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Em-powering economics:

Some thoughts on policy and financial markets*

Josef Falkinger†

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Abstract:
This paper addresses the discussion between economic power and the power of politics with particular focus on financial markets. After general reflections about the economic basis of power, the paper discusses in a general equilibrium framework how financial innovations can lead to risk creation and an inflation of financial products. This creates a fundamental disorder in the financial system which from an aggregate point of view can be described in a standard portfolio framework, in which higher rates of return go hand in hand with higher private risks but also with increasing externalized (social) risk and insurance illusion. Rate of return regulation is proposed as an appropriate regulatory measure. Alternatively the deficiency could be cured by admission regulations for financial products which put the burden of proof for no external (systemic) damages of a financial instrument to the issuer.

Keywords:
Power, financial crisis, risk-creation, inflation of financial innovations, rate of return regulation

JEL-Codes: D53, G01, G18, A11

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† Josef Falkinger, Department of Econonmics, University of Zürich, Zürichbergstrasse 14, 8032 Zürich, Switzerland, e-mail: josef.falkinger@econ.uzh.ch

1 Introduction

Is economics a powerful discipline because it provides clever instruments to make money? Sometimes it looks so and some people think so. I do not. The historical rise of economics to a leading academic field, that over the last centuries has attracted many of the most talented and motivated people, is based on its nature as a science of men. Political Economy or Economics "is on the one side a study of wealth; and on the other, and more important side, a part of the study of man", as Alfred Marshall says us in the first paragraph of the *Principles of Economics*. Its power stems from the involvement in the analysis of the desire of people and how the means to satisfy them can be improved. "Bettering our condition" is the main goal, Adam Smith tells us in the *Theory of Moral Sentiments* and he makes clear in the *Wealth of Nations* that this is no ego trip. "No society can surely be flourishing and happy, of which the far greater part of the members are poor and miserable." (Smith, 1776, Vol. 1, p. 88).

Many others - often with quite different political values like Karl Marx, John Maynard Keynes or Michal Kalecki - shared the view that economics has a mission in contributing to the bettering of life of the broad mass of people. To free workers from exploitation, to spare people from macroeconomic crises and guarantee full employment to them, to establish a fair distribution of income. A most important figure among them is of course Kurt W. Rothschild. I could almost summarize my claim by saying: The power of economics as a discipline lies for me in dealing with the "Rothschild-questions" about how to contribute to a "better" world. It is based on "the hope that with a better understanding of the economic mechanisms a contribution to a more satisfactory economic and social society could be achieved" (Rothschild, 1999, p.4).

There is another set of "Rothschild-questions" which is crucial for making economics a powerful scientific discipline. As emphasized by Rothschild from his article on "Price Theory and Oligopoly" (Rothschild, 1947) onward, we must bring market imperfections and economic power - "the rare birds of economic theory" (Rothschild, 2002, p. 433) - back into core economics. They must be acknowledged as basic features of reality and accounted for in economic analysis to make economics a relevant force in society. And finally, there is the "Rothschild conviction" that policy can make a difference, "that activism and interventionism are possible and useful when conditions are regarded as unjust or undesirable, particularly in regard to basic human needs and extreme inequalities" (Rothschild, 1999, p. 3).

With this paper I wish to contribute to the em-powering of economics by addressing some fundamental problems of economic power, political power and the financial system which many people are worried about today. In my view, they are related to new forms of power-play and imperfections which require some daring changes in political and economic thinking and action.

2 Power

"*Macht* bedeutet die Chance, innerhalb einer sozialen Beziehung den eigenen Willen auch gegen Widerstreben durchzusetzen gleichviel woraus diese Chance beruht." (Weber, 2002, p. 711)

As an economist one might say, power is the possibility to influence the outcome of a system of interactions. What is the basis of such possibilities?

2.1 The basis of power

Under an economic perspective, the outcomes of interactions in the economic and political system are determined by *desires* and *opportunities*.

The opportunities are given by *resource endowments*, *technology* and *organization*, but also by the *rules of the game (the order*). In an uncertain world the determinants of opportunities may change. They depend on which *state of the world* is realized. In the jargon of modern economics the set of all possible states of the world, $\mathbf{S}$, and the probability π_s with which a specific state $s \in \mathbf{S}$ is realized, are often called "nature" to express that ($\mathbf{S}$, π) are given exogenously and beyond the control of economic agents. However, for understanding what happens in modern financial markets we must not refuse to see that $\mathbf{S}$ and π can be influenced. I therefore prefer to address ($\mathbf{S}$, π) by the more neutral word *uncertainty structure*.

Realistically, all determinants of interactions described above are potential sources of power. Thus we have the following forms: (i) Controlling allocation of substantial amounts of resources. This gives to an agent market power to influence the equilibrium allocation of goods (x) and prices (p) and thereby also the distribution of income, among other things. (ii) Shaping technology and the organization of work. While traditionally technology was considered as given, the new growth theory has emphasized endogenous technological change including its implication for the distribution of income and wealth (see, for instance, the ample literature on skill-biased technical change). In a similar way the organization of work can impact on people in a powerful way. For instance, it can affect their employability as I tried to show some times ago (Falkinger, 2002). (iii) Setting the rules of the game. In Rothschild's (2002) words: "influencing the framework which determines the working of market mechanisms" (p. 433). The division of power between policy, which defines and enforces the rules, and economic agents, who are playing according to the rules may be formally true but substantial power arises from the fact that rules are manipulated, influenced by lobbying activities, ignored or circumvented, in particular in irregular times. (iv) Influencing desires and mind-setting. For instance, "by 'immunising' consumers more and more against rival invasion through massive advertising" (Rothschild 1947, p. 315). Persuasive advertising is one source of power. In view of the flood of information, including informative advertising, a new form of power becomes crucial: Focusing the perception set of people for instance by prominent positioning in the media. Moreover, in particular in times of uncertainties, there is room for what is called expectation or belief management. (v) Finally, as already mentioned, there is the possibility to affect the uncertainty structure.

Traditionally, the economic debate about economic power, for instance in competition policy or the theory of regulation, focuses on market power in the allocation of resources (type (i)), taking everything else - technology, economic and political order, preferences and uncertainty structure - as exogenously given. Partly this is a technical assumption, motivated by modesty or specialization in the division of labour between disciplines. However, as stressed by Rothschild many times, it often goes beyond that and turns into an ideological position. An example to which Rothschild (2002, p. 437) refers is the view prominently expressed by Böhm-Bawerk (1914), that in the long-run the will of economic agents or states to exert power or to influence economic outcomes are irrelevant, and only the power of economic laws prevail.[1] Or, take in particular the so-called neoclassical production and distribution theory, according to which factor shares are determined by the factors' elasticities of production.[2] My

[1] In the words of Böhm-Bawerk, "daß ebenso wie die Gesetze des rein natürlichen Geschehens sich unabhängig von Menschenwillen und Menschensatzung in unabänderlicher Folge vollziehen, es auch im ökonomischen Leben Gesetze gebe, gegen die der Menschenwille, und sei es auch der mächtige Staatswille, ohnmächtig bleibt; daß auch durch künstlerische Eingriffe gesellschaftlicher Gewalten der Strom des wirtschaftlichen Geschehens sich nicht aus gewissen Bahnen herausdrängen lasse, in die ihn die Macht ökonomischer Gesetze gebieterisch zwinge" (p. 205). In particular: "auch in den Preis- und Verteilungsfragen wirkt die 'Macht' offenbar nicht außerhalb oder gegen, sondern innerhalb und durch Erfüllung der ökonomischen Preisgesetze" (Böhm-Bawerk, 1914, p. 215).

[2] See Guger (2011) for a discussion of Rothschild's contribution to the theory of wages.

own view is that technology plays indeed an important role in determining the distribution of market income which cannot be easily overcome by policy intervention. However, technology is not given by nature but rather results from investment decisions. Thus, though it is technology that determines the distribution, it is not nature but investment. While the awareness about the endogeneity of the technology and thereby the distribution of income has been substantially increased, at least in the growth and development literature, the possibility that rules of the game, desires or uncertainty structure are products of economic actions is no familiar item on the agenda of economic research.

I think the main problems of current crises have ultimately to do with power of the form described in (iii) to (v). I will focus in the rest of this section on the "power-play" about the economic and political order (in section 2.2) and then turn to a more formal analysis of some basic aspects of man-made uncertainty structures (section 3) and to the power-play between citizens and financial gamblers (section 4).[3] As outlined, the uncertainty structure has two components: the set **S** of "states of the world", and the probabilities, π, of these states. That π can be influenced and powerfully exploited has recently pointed out by Magill, Quinzii and Rochet (2011). They show that, under complete financial markets, investment decisions which maximize the shareholder value lead to a distortion of π and thus to an inefficient equilibrium outcome. My attempt in section 3 leaves π untouched and focuses on variations of **S** (by purposeful creation of states of the world).

One general remark on economic power is in order before turning to its interaction with political power. Rules of the game and uncertainty structure belong to the framework of the economic system, and are not factors within the system. This has two implications: First, they may be less vulnerable to influences from powerful economic agents in regular times, but they certainly are in fundamental crises. Secondly, agents need "systemic position" to exert pressure on the system. The economic basis of a systemic role is to be a provider of key factors of production to all industries. Basic industries, energy or the transport sector are relevant examples in history. But in present days, the financial sector is clearly the most salient one.

2.2 Political power and the power of policy

To assess the power of policy, in particular in comparison with the power of economic agents, we must evaluate the economic basis of this power along the determinants of power outlined in section 2.1.

Many discussions about the primacy of policy or the loss of this primacy seem to have the following framework in mind. In a kind of natural division of power, "nature" determines resources, technology and uncertainty structure; policy decides about the economic order; and economic subjects play within the possibilities given by nature and the rules set by policy. Such views are clearly naive. And any attempts to contain the current crisis by appealing to the primacy of policy along these lines are doomed to fail. As discussed previously, "nature" as well as the "economic order" are substantially influenced by economic forces.[4] This does not mean, however, that compared to powerful economic agents policy is powerless in principle. Not at all. Before explaining this in more detail I have to define the words "policy" and "political power" more clearly. Since any power has an economic basis it doesn't make

[3] Control of perception and expectation management are closely related to the uncertainty structure, since they determine which states of the world people have in mind and what are their beliefs about the realization of states. But it clearly goes beyond that and would require a systematic integration of media and mass communication in economic equilibrium analysis. See Falkinger (2007, 2008) for an attempt to go into this direction.

[4] In Rothschild's (1947) words "firms become active agents which have the power to change those very market factors" on which conventional notions of price formation in markets reley (p. 304). Therefore, "the separation of the economic from the political must necessarily result in a very incomplete picture" (p. 317).

sense to speak of political power as opposed to economic power. What does make sense, however, is to speak of political agents in contrast to economic agents. Both types of agents can have control over economic resources and thus can exert economic power in a conventional sense. Moreover, political as well as economic agents can influence policy and have thus political power. I therefore restrict in the further discussion the word "political power" to the capacity to define the rules of the game, the economic and political order. In contrast, I use "policy" to refer to a "business" or a "sector" - the public or political sector, run by political agents like "governments". Thus, the "power of policy" is the power of states, governments, the public sector, which has to be clearly distinguished from "political power" in the sense of effective rule and order setting. How powerful is "policy"?

(i) A first fact to notice is that policy has big economic power. It controls a large share of economic resources. The public sector share in industrialized market economies is between roughly 30 percent and 60 percent. Thus, no private sector has comparable economic power in influencing the allocation of economic resources and thus the distribution of market income.[5] Thus even without redistributive taxes and transfer, policy is the most powerful economic agent in a conventional sense.

(ii) Clearly, policy has also political power. In a formal sense, this is trivial because policy has monopoly rights in establishing legal rules and enforcing them. While it is naive to believe that this *de jure* monopoly automatically materializes in *de facto* power, the fact that formally rule-setting is the business of the political sector gives to policy an advantage over the private sector in the power play about rules and order, at least in ordinary times. However, if economic power is very concentrated or in deep crises the picture may become blurred. For instance, policy may be tempted to collude with the wealthy elite or is confronted with oligarchic pressure and more effective threats from system-relevant agents.

(iii) As emphasized at the end of section 2.1, for the *de facto* power in influencing the rules of the game the systemic position of an agent is relevant. Economically, an agent or an industry has a powerful position in the system if it provides key inputs to all the other agents and industries. The financial sector is the typical example. But despite the overwhelming role of financial services for households, firms and states, one should not forget that the political sector produces by far the broadest range of crucial inputs to economic activities, in particular by providing the legal and the monetary system.[6] Without this system, there is no deal, in particular no financial intertemporal transaction. Hence, policy has also a power advantage by its systemic position even though it has no monopoly as a system-relevant player.

In sum, I do not share the view that the political sector is poor and helpless vis-à-vis some economic demons out there. Policy has a very strong basis for power, also from the point of view of *de facto* power. So why is the primacy of policy an issue? Turning means of power into effective power requires - like any other production process - effective organization and management of the means. In this respect, policy has currently clear handicaps compared to strong private players. Some of them are inherent to policy; others could be overcome in principle.

(i) Modern companies think strategically and pursue their goals by top down leadership. Their goals are very focused with clear priority to increase the value of the firm for its owners. Clearly, policy is a very different business. The goals have many dimensions and instead of support by usually a few shareholders the support by the citizens is required. Technically speaking, aggregation of political

[5] I am not talking about redistribution by taxes and transfers here, but about the fact that the demand for resources by the public sector affects equilibrium prices, in particular the factor prices.

[6] There are of course many other public goods which serve as intermediate inputs for private activities: Infrastructure, basic research but also public security and social stability.

preferences is much more complex than aggregating preferences over money. Thus, in this respect policy has an inherent handicap. This means, to the extent in which private agents enter the field of policy they face the same handicaps. Issues like corporate social responsibility or the discussion about shareholders vs. stakeholders may serve as an example.[7] The lesson to be learned from this is in my view the following: Whoever wants to exert political power in crises must define some prime goal and seek some basic consensus on it. "If you only have one target, you can always meet it." Rothschild (2009, p. 145) meant this sentence as a critic of admirers of policies which brought down inflation - at the cost of other goals. In my view, however, in a serious situation, policy must focus on one goal and clearly communicate this goal - to the people, to get their support, and to the market, in order to effectively obtain control, and to stabilize the economic system such that then other urgent goals can be solved. I will describe below what the prime goal should be in my opion.

(ii) Modern companies act globally, whereas policy is organized locally. This handicap of policy is not inherent to policy. The range of political organization units has changed often throughout history. The organization in the form of national states is not given by "nature", but can be changed. The second lesson to be learned is this: If we want to guarantee the primacy of policy in setting rules of the game, one has to bring the range of policy in line with the most powerful private agents. In my view, this does not mean that we have to wait for a world government. To some extent frictionless global mobility is more a threat than reality. Also a global player needs reliable suport by powerful national governments or existing international organizations. Even if only the one or the other of them withdraw this support, the global player is substantially hurt.

What does this mean in practice, here and now?

2.3 Disorder in the financial system and regulation

My view on the current situation is as follows: We have a serious crisis which requires extraordinary measures. The crisis is for me not confined to some specific events in the financial markets in 2011 or 200x, but consists in the fact that over the last twentyfive years or so the financial system got out of order. This applies also to specific current cases like the crisis of Greece. Neither would Greece have been able to build up the huge debt, if the international financial industry would not have been reckless, nor would the restructuring of Greece be detrimental if the European banking sector were sound.

The basic structure of the disorder is this: The mass of consumers and producers need some set of financial services and products (everyday payments, insurance, saving for durable goods and for old age, credits and equity funds for investment etc.).[8] Therefore a stable banking and insurance system is vital for society. In the last decades, supported by economics and politics, a huge wave of so-called financial innovations has inflated the set of financial products and services provided by the financial industry. In theory, these financial innovations help to complete markets and allow ensuring risks which were uninsured so far. This may be true for some innovations and good for the one or the other agent who is exposed to specific risks. But more importantly, the innovations create new risks, in particular also

[7] See Franck (2011) for critical reflections on these notions in the light of a realistic picture of the governance problem of modern companies.

[8] Technically, the households require financial products to bring their stream of income in line with the stream of life-time consumption. Priority lies on the stream of necessary and convenient goods, and what they fear most is the downward risk, in particular when getting older. See Binswanger (2004) for a rigorous model of loss-aversion in an OLG-equilibrium model of saving. (See also Binswanger, 2007, for an application to pension systems.)

for those who do not need these products in the first place. This has generated kind of a progressive inflation of financial products and transactions. Technically, this means that the uncertainty structure of the economy changes fundamentally, namely by an inflation of the set of states of the world. It is the purpose of section 3 to show this more rigorously in a general equilibrium model with asset markets. In section 4, I consider the relationship between financial innovations and the return-risk structure of the financial system from a more aggregate perspective. The bottom line is that the means employed to generate high returns created negative externalities in the form of social risks.

The prime goal of policy therefore must be to bring the financial system in order. A minimum action required is to separate investment banking from the banking sector for ordinary people and business, and that states and public funds, in particular pension funds do only engage with ordinary financial business. Ultimately, however, I doubt that putting the investment banking sector in quarantine is sufficient. Given the experience of the last twenty-five years, ordinary people and firms, states and public communities, pension funds and ordinary banks will be tempted to try the gamble again if they see that some have become very rich in quarantine. "No man of spirit will consent to remain poor if he believes his betters to have gained their goods by lucky gamblings." (Keynes 1923, p. 24). Therefore, a stricter form of regulation may be needed for a credible and sustainable solution. In other industries we accept that potentially dangerous products have to be tested and go through some admission process before being supplied to the market. In a similar way, financial products which potentially affect the financial system should not be admitted to the market before the general equilibrium or macroeconomic effects are understood.[9] Since financial innovations have the purpose to complete markets the proof has to be conducted in an incomplete market model. Moreover, because potentially dangerous products for the system affect in particular also producers and ordinary people, the model must include a production sector and ex ante heterogeneity of wealth of consumers. Return regulation could be an alternative measure. As argued in section 4, putting a cap or a progressive tax on the average return of financial agents (banks, funds and their managers etc.) would have a similar effect, since the extra-ordinary high returns are related to the boom of financial innovations which at the same time has produced extraordinary risks for the system.[10]

One may argue that such policies would be quasi equivalent to closing down the investment banking and hedge funds industry, since a big fraction of derivatives and other products with high leverage do not pass the test. Well, all the worse if this is true. It proves that the system has got out of order and regulation is required. In a certain sense, the outlined proposal is nothing more than taking seriously recent initiatives of corporate social responsibility in business and finance. Some leading business schools and finance institutions even refer to the Hypocratic Oath in this context. Now, "nihil nocere" is an ideal which if interpreted strictly requires too much in an uncertain world in which nobody is perfect. But establishing procedures and regulations, which require careful examination of potential damages and side effects, and rule out products and treatments which potentially lead to epidemic damage or whose social benefits are small compared to the system risks, is surely sound and good practice.

The financial sector is a global business. Is it realistic, that the outlined goal to bring the financial system in order by strong regulations can actually be achieved? I don't know the future, but one should keep in mind that global leadership, and action on a clearly and narrowly defined goal does not require a global government. In my view, it is not unthinkable that the US, Europe or China - and possibly the one or the other big economy - alone or in combination - take a bold step of regulation that changes the global

[9] The need for approval of financial products by a *Financial Products Safety Commission* was also stressed in the Commission of Experts of the President of the UN General Assembly on Reforms of the International Monetary and Financial System (Stiglitz, 2009). See also Crotty and Epstein (2009 a,b).

[10] Keynes (1923) pointed out a more general socio-economic point. "The economic doctrine of normal profits, vaguely apprehended by everyone, is a necessary condition for the justification of capitalism." (p. 24)

game. The wide-spread opinion among ordinary people but also business leaders, that something goes fundamentally wrong with the financial system, provides a strong political basis for such a step. If the established governments won't do it other political forces will emerge. So at least the hope or rather the warning of Keynes in his *Tract on Monetary Reform* in the aftermath of the First World War: "Experience shows with great certainty that the active part of the community will not submit in the long-run to pay too much to vested interests, and, if the necessary adjustment is not made in one way, it will be made in another ..." (Keynes, 1923, p. 58).

3 Risk creation and inflation of financial innovations

In this section I try to formulate the role of an inflated uncertainty structure in an equilibrium model with asset markets. I do this in the standard framework of general equilibrium theory. In a first step the benchmark model of a perfect economy with asset markets is presented. Then I consider the following deviation from this benchmark: Some agents shift into an environment in which the set of states of the world is inflated by blowing states up in a multiple of uncertain states. *Pari passu* with this multiplication of states the asset markets are inflated by financial innovations which provide "insurance" for the new risks. In this otherwise ideal world, the inflation of the uncertainty structure generates two things: Business opportunities for the financial sector and transaction costs for consumers and firms.

Before turning to the detailled analysis I want to make a few general remarks. The first remark regards the role of financial innovations. In theory, financial innovations emerge because markets are incomplete. The missing of markets for states of the world of which we know that they may happen with a certain probability in the future creates a demand for financial products to "insure" these states. Therefore, financial innovations are rightly considered to be a good thing. In practice, however, apart from such true financial innovations there are other financial products for which it is hard to see which missing market they actually insure. If a new product just replicates the insurance function of already existing products, we have a useless product with a price that conveys no new information. This brings me to my second remark. Inflation in the conventional sense of a change of the general price level of goods and services is considered to be costly because people have difficulties to disentangle changes in the price level from changes in relative prices. Thus, inflation distorts the quality of relative prices as signals conveying information about the scarcity relationships in the economy. I think that the inflation of financial innovations and the flood of prices for new financial products generates much more confusion about relative prices and thus the true economic scarcity relations than a change in the price level. In an ideal world with perfect and complete markets this could not be, but the reality is that a price of a financial product is noise if we do not know which missing market is completed by the product and how it affects the equilibrium of the system.

My final remark is a comment on method. I do not think that the standard general equilibrium framework mirrors reality. For instance, there is always an unknown future - true uncertainty as it was called by Keynes and others, which does not boil down to a risky state of nature and a certain probability of realisation. But I also do not see a constructive alternative to the standard model, in which I could express my argument in a rigorous way. Given this state of our discipline, my approach in this section is the following. There is an uncertain world of economic fundamentals. Some of the uncertain economic fundamentals can be modelled as risky states with probabilities assigned. This is set **S**. The risky states in **S** can be "insured" by financial products as explained by general equilibrium theory. Moreover, not all uncertainties of the world are exogenous economic fundamentals. On the one hand, there are random processes in nature, which do not interfer with any eocnomomic action. On

the other hand, there are random proecesses which are created by economic agents. This gives room for risk exposition and financial innovations even if markets with respect to set **S** are complete. By choosing this methodological approach I want to make sure that the far-reaching policy conclusions which follow are based on a firmly established theoretical ground. There are also true uncertainties of which I know nothing. The only way in which I can account for this unknowables is to keep in mind that my model is incomplete.

3.1 General equilibrium with asset markets: Baseline model

As benchmark I consider a simple perfect market economy with complete markets and rational agents (as outlined, for instance in Mas-Colell, Whinston and Green, 1995, Chapter 19).

3.1.1 Fundamentals

The economy is characterized by a set $\mathbf{S} = \{1, ..., S\}$ of states of the world each of which occurs with probability $\pi_s, \sum_s \pi_s = 1$. There is one good (income) and a set **I** of agents who are endowed with w_{si} units of the good, $i \in I, s = 1, ..., S$. The goal of the agents is to maximize expected utility

$$EU_i = \sum_s \pi_s u_i(x_{si}), \tag{1}$$

where u_i is a concave utility function and x_{si} denotes the quantity of the good consumed by i in state s.

3.1.2 Markets

There are S Arrow-securities $r_s = (0, ..., 1...., 0)$ paying one unit of the good if state s is realized. The spot price of the good is set to one in all states. Denote by q_s the price of security r_s and let $z_i = (z_{si})_{s \in \mathbf{S}}$ be the portfolio of assets traded by agent i.

3.1.3 Optimal portfolio choice

After revelation of state s an agent's budget is $w_{si} + z_{si}$. Thus,

$$x_{si} = w_{si} + z_{si} \tag{2}$$

under the optimal plan. Anticipating this when maximizing expected utility the agent chooses portfolio z_i by solving

$$\max_{z_{si}} \sum_s \pi_s u_i(w_{si} + z_{si})$$
$$s.t. \sum_s q_s z_{si} \leq 0. \tag{3}$$

For logarithmic utility functions, $u_i(.) = ln(.)$, the first-order conditions give us for each s:[11]

$$x_{is} = \frac{\pi_s}{\alpha_i q_s} \tag{4}$$

where $\alpha_i > 0$ denotes the Lagrange multiplier for the restriction $\sum_s q_s z_{si} \leq 0$. Moreover, restriction (3) is binding under the optimal plan. This gives us, using $z_{si} = x_{si} - w_{si}$, the condition

[11] A more general analysis, including the case of risk-neutral agents, can be found in a preliminary version of this paper (Falkinger, 2011).

$\sum_s \frac{\pi_s}{\alpha_i} = \sum_s q_s w_{si}$ which reduces to

$$\frac{1}{\alpha_i} = \sum_s q_s w_{si} \tag{5}$$

because of $\sum_s \pi_s = 1$.

3.1.4 Equilibrium

Market clearing in the asset market requires

$$\sum_i z_{si} = 0 \text{ for all } s. \tag{6}$$

Note that (2) and (6) imply that also the spot market is cleared, that is, $\sum_i x_{si} = \sum_i w_{si}$ for all s. Using (2) and (4), we obtain for (6)

$$\sum_i \frac{\pi_s}{\alpha_i q_s} = \Omega_s,\ s = 1, ..., S \tag{7}$$

where $\Omega_s \equiv \sum_i w_{si}$ is aggregate endowment in state s.

Normalizing prices such that $\sum_i \frac{1}{\alpha_i} = 1$, we have:

$$q_s = \frac{\pi_s}{\Omega_s}. \tag{8}$$

(Alternatively, we could choose $q_1 = 1$ or any other numeraire and adjust α_i accordingly.)

Using (5) and (8) in (4), we obtain

$$x_{is} = \Omega_s \sum_\sigma \pi_\sigma \frac{w_{\sigma i}}{\Omega_\sigma}. \tag{9}$$

Agents can fully insure their endowment risk up to the aggregate risk component Ω_s. In each state of the world, agent i consumes the same share of the aggregate endowment. If there is no aggregate risk i.e. $\Omega_s = \Omega$ for all s, each agent consumes her or his expected endowment. However, if there is aggregate risk, or if any non-zero mass of agents generates a systemic risk by inducing aggregate endowment shocks, all agents share the burden of this risk.

3.1.5 Transaction costs

Realistically, trading in asset markets has transaction costs K_i for a consumer. K_i may depend on the complexity of the world, in particular the number of uncertain states S, but they may also vary with the agent's ability to handle her or his wealth management. For instance, a financial agent can do it easily whereas a consumer may need to delegate this management to a banker. Finally, the cost may also depend on the effectiveness of the financial system. Professional financial intervention by a financial sector may lower the cost; market power and other imperfections in the financial sector will raise them.

The issue of transaction costs will play a more important role if I come to deviations from the baseline model. The important thing here is that the above analysis remains valid as long as such costs are charged lump-sum on the agent. The only thing that changes is the agent's endowment, namely from w_{si} to

$$\tilde{w}_{si} = w_{si} - K_i \tag{10}$$

which of course affects then the agent's consumption possibilities and its utility.

3.2 An equilibrium model with risk-creation

Suppose now that a subgroup $\mathbf{I_1} \subset \mathbf{I}$ of agents moves (or is moved) to an environment, in which, in each state s of the world, $T-1$ new uncertain alternatives emerge. For instance, they start careless projects which give them high returns if they are lucky and end in desaster otherwise. Or they save costs by abandonning quality controls or puffers for bad times. Another example are bets on real or systhetic random processes whose nature and relationship to the fundamental economic states of the world are not known or not understood.[12] I call $\mathbf{I_1}$ "risky agents". The other group of agents, $\mathbf{I_2} \equiv \mathbf{I} - \mathbf{I_1}$, are called "ordinary agents". As a consequence of the exposition of $\mathbf{I_1}$ to additional risk, the world consists now of $S * T$ states, denoted by s_t instead of s. If $t = 1$, we are in the baseline world with $w_{s_1 i} = w_{si}$. I therefore call s_1 "fundamental state". If $t > 0$, the risky agents face an endowment shock $\epsilon^i_{s_t}$. More precisely, we have

$$w_{s_t i} = \begin{cases} w_{si} + \epsilon^i_{s_t} & \text{if } i \in \mathbf{I_1} \\ w_{si} & \text{if } i \in \mathbf{I_2} \end{cases} \tag{11}$$

where $\epsilon^i_{s_1} = 0$ and, for $t \neq 1$, $\epsilon^i_{s_t}$ is a positive or negative number. For simplicity, I assume that each sub-state t occurs with probability $1/T$ so that

$$\pi_{s_t} = \pi_s / T \text{ for all } s \text{ and } t. \tag{12}$$

The new risk exposure clearly opens up a business opportunity for financial innovations. Suppose that markets are completed by new Arrow-securities r_{s_t}, $t > 1$, in addition to the securities for s_1 considered so far. Note first that also ordinary agents $i \in \mathbf{I_2}$ have to trade in the securities for $t > 1$. Otherwise, since security r_{s_1} pays only if $s_1 = 1$ is realised, i would be uninsured in all other states. In an analogous way to the derivation of equation (9), we obtain

$$x_{s_t i} = \Omega_{s_t} \sum_{\sigma} \sum_{t} \frac{\pi_\sigma}{T} \frac{w_{\sigma_t i}}{\Omega_{\sigma_t}}, \tag{13}$$

where

$$\Omega_{s_t} = \Omega_s + E_{s_t},\ E_{s_t} \equiv \sum_{i \in \mathbf{I_1}} \epsilon^i_{s_t}. \tag{14}$$

This shows that in general also ordinary agents, which do not move to the risky environment and are not exposed to additional individual risks ($w_{s_t i} \equiv w_{si}$ for $i \in \mathbf{I_2}$), are affected by the risk exposition of risky agent. Only if $\epsilon_{s_t} = 0$ for all t, consumption as given by (13) coincides with (9). Otherwise, there is a systemic risk component, E_{s_t}, created by the move of $\mathbf{I_1}$ to the risky environment.

Is there a possibility for $\mathbf{I_2}$ to escape this systemic infection? In particular, suppose that asset markets are separated in the following way. For $i \in \mathbf{I_2}$, the original Arrow-securities r_s are available, paying in each fundamental state s one unit of the good, regardless of which state t is realized. In contrast, $i \in \mathbf{I_1}$ has only access to the Arrow-securities r_{s_t}, paying one unit if and only if state s_t is realized.

Then, we obtain in an analogous way (9), for ordinary agents, $i \in \mathbf{I_2}$,

$$x_{si} = \Omega^2_s \sum_{\sigma} \pi_\sigma \frac{w_{\sigma i}}{\Omega^2_\sigma}, \tag{15}$$

and for risky agents, $i \in \mathbf{I_1}$

[12] One may ask why a risk-averse agent should move to a risky environment. It is however a behavioral fact that some people (although risk-averse) participate in financial gambles, without being forced by insurance motives in the fundamental states of the world. For instance, buying complex derivatives can generate new risk exposure. Maybe there is indeed a gambling motive involved, maybe it is confusion or ignorance. Or seduction, imitation, overconfidence?

$$x_{s_t i} = (\Omega_s^1 + E_{s_t}) \sum_\sigma \sum_t \frac{\pi_\sigma}{T} \frac{w_{\sigma i} + \epsilon_{\sigma_t}^i}{\Omega_\sigma^1 + E_{\sigma_t}}, \tag{16}$$

where $\Omega_s^j \equiv \sum_{i \in \mathbf{I_j}} w_{si}, j = 1, 2$.

Comparison of (15) with (9) shows that $\mathbf{I_2}$ may still be affected by the risk exposition of $\mathbf{I_1}$ indirectly. Market segmentation may change the systemic risk component Ω_s^2 compared to Ω_s, as the relevant set of agents is reduced. Furthermore, whether or not the segmentation of markets is in the end to the benefit of $\mathbf{I_2}$, depends on Ω_s^2 as compared to $\Omega_s + E_{s_t}$. For a definite result suppose, for instance, that there is no systemic risk in the baseline, that is $\Omega_s^1 = \Omega_s^2 \equiv \Omega$. In this case, for $i \in \mathbf{I_2}$, equation (15) and (9) coincide and give

$$x_{si} = \sum_\sigma \pi_\sigma w_{\sigma i}. \tag{17}$$

Moreover, $i \in \mathbf{I_1}$ is indifferent between separated and pooled markets, since (16) coincides with (9) in this case.

Thus, if there is no aggregate risk in the fundamental economy, if financial markets are perfect and if the completion of markets by new financial assets is costless, then there is no effect of risk creation on the ordinary agents under a separated banking system. This leads us to the central policy questions. Why do we see risk creation and inflation of financial innovations? And why is there resistance against the separation of investment banking from ordinary banking? The answer is to be found in the fact that things clearly are different in a more realistic world with transaction costs or other imperfections.

3.3 Risk creation and investment banking

I use the label "investment bank" for a risk-neutral agent f with unlimited short selling capacity who designs and trades financial products and helps the other agents $i \in \mathbf{I}$ in their portfolio management. They cover their cost by charging on i a fee. It is assumed that the size of the fee rises with the number of financial products in the market or the number of states of the world. Moreover, it may vary with an agent's average endowment to be managed. Finally if the investment bank has market power, the fee also covers rents of the bank. Agent i may have other costs in addition. For instance, own transaction costs including time and worries involved in optimizing the portfolio. I assume that in sum the costs can be represented by an increasing function of the number of traded securities

$$K_i(S) \text{ with } K_i'(S) > 0, \tag{18}$$

and that the investment bank earns a share μ of this cost. The other possible cost factors which were discussed are considered as shifts of $K_i(S)$. We combine now these transaction costs with the analysis of risk creation considered in the previous section.

There is only one important change: Endowment w_{si} is now reduced to

$$\tilde{w}_{si} = w_{si} - K_i(S * T). \tag{19}$$

This has a clear consequence for the welfare assessment of separated financial markets for $\mathbf{I_2}$ to which $\mathbf{I_1}$ has no access. Under such separation, the relevant endowment levels would be

$$\tilde{w}_{si} = \begin{cases} w_{si} - K_i(S * T) & \text{for } i \in \mathbf{I_1}, \\ w_{si} - K_i(S) & \text{for } i \in \mathbf{I_2} \end{cases} \tag{20}$$

Hence, a separate financial market for ordinary people, providing securities only for fundamental states, would be beneficial, since endowments are not burdened by transaction costs stemming from financial innovations for risky agents. Agent f, the investment bank, clearly has an interest in non-segmented markets since then its earnings are $\mu K_i(S*T) > \mu K_i(S)$ from all individuals, whereas under separated markets $\mu_i K_i(S*T)$ can be earned only from group $\mathbf{I_1}$ while group $\mathbf{I_2}$ generates $\mu K_i(S)$.
Morevoer, the investment bank has an interest in risk-creation since this increases the opportunities to earn money from providing financial innovations. If the risk generated by risky agents creates need for the new financial products also among ordinary agents - all the better. For this reason, an investment bank may even incur costs for creating risk. Assume for the sake of illustration that $K_i(.)$ is uniform across agents and let n_1 be the size of group $\mathbf{I_1}$ (without counting f) and n_2 be the size of group $\mathbf{I_2}$, respectively. Then, the bank's expected income, $E\Pi = \mu \sum_i K_i(S*T)$ is

$$E\Pi^I = \mu(n_1 + n_2)K(S*T) \tag{21}$$

under non-segmented markets, and

$$E\Pi^S = \mu n_1 K(S*T) + n_2 K(S) < E\Pi^I \tag{22}$$

under segmentation.

This is clearly an extreme example which may be elaborated in many ways. In my opinion it conveys nonetheless a very important feature of our reality. Risk exposition of a subgroup of the population has systemic effects on everybody. In particular, it generates in interaction with unregulated financial innovations external effects on ordinary people who do not participate in risky actions. Furthermore, the creation and detection of risks opens up business opportunities for new financial products.

4 On the power-play between citizens and financial gamblers

I have argued that an inflation of financial innovations has generated a basic disorder of the financial system which carries over to the economy as a whole and finally puts the stability of the social order at risk.
In the previous section I outlined how such an inflation can emerge in an ideal financial market framework and who may potentially benefit from this inflation. It was shown that there is a conflict of interests between ordinary agents on the one side ($\mathbf{I_2}$ in the notion of the previous section), and banks - together with agents who expose themselves to a risky environment, on the other side. Reality is obviously much more imperfect and complex. However, the conflict between ordinary people and what - for lack of a better word - may be called "financial gamblers" (a coalition of bankers and financial investors with careless or seduced households, firms, communities and governments) has become a crucial topic on the politic-economic agenda. In this section, I want to present what in my view are the fundamental elements of the game played by the financial gamblers, as seen from a macroeconomic point of view and without any reference to particular micromechanisms.

4.1 Financial innovations and the return-risk structure: An aggregate framework

Let F be the set of feasible financial products and $\mathcal{F} = \{F_j \subset F \,|\, j \in [0, N]\}$ be the family of feasible combinations of financial products.[13] Now, one of the most basic insights of finance is that different financial products generate different returns, where the level of return is positively correlated with risk. Let return and risk be denoted by ρ and σ, respectively. In addition to the risk considered by the individual investor, there is also a social (or macroeconomic, or systemic) risk. Let the social risk be denoted by Σ. In sum, we have the following mapping

$$(\rho, \sigma, \sum) : \mathcal{F} \longrightarrow \mathbb{R}^3_+$$

Let, for any constant $\rho > 0$, $\mathcal{F}_\rho := \{F_j \subset F \,|\rho(F_j) \geq \rho\}$.[14] Furthermore, let $\sigma(\rho)$ be defined as the minimal risk consistent with ρ, i.e., $\sigma(\rho) := \min\{\sigma(F_j) \,|F_j \in \mathcal{F}_\rho\}$. In an analogous way, define $\sum(\rho) := \min\{(F_j) \,|F_j \in \mathcal{F}_\rho\}$. With this notation we can collapse the complex and many-dimensional relationship between (combinations of) financial products and their risk-return structure in a two-dimensional picture as shown in figure 1.

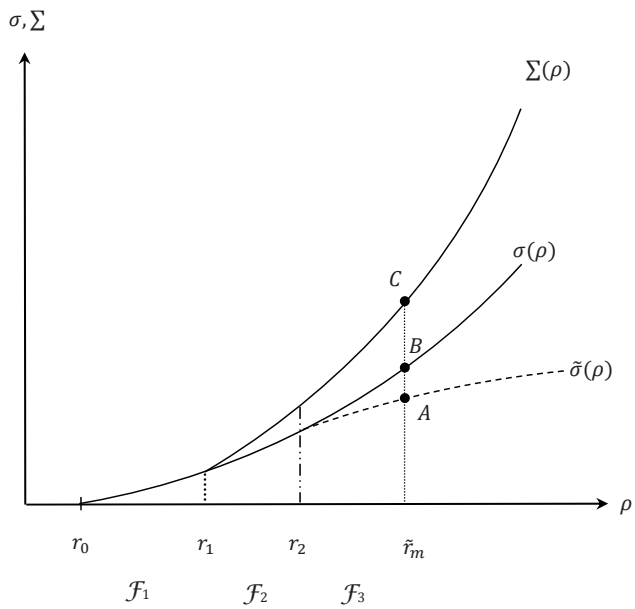

Figure 1: Risk-return structure with external effects.

In this figure, r_0 represents the minimal-risk interest generated by basic financial products like treasury bonds. By using a richer family $\mathcal{F}_1$ of financial products, for instance shares, one can achieve returns between r_0 and r_1 which are associated with higher individual risk and no social risk on top

[13] The singleton {f} represents product f.

[14] To save notation I use ρ (and later also σ, $\sum$) as a constant as well as function symbol. The role of the symbol will be clear from the context.

of the individual risk. This is the standard view of portfolio analysis. However, the financial developments in the last decades have led us beyond the region $[r_0, r_1]$. A flood of financial innovations has blown up F and family $\mathcal{F}$ of combinations of products from F. With a richer family of financial instruments returns beyond r_1 have become possible - at the cost of higher individual risks (in line with the conventional picture). But now also external costs begin to emerge. These costs may come directly from the high individual risk-exposure σ. For instance, if the high ρ is generated by high leverages, the capital basis may be too small to effectively bear the high σ on a bad day. This may lead to the destabilisation of the whole financial system familiar from the "too big to fail" discussion. However, there may be other external costs as well. For instance, as shown in section 3, financial products which are beneficial fo "financial gamblers" indirectly expose also the non-gamblers to uncertainty or forces them to participate in the new financial markets even if this implies transaction costs. The most severe external cost comes from confusion.[15] To emphasize this point, I propose to distinguish in the high-return world $(\rho \geq r_1)$ two cases. Let $\mathcal{F}_2$ be the family of (combinations of) financial products generating returns in the bracket $[r_1, r_2]$ with corresponding individual and social risk patterns $\sigma(\rho), \sum(\rho)$. For example, take highly leveraged investments and derivatives. Furthermore, assume that there is an even richer familiy $\mathcal{F}_3$ of financial possibilities which generates returns above r_2. Now, a specific feature of sophisticated financial innovations in the securitization and hedging business has been the claim that they can insure risks, which have been uninsured so far; thereby providing to the investor a higher return without incurring higher risks.[16] In figure 1, this type of innovatons is represented by the downward rotation of $\sigma(\rho)$ to $\tilde{\sigma}(\rho)$. If $\mathcal{F}_3$ were truely efficiency-improving innovations, $\sum(\rho)$ should be rotated downward as well. However, it has been repeatedly revealed by the financial crises that much confusion is out there and the "insurance quality" of sophisticated financial products is often illusionary rather than real. Symbolically, $\tilde{\sigma}(\rho)$ is actually a "broken" line.

The rich family of financial innovations, $\mathcal{F}_3$, promises to investors extraordinary high returns at low risk. The question then is: Who pays the cost of the actual individual and social risk implied by the extraordinary return?

The social risk (BC in figure 1) is payed by the citizens anyway (as households or firms, who do not play in the high-return gamble, or as taxpayers). In addition, many arguments put forward in the recent policy debate by representatives of the financial sector require from the citizen to cover also the illusionary individual risk reduction AB. The argument is blunt as this: Markets do require return $\tilde{r}_m$. Therefore, the public has to make sure that $\tilde{r}_m$ can be delivered. One may see here a version of what according to Rothschild (1947) is a basic feature of oligopoly power: "the desire for *secure* profits" (p. 308). And the opposition of big banks to be split up could be explained by his conclusion that "size" is one of the means to secure profits, among others. More generally, the inflation of the uncertainty structure has the same harmful consequences which Keynes attributed to deflation. It effects "a change in the existing standard of value, and redistributes wealth in a manner injourious at the same time, to business and social stability ... In particular, it involves a transference from the active to the inactive" (Keynes, 1923, p. 118).

[15] As discussed at the beginning of section 3, the central argument against conventional inflation (i.e. a rising price level) is, that people get confused with respect to the correct assessment of relative prices. The inflation of financial products however generates an ever rising flood of new price signals which confuses people and often distorts relative prices directly.

[16] See Gennaioli, Shleifer and Vishy (2011) for a model of financial innovations with securities that are perceived to be safe but in fact are exposed to neglected risk. As a result there is excessive issuance of such securities. They conclude that proposals like levarage control do not go far enough and regulatory attention should be paid to the scale of financial innovation.

4.2 Policy action required

Crises provoke several types of reflexes among economists - reaching from neglect to fatalism. One reaction resembles to the phrase "Crisis? What Crisis?". Another one is: Let the market fever do its job and heal our sins, or rather those of the others. Also, some people want that the system totally crashes hoping that they then can take over. And finally, there is the story "Schocks happen, also big ones. It's a random process". Such views either are naive and reckless, or they hide interests. I therefore think that besides political leadership also more academic responsibility is required. "In the long-run we are all dead. Economists set themselves too easy, to useless a task if in temptestuous seasons they can only tell us that when the storm is long past the ocean is flat again." (Keynes, 1923, p. 65).[17]

Much of the current discussion has focussed on increased capital-requirements and restructuring procedures for big financial institutions. I think that both measures are very appropriate and may be also sufficient to the extent that the financial system operates in the medium social-cost region $[r_1, r_2]$. However, I do think that a more basic message has to be conveyed to the market. In particular, since the current disorder is more of the type illustrated in the region to the right of r_2 in figure 1. The most important message to the market is: We take actions so as to make sure that this region of the picture is closed down so that no more games can be played in this field.[18] To calm fears that this is too radical an attack on capitalism, it should be remembered that also Smith supported financial regulation in the interest of the community and of a stable banking system by arguing that "the obligation of building party walls, in order to prevent the communication of fire, is a violation of natural liberty, exactly of the same kind [as] the regulations of the banking trade" (cited from the entry on Smith in The New Palgrave (1987, Vol. 4, p. 371), written by Andrew S. Shinner).

The question is of course, what are measures to make this message credible? If we believe in the relationships presented in section 4.1, there are only two possibilities: Either forbidding the tools leading the financial system into the high-risk-return region, that is, forbidding financial operations $\mathcal{F}_3$. This measure corresponds to the recommendation following from the sprecific micro-economic considerations in section 3. As an alternative, the analysis in the more aggregate framework of section 4.1 suggests an indirect measure for achieving the same goal: Regulations of returns - either by a cap on the average rate of return or by a sufficiently progressive tax on returns. (I do not, in this rough analysis, distinguish between returns to owners and earnings to managers. They are lumped together under the ρ.)

Partly capital requirements have the same effect as a cap on returns, since high returns often are related to high leverage. The advantage of a direct rate of return regulation is that it eliminates also the attractiveness of other forms of careless investments. And there is the communicative advantage that the high-risk-high-return connection is addressed directly. One may argue that such a regulation destroys the incentives to innovate. Partly, this is exactly the purpose of the measure, namely to the extent that the inflation of damaging financial innovations is stopped.[19] One should notice, however, that the incentives to provide a feasible ρ efficiently are not affected by the proposed regulation. Another objection may be that typically the return of a single operation is by its nature uncertain and only revealed ex

[17] The often cited *dictum* of Keynes that "in the long-run we are all dead" has been taken by his opponents as proof of cynism or short-sighted opportunism. It is in fact the contrary, namely, a call to economists to take their responsibility in difficult times, as the full quote reveals.

[18] This comes close to what Rothschild said in a newspaper interview brought to my attention by Gugler (2011, p. 49). "Im Kern geht es um eine ganz harte politische Frage: Darum, den enormen finanz-wirtschaftlichen Komplex unter Kontrolle zu bringen, der in den vergangenen dreissig Jahren entstanden ist und mit dessen neuen Möglichkeiten enorme Gewinne zu machen sind."

[19] One may also ask whether it wouldn't be desirable from a macroeconomic point of view, to direct innovative energy more to productivity progress in the real economy rather than to financial innovations, which often are instruments to acquire a larger share of the cake rather than of producing a larger cake.

post so that return regulation is a random punishment. This is a misunderstanding. Any single return component may be random but the average rate of return of a financial player - a bank, a funds and its managers etc. - can only be extraordinary high if extraordinary risky tools are used. Therefore, the regulation of these returns hits its target - the risky instruments and actions.

Finally, there is the question of whether the described policies are credible enough to be effective. Let me start to answer this question with a quite general remark. If there is some truth in the described positive relationship between high risks and high returns, and if there is some economic logic in the financial market left (otherwise the question of credibility has no meaning in the first place), then the message: We take action so as to bring down the high rates of return - directly or indirectly - is the only one message which is credible to the financial market and to the citizens. To illustrate the point, consider for instance the argument that banks will not be able to raise the capital they need, if they cannot deliver the high returns which the market has become acquainted to. Now, if a clear regulation credibly sends the message that there will be no such high returns any more in no bank, then the capital which is there in the market will go to where the return is highest within the given limits. If the capital in the market is too little, to supply to banks a stable capital basis, then the taxpayer pays anyway, in one form or the other. The most transparent and market-conforming way would be that in this case the state re-capitalizes the banks and takes shares in return.

Finally, there is the argument of international competition that capital will shy away from locations with financial regulations. As argued in my general remark, this is only to be feared if the regulation is half-hearted and thus no credible sign that the financial system is brought in order. The business model, to bet on salvation by the taxpayer of a country, is only attractive for the short-sighted investor. Sooner or later also the taxpayer will go bankrupt. In other words, a location operating in the high-return-high-risk region in figure 1 will become a bad investment opportunity sooner or later. The competitive advantage is with the location in which credible regulation guarantees financial order. My guess is that bankers and investors know this - citizens anyway. They just wait that it happens.

5 Conclusion

Philosophy derives its appeal from questions like what is reality, what is truth or what can we know. Medicine has the promise to save lives or prolongue them, and physics supports our dream to reach the stars. The powerful appeal of modern economics as an academic discipline, since when it began to blossom in the age of enlightment, is grounded on the hope of bettering our condition - not of a few of us but of the many. A regulated market economy, in which the productive forces unfold competitively and powers that exploit others or threaten the system are kept under control, has turned out as the appropriate economic order to achieve this goal.

Recent financial crises are no single events but a consequence of the fact that the financial system has got out of order over the last two or three decades. The nature of this disorder is an inflation of financial innovations which are meant to complete markets. But even if they do so for some of us, they generate additional risk for all of us. Technically, this means that the uncertainty structure of the economy is changed by blowing up the set of uncertain states of the world. This exposes everybody to new risks and increases the systemic power of financial agents who provide financial products and services to "insure" these risks or to deliver higher returns at the cost of increasing externalized risk. If the inflated uncertainty structure leads to a financial crisis, the powerful systemic role of the financial sector is exploited by requiring policy measures to save the system. The measures, if not paid immediately by the taxpayer to avoid recession, increase public debt which in turn is a threat on the system.

The damming of powerful economic forces like this requires a strong political power, in the sense of a power which effectively is able to set and enforce rules of the game. *De jure*, the state is the rule setter, *de facto*, however also political power has an economic basis and powerful private agents have political power too. This has led to proclamations about the primacy of policy to be regained.

I have argued in this paper that the primacy of policy is not in danger because of a lack of economic means of the public sector. States are very resourceful economic agents. An increase in the public sector share would therefore not contribute to regaining primacy of policy.[20] The main handicaps of the public sector compared to powerful private forces are: First, aggregation of political preferences to a clear and narrowly focused goal is much more complex than maximizing wealth of an individual or the value of the firm. Second, policy is organized regionally in states while powerful private agents operate globally. Regaining the primacy of policy in the regulation of financial markets requires thus two things: a clearly focused goal and global political leadership. Such global leadership does not require a global government or global coordination on all possible things but the agreement of a few big players to take action on the one goal. This is not unthinkable to happen. The opinion that something is wrong with the financial system is widely spread among people and in the business world so that a clear goal to bring it in order by a well-targeted global action has a big potential of broad support.

The action proposed in this paper is regulation which eliminates the creation of risk, in particular systemic risk, by careless financial innovation. A minimal requirement is to separate investment banking from ordinary banking and that states and public funds withdraw from the further. A more credible and sustainable policy would be - in analogy to other industries, to admit only financial products to the market which have passed the following test: the issuer can show why the product closes a missing market and how it effects the general or macroeconomic equilibrium (including production and distribution). Alternatively, a cap or a progessive tax on the rate of return could be used to ban financial innovations which seek for high returns at the cost of the stability and efficiency of the system. It may be argued that such a test would heavily bound the innovation dynamic in the financial industry. But such argument just proves that the regulation is well targeted and exactly fulfills the purpose to eliminate financial instruments which potentially destabilize the system.

Let me close with a remark on ideology or - to use another Rothschild-phrase - on the problem of "reliance on one eye only and blindness on all other eyes (of which there should be many)".[21] Disorder and appropriate regulation of the financial industry are not matters of quarrels about who is the good guy and who is the bad one, or about who is more (im)perfect, the private sector or the public sector. Ideological battles on first principles are counterproductive here. Nobody is perfect and, if a system is out of order, bad guys in the public sector as well as in the private sector will exploit it. Appropriate regulation to bring things in order is therefore the common concern of ordinary people and responsible leaders in politics as well as in business and banking.

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[20] This is no statement on the optimal government share. There may be many reasons to change the supply of public goods or to increase redistribution. The point is: For giving to policy more political power, no additional resources are required. States have already the most powerful resource basis.

[21] Rothschild (1999), p. 7.

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