hand, competition for social reform was stiff from the beginning: the survivors of pre-Marxian socialism, especially anarchists and anarco-syndicalists, continued to be active and influential; radical middle-class liberalism played a role in some places; and above all, the Roman Catholic social movements and organizations were well entrenched and difficult to displace. For both these reasons, the credibility problem for the Italian socialists was overwhelming and led them to build up a very large reform sector, including a sector of socialist-led consumer and producer cooperatives on a scale unknown to Northern Europe. Reform activity, however, was not very profitable as such as long as the socialists’ estrangement from the ruling elites continued. The strains produced by this doubling of roles resulted in a schism between a revolutionary wing (communists) and a reformist wing (socialists), which itself further increased competitive pressure on the revolutionaries. Then soon after

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<sup>13</sup> Much relevant information can be found in Horowitz (1963) on Italy and Luebbert (1991) on Italy, France and Spain.

the schism, a new formidable competitor appeared: fascism, which starting from a completely opposite ideology offered much the same provisions to the working people and attracted some significant following from the socialist ranks (Mussolini began his career as a revolutionary socialist.) The aftermath of the Spanish civil war and the German wartime occupation of France and Italy added democracy and national independence to the list of non-strictly socialist tasks that the communists of these countries had to shoulder if they were to withstand the competition and validate their bid for state power.

In accordance with the predictions of our model, the French and Italian communist parties emerged from World War II (and the Spanish and Portuguese parties emerged from the later collapse of the respective fascist regimes) with a large and expanding reform sector. However, in contrast to the successful revolutions of China and Vietnam, here the international balance of powers dictated that no communist party could be allowed to take over a government in Western Europe. Therefore, competition from all quarters drove the communists to keep expanding reform activity while at the same time upholding and fostering revolutionary propaganda with no apparent purpose. Under the circumstances, the mutual incompatibility of these two products became increasingly obvious, as witnessed by the progressive watering of the revolutionary ideology and the steady fall in the productivity of revolutionary work in terms of popular support. By this time, however, the revolutionary label was essential to differentiate the communists' reforms from the competitors, and so to ensure a continuing market share for their political enterprise. Note that the comparative statics of our model offers a clue to the paradox of a nominally revolutionary organization which spends most of its time on reform activities over several decades.<sup>14</sup>

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<sup>14</sup> The Italian communists in the early Nineties finally laid the revolution to rest by conspicuously changing name and platform to their party (leaving, however, a nonnegligible number of hard-liners to form an ostensibly communist splinter party to the left). Scenario 1 of our model can accommodate this outcome if we press the "rewind" button on the competition parameter. Ferrero and Brosio (1997) present a formal model of the post-war Italian political system in which the exclusion of the communists from access to national government drove the other parties to offer them, and the communists to accept, a share in power (and the rents thereof) at all levels except the national government. This strategy gradually turned the communist party, from the 1960's on, into a *de facto* junior partner of the ruling coalition: from labor unions to occupational and professional associations, from local governments to the judiciary, from pension funds to interregional income transfers, everything was divided up *pro quota* among the parties, communists included, thereby replacing rivalry and conflict with collusion and bargaining. At the end of the line, this process made revolution dispensable as a brand name and the erstwhile communists turned wholesale to reform, or "commercial" political action. In the language of our model, under Scenario 1 a steady fall in competition drives down both revolution and reform outputs, but starting from a very extensive reform sector and a tiny, low-tuned revolution sector, the latter will shrink more drastically and sooner or later be dis-

We have seen that Scenario 2A can accommodate the Bolshevik case. In a different environment, the same setting yields the social-democratic outcome.<sup>15</sup> In the industrialized countries of Northern Europe, as in backward Russia, socialist propaganda was from the beginning focused on the sizable industrial working class, posing no insurmountable credibility problems. In addition, the socialists did not have to face anything like the competition confronting their counterparts in Southern Europe: the anarchists were a negligible influence and no substantial challenge was posed by a Christian social reform movement. For both these reasons, the trust factor was not nearly as important as it was in Southern Europe or East Asia. Likewise, the emphasis on a working-class constituency and the intimate relationship between the socialist party and the trade unions shortened the distance of reform work from revolutionary activity, mitigating the incentive problem. On the other hand, the relatively large size of the working class, its compact support for the socialist parties, and the isolation of socialists in an “aliberal” society (Luebbert, 1991) held the promise of substantial gains to be achieved by independent electoral politics (possibly through alliances with agrarian parties), making the reformist temptation bulk large. As a consequence, in these countries the reform sector was initially kept relatively small, essentially comprising the unions but not a substantial worker cooperative sector.

The following decades saw no new competitors entering the reform stages in Denmark, Sweden, and Norway: the parties held together and the communist schisms were uninfluential, while fascism never rose to more than negligible proportions. On the contrary, the socialist parties were able to establish a near-monopoly of reform action on behalf of the working class. The German and Austrian socialists, on the other hand, did confront internecine splits and the dramatic challenge of Nazism in the interwar period, but this competition sank with the catastrophe of World War II. The German communists took over East Germany on the wake of the Soviet Red Army and Nazism disqualified itself as a social reformer in a way that South European fascism never did, bequeathing to the social-democrats of West Germany and Austria an effective monopoly of working-class reform politics. Therefore, as our model predicts, a sustained long-run decrease in competition in these conditions led to a steady expansion of the reform sector and a downsizing of revolution up to the point where first the Swedes, then all the others in succession disavowed it altogether. The original revolutionary cooperative was liquidated and the reformist party took on a life of

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continued.

<sup>15</sup> Luebbert's (1991) impressive study of the origins of alternative political regimes in interwar Europe provides, from a different perspective, a wealth of data and ideas that broadly support this and the following paragraphs.

its own. As the party was now playing the periodic electoral game with its attendant, tangible costs and rewards for both customers and workers, it had no reason further to stick to the old cooperative form. At last, it could evolve towards another Western-style, short-sighted, “capitalist” (or rent-seeking) political firm.

## 6. Summary and conclusions

This paper has set forth a simple, parsimonious model of a revolutionary organization, viewed as an enterprise specializing in the business of selling political promises for a distant, uncertain future. To control the potentially devastating incentive and trust problems inherent in this exchange environment, the enterprise organizes itself as a producer cooperative and engages in the parallel production of a good that yields short-term, tangible benefits to its customers and cash rewards to its member-workers – in the jargon of the socialist movements, it supplements revolutionary action with reform efforts. In equilibrium, the reform sector will be relatively large when its build-up is mainly driven by the trust-incentive problem vis-à-vis its customers and workers, whereas it will be relatively small when it is mainly motivated by its intrinsic profitability and therefore distracts effort away from revolution. An increase in competition in the reform market, or an exogenous fall in the demand for reform, will normally drive the organization to enhance its revolutionary effort, while reform activity will increase (decrease) when the reform sector is large (small) to begin with. This range of diverse market behavior could not be observed if the political organization were a profit-maximizing firm but is entirely due to the logic of a producer cooperative.

While it cannot hope to do justice to the manifold details of each historical case, this general approach has proven powerful enough to capture the salient features of divergent national developments within the socialist movement of the 20th century. Two scenarios have been constructed from the comparative statics of the model. Where, owing to an overwhelming credibility and incentive problem, a large reform sector was built up, increased competition for reform drove the party to further increase reform activity while continuing to promote revolutionary action. This yields the Yugoslav, Chinese and Vietnamese revolutions, on the one hand, and the strange case of South European communism, on the other. By contrast, where the reform sector was potentially so profitable as to represent a dangerous temptation away from revolution, it was initially kept relatively small. In this setting, increased competition led the Russian Bolsheviks to concentrate exclusively on revolution, whereas a decrease in competition drove the North European parties steadily to downplay revolution and expand reform. Eventually, in Northern Europe, revolutionary action was terminated altogether

and the original rationale for the cooperative form of organization vanished.

Our results are thus fully amenable to the economist's standard tools. The key role here is played by market competition as it affects a special organizational form of the political enterprise, whose existence in the first place is due to the peculiar informational asymmetries that beset a market for promises. If so, then a challenge for future research will be to test the model on some other instance of markets for promises, among which nationalist movements and religions seem especially promising candidates.

**Appendix**

By totally differentiating equations (4) and (5) with respect to  $M_1$ ,  $M_2$ , and  $p$  one obtains the following derivatives:

$$\frac{dM_1}{dp} = \frac{\frac{\partial^2 R}{\partial M_1 \partial M_2} \left( \frac{\partial q}{\partial M_2} - \frac{q}{M_1 + M_2} \right) + \frac{q}{M_1 + M_2} \left( \frac{\partial^2 R}{\partial M_2^2} + p \frac{\partial^2 q}{\partial M_2^2} \right)}{\frac{\partial^2 R}{\partial M_1^2} \left( \frac{\partial^2 R}{\partial M_2^2} + p \frac{\partial^2 q}{\partial M_2^2} \right) - \left( \frac{\partial^2 R}{\partial M_1 \partial M_2} \right)^2} \tag{A1}$$

$$\frac{dM_2}{dp} = \frac{-\frac{\partial^2 R}{\partial M_1^2} \left( \frac{\partial q}{\partial M_2} - \frac{q}{M_1 + M_2} \right) - \frac{q}{M_1 + M_2} \frac{\partial^2 R}{\partial M_1 \partial M_2}}{\frac{\partial^2 R}{\partial M_1^2} \left( \frac{\partial^2 R}{\partial M_2^2} + p \frac{\partial^2 q}{\partial M_2^2} \right) - \left( \frac{\partial^2 R}{\partial M_1 \partial M_2} \right)^2} \tag{A2}$$

(A1) and (A2) have an identical denominator. As it is the Hessian determinant of the second-order conditions for a maximum, it must be greater than zero. Therefore the sign of the total derivatives is the same as the sign of their numerators. Simple manipulation of these numerators yields the following conditions:

$$\frac{dM_1}{dp} \geq 0 \Rightarrow \frac{\frac{\partial q}{\partial M_2} - \frac{q}{M_1 + M_2}}{\frac{q}{M_1 + M_2}} \geq - \frac{\frac{\partial^2 R}{\partial M_2^2} + p \frac{\partial^2 q}{\partial M_2^2}}{\frac{\partial^2 R}{\partial M_1 \partial M_2}} \tag{A3}$$

$$\frac{dM_2}{dp} \begin{matrix} \geq 0 \\ < 0 \end{matrix} \Rightarrow \frac{\frac{\partial q}{\partial M_2} - \frac{q}{M_1 + M_2}}{\frac{q}{M_1 + M_2}} \begin{matrix} \geq \\ < \end{matrix} \frac{\frac{\partial^2 R}{\partial M_1 \partial M_2}}{\frac{\partial^2 R}{\partial M_1^2}} \quad (A4)$$

Not all combinations of signs are admissible. The RHS's of both (A3) and (A4) are greater than zero. Furthermore, the RHS of (A3) must be strictly greater than the RHS of (A4) if the Hessian determinant is to be positive. As inspection of these inequalities shows, this immediately implies that the combination  $dM_1/dp > 0$  and  $dM_2/dp < 0$  is incompatible with the second-order conditions.

If the LHS of (A3) and (A4) is negative (definition of Case 1 in the text), then  $dM_1/dp < 0$  and  $dM_2/dp < 0$ . The same pair of signs obtains if the LHS of (A3) and (A4) is positive (Case 2) but small enough to be less than both RHS's. This concurs with Scenario 1.

When the LHS becomes larger than the RHS of (A4) but is still smaller than the RHS of (A3), then  $dM_1/dp < 0$  and  $dM_2/dp > 0$  and we have Scenario 2A. For a LHS large enough the sign of (A3) turns positive and we have Scenario 2B ( $dM_1/dp > 0$ ,  $dM_2/dp > 0$ ). For a given positive value of the LHS, Scenario 2B becomes the more likely the larger  $\partial^2 R / (\partial M_1 \partial M_2)$ , because, other things equal, the larger the latter the smaller the RHS of (A3). But an increase in  $\partial^2 R / (\partial M_1 \partial M_2)$  also increases the RHS of (A4), until  $dM_2/dp$  becomes negative and then, as demonstrated above,  $dM_1/dp$  must also become negative. Thus we are back to Scenario 1. That is why the range of parameter values that allow for a Scenario 2B outcome is fairly narrow.

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