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Abstract

The present paper attempts to assess whether at all and in what ways the development of alternative capital markets may help an additional mobilisation of the given economy's domestic financial resources, and, consequently, contribute significantly to economic development. Against the theoretical background of both the old and the new institutional schools, a model of institutional change, leading to the emergence of alternative capital markets, is introduced. Using the theory of games as the theoretical tool to formalize, the model leads to conclude that the institutional change in question is only partial and incremental. In the same time, it demonstrates that if developing countries already have or can create strong technological hubs in their territories, alternative capital markets can spur technological progress and economic growth, even if the main capital markets, being the benchmark for those, are in other countries.

Contents

Introduction

There are two meanings of the term 'alternative capital market'. The first one assumes that they are specific public capital markets, operated besides main capital markets, in which the barriers to entry are significantly lower than in the main ones and in which the possibilities of issuance of securities are limited in value and in kind. Additionally, whilst investors' safety in the main capital markets is guaranteed mainly by public authorities, in charge of the given country's financial sector, in alternative markets this role is played by a group of private accredited sponsors commissioned by state authorities. The second meaning of 'alternative capital markets' designates the public capital markets of developing countries, important in the local scale but marginal in global comparison with 'the big ones', like London, New York or Amsterdam.

The point of the present paper is to explain, whether at all and in what ways the development of alternative capital markets, in both of the meanings, may help an additional mobilisation of the given economy's domestic financial resources, and, consequently, contribute significantly to economic development.

Alternative capital markets develop both in developing countries and the developed ones, proving that this institution is really needed by both entrepreneurs and investors. The present paper attempts to model the institutional change which leads to the emergence of alternative capital markets.

Theoretical background

The study of institutional change requires a review of institutional economics, both the old school and the new one. The old institutional school had pretended to unifying all the separate strands of economics (Hamilton 1919) and the concept of broad legal, political and social context of the market was supposed to be the foundation of such unification (Veblen 1899, 1919; Mitchell 1910, 1937; Hamilton 1919; Commons 1931, 1934, 1965; Ayres 1944). At present, the concept of the so – called "reconstitutive downwards causation" - the causal, mutual relationship between the individual and the institution – is frequently introduced as the trademark of the old institutional economics (Hodgson 1993, 2000). The same modern developments of the traditional institutionalism tend to define institutions as normative systems, indispensable to society, with language considered as the most fundamental system of rules and normative systems almost put as equal to social structures (ex Hodgson 2006; Searle 1995, 2005), which contrasts somehow with other studies, focusing more upon the transition from general norms to habit formation and individual behaviour (Joas 1996; Twomey 1998; Kilpinen 2000). From the point of view of the broadly understood theory of economic development the contribution of the old institutionalism seems to be twofold. Firstly, it's the "institutions matter" assumption, viewed almost as an axiom today (ex Nelson, Sampat 2001; World Bank 2002). Secondly it is both an empirical observation and a theoretical development about institutional change: countries with relatively inefficient institutions cannot just switch to more efficient ones, the process of such change being progressive and imperfectly efficient in itself (ex Aoki 2007).

So comes the concept of institutional change. It covers, as a matter of fact, a few qualitatively distinct phenomena: a) the emergence of new institutions and extinction of those having had existed so far b) internal change of existing institutions in their normative and structural aspect c) a change in the reconstitutive downwards causation from these institutions to individual habits and behaviour. The approach to all these types of institutional change have a common intellectual denominator in the works of Carl Menger (1871) who used to divide institutions into two categories: the "organic" ones arising spontaneously and the "pragmatic" ones appearing as a results of planned social action. The Menger's theory was typical for the broader classical, Cartesian manner of approaching phenomena through classifying them. Should it be translated into more modern, hermeneutic view, every institutional change may be considered as composite of two processes, the spontaneous one and the planned one. This dichotomy inside institutional change uses to be approached either through an arbitrary assumption of prevalence of one kind of processes, usually that of deliberate normative change, the purely spontaneous being hard to theorize in itself (see ex Hodgson

2006), or through game theoretic as well as evolutionary points of view. The theory of games offers interesting possibilities of incorporating dynamic formation of rules and their interaction with individual behaviour (ex Hurwicz 1960, 1996; Aoki 2007), though sooner or later this approach encounters one fundamental problem: at any given moment of the game there are some rules, sometimes called proto – rules, which are assumed to remain constant. They are institutions in fact and their stability is a purely arbitrary assumption. In other words, approaching institutional change from the game – theoretic point of view leads to the previously signalled practical necessity to focus on some level of normative change (ex Nelson 1995; Greif 2006; North 1990; Aoki 2007). The evolutionary approach, present in the old institutionalism since its very beginnings (ex Veblen 1899, 1919) until most recent developments (Nelson, Winter 1982; Andersen 2004; Hodgson, Knudsen 2004, 2006a, 2006b, 2006c), sees institutional change as a Darwinian process of adaptation and selection of institutions, with eventual elimination of inefficient ones. Such approach opens rich methodological horizons, with the possibility of transposing the whole panoply of research tools used by natural sciences. However, the same kind of methodological barrier, as that to notice for the theory of games, appears. If institutions are subject to adaptation and selection, there must be an "environment" which stimulates adaptation and provides rules of selection. Such an environment is, consequently, an institution or a set of institutions, and, by the same means, there must be a still broader environment which stimulated the adaptation of those institutions. This broader environment, being an institution in itself, should also be subject to evolutionary changes triggered by changes in another environment etc.

The methodological paradox going along both with the game theoretic and the evolutionary approach to studying institutional change in the lines of the old institutionalism, illustrates a general theoretical problem of the latter, which is the tendency to holism. Each institutional change tends to have such a broad and complex context that its study is supposed to lead to an overall theory of social change which in practical, empirical research proves non – operational. This is also the case capital markets. Should they be viewed as a part of "the big picture", the aforementioned picture encompasses most of the social and economic changes having taken place during the period of observation. The period of observation in itself becomes hard to define as in social systems there is always a history behind the current state of things.

Thus asking the right questions is the crucial issue when applying traditional institutionalism to empirical research. Right means two things. The first is to keep in mind the hermeneutics of the old institutionalism. This school of economic thought had emerged at the verge of the XIX and XX century, as social systems in Europe began to stabilize after having had gone through a prolonged period of turbulent changes since the end of the XVIII century. Therefore the traditional institutionalism is grounded in the empirical observation of that social structures and interactions tend to settle relatively quickly to safe routines after a time of turmoil, whatever that turmoil might have been. The theoretical approach of the old institutionalism is particularly useful when considering such kind of situations, for example the periods of calming down after financial crises in capital markets. The second very important empirical fact, laying at the foundations of the old institutionalism is that the "settling down" to routine is an interaction between the legal and political design set up by public authorities and patterns of individual behaviour.

The second thing about the "right questions to ask" is to be not too general and as well rooted as possible in basic conceptual framework, especially in definitions of what institutions actually are. Let's suppose that the Aoki's game – theoretic definition is adopted (Aoki 2007, p.7), according to which *"An institution is self – sustaining, salient patterns of social interactions, as represented by meaningful rules that every agent knows and incorporated as agent's shared beliefs about the ways how the game is to be played"*. This definition allows some assumptions useful for empirical research. Firstly, patterns of social interactions may be more or less apt to self – sustaining which, in turn, leads to assuming that institutions are only those of patterns, observable in the capital markets, which display the ability to last as most of their environment changes, leaving intact, however, the social interactions to which they correspond. According to this approach, some legal norms can be considered as institutions and some others not, if they change relatively quickly. Secondly, still remaining in the field of social interactions, the definition suggests that their patterns may be more or less "salient". However imprecise the adjective may be, it allows discrimination on a scale of "salience" which, in turn, may be translated into such an empirical variable as, for example, the degree to which the given pattern differentiates the social structure – a particular stock market or a particular period - from other structures. Thirdly, it is assumed that for a rule of behaviour to be considered as an institution, the

former has to find a proper place on the scales of "meaningfulness" and "incorporation to shared beliefs" which, once again, can yield an empirical measure after having gone to some lengths in interpretation. If, on the other hand, one adopts a much simpler Hodgson's definition, according to which "*institutions are social structures*" (Hodgson 2006, p. 3), studying institutional change amounts to empirical research about the changes in social structures built upon capital markets.

The old institutional school provides a variety of definitions of what institutions actually are and, as pointed out before, it is important to remain precise at this level. Besides, traditional institutionalism had brought in its dowry some assumptions of crucial importance. Firstly, it concerns the concept of market, which is viewed here in a broad manner, with regulators, supervisors and operators of exchange media just as important as the buyers and sellers themselves. Thus, the social interactions important for the way the capital market works are not only transactions of buying and selling, but also those related to influence, power, interdependence etc. It is worth to notice that such a point of view is radically different from the classical "political economy" approach, as represented by the writings of Adam Smith (Smith 1863) or Jean – Baptiste Say (Say 1836), who, whereas attempting at an abundant description of the social context used to state very firmly that a market is composed of buyers and sellers, all external intervention into their transactions being a mere disturbance. Secondly, the behaviour of market participants is causally related to some set of institutions, which, in turn, are sustainable enough to be assumed constant in relation to the aforementioned behaviour. In the same time those institutions can change under the influence of socially repetitive patterns of behaviour. Thirdly, referring to language as the most fundamental normative system allows to deduce the symptoms and patterns of an institutional change from the way that capital markets are described and discussed about.

The new institutionalism uses to be traced back to R. Coase's paper „The Nature of The Firm" (Coase 1937), although earlier references may be provided, especially to Knight (1921), Berle & Means (1932), Chamberlin (1933), as well as Kaldor (1935). It has been developing, just as the old one, in a certain kind of opposition to classical and neoclassical economics. Its focus, however, has been different: the "early new" institutionalists seem to have had been inspired by the extraordinary development of modern business corporation as socio – economic phenomenon. The central observation of the new institutionalism was that both individual and organizational behaviour, in the case of corporations, actually happen in quite different ways than those proposed by the Marshall's rules of optimal economic decisions (Marshall 1890, 1920). All the authors referenced above noticed that business firms organized as corporations can both emerge very quickly and grow just as quickly, which results in big social structures based on private contracts competing for markets and resources, those social structures displaying a noticeable sustainability even in presence of adverse economic environment. This milestone of new institutionalism, as well as some of its founders belonging to the so – called "Chicago school" - notably F. Knight and R. Coase - with its pronounced interest for the issue of free competition and regulation of markets, results in a strongly marked focus on "how do the firms grow" as the big question of the whole school.

On the grounds of this central scientific interest at least three distinct sub – streams seem to have appeared. The first one, called today "the theory of transaction costs", draws upon the works of A.Alchian and H. Demsetz (Alchian 1950; Demsetz 1968; Alchian, Demsetz 1972), A.D.Chandler (1962, 1977) and O. Williamson (1975, 1985, 1991). The main focus of this strand of research is the process of growth of business organizations, as well as the limits to this process. The most fundamental thesis of this school is that firms grow because it is more profitable for them, up to a certain point, to internalize portions of markets with their specific contracts. Another stream of research, which seems to originate from the seminal work of A. Berle and G. Means (Berle, Means 1932), focuses on the way that contracts between management, shareholders and debt-holders of a company shape its structure, and, most of all, its performance. This path of research, going through successive developments in the writings of R.Wilson (1968), M. Berhold (1971) and S. Ross (1973) found, as it seems, its culmination in the "agency theory" formulated by M. Jensen and W. Meckling (Jensen, Meckling 1976), with posterior developments, among others, by Fama and Jensen (1983). . The agency theory assumes that every business organization is a bundle of contracts between the "principals", on one hand, who supply capital, and, on the other hand, the "agents", who use this capital. Both parties aim at obtaining a satisfactory profit from agency. The concept of "satisfactory" profit, which is something different from the maximum profit, seems to be the cornerstone of the whole theory. It allows to

assume that both the suppliers of capital and its users can find satisfactory, and thus, sustainable arrangements in contracts which are not the best of all possible but which offer just what one expects. Finally, starting from the works of Edith Penrose (1959), inspired by earlier works of P. Selznik on the sociology of organizations (1957), a whole stream of research, called today the "Resource – Based - View" (see for example an excellent review of literature by Foss 1998), focused on the dichotomy and mutual relations between the administrative structure of a firm and the resources that the firm actually uses.

The new institutionalism displays two methodological characteristics, which make a difference in comparison to the old institutional school. Firstly, the neoinstitutionals use freely both the analytical tools usually attributed to mainstream economics - the indifference curve, the maximization diagram etc. - and the neoclassical pattern of translating analytical models into normative prescriptions. Secondly, this school generated many practical applications in management science, like the Kaplan's and Norton's "Balanced Scorecard" (ex Kaplan, Norton 1992, 1996) or the research about corporate governance (ex. Schmidt 2003; Lazonick, O'Sullivan 1998; Shleifer, Vishny 1997; Jensen 1989 – 1997, 1993 – 1999, 2001).

At the difference of the old institutionalism, the new one does not develop a theory of institutional change as such. Constant changes of economic environment in which firms operate, institutions included, is built in the very core of the theory and the question is more about the ways that firms adapt to those changes and the possible outcomes of adaptation. Thus, the new institutionalism is particularly useful, as theoretical background, when it comes to studying comprehensively the emergence of new patterns of firms' behaviour, size or structure included.

The model

The emergence of alternative capital markets, besides the pre-existing main ones, may be viewed as an institutional change from the point of view of both the old and the new institutional school. The old institutional school's view would focus on the emergence of new legal regulations along with new patterns of behaviour. The legal change is not enough, investors and issuers must be willing to participate in the alternative market and must be ready to consume this willingness in actual action. The new institutional school would take the regulatory change as granted and attempt to explain why the patterns of behaviour of both investors and issuers are what they are, and, possibly predict what are they likely to be in the future.

The general frame of the model introduced below is grounded in the theory of games, especially in the three economic Nobel prized (1994) game theories – those of John Nash (Nash 1950a, 1950b, 1951, 1953), John Harsanyi (Harsanyi 1953; 1966; 1967; 1968) and Reinhard Selten (Selten 1975). The current state of any social system may be represented as the outcome of a finite set of games, with each game being played by as a Harsanyi's game with imperfect information, with a finite set of players plays. Each game is, in turn, a sub-game of a Selten's extensive game with imperfect recall. Each player i at the given moment t uses a set of pure Nash's strategies, which together for a mixed Nash's strategy, associated with a pay – off function (*Equation 1*).

Equation 1 – General formula of strategy in a game
  $S(i;t) = [MA(i;t);\ R(i;t)]$
  – where $S(i;t)$ is the mixed strategy of the player i at the moment t, $MA(i;t)$ is the set of modalities of action of the player i at the moment t, $R(i;t)$ is the set of results achieved by the player i at the moment t.

The efficiency of every player's strategy is expressed by a general ratio $R(i;t)/MA(i;t)$. Any given set of strategies S (for the same player at different moments or at the same moment for different players) displays a variance $V(S)$ of $R(i;t)/MA(i;t)$, which, in turn, is the inversely proportional estimator of the overall consistency of the given set of strategies. At any given moment t in the given set of players there is a reference value $V^*(S;t)$ of $V(S;t)$, which is the critical level and beyond which strategies become inconsistent.

There is dynamic equilibrium in the given game when $V(S;t)$ remains below $V^*(S;t)$ (*Equation 2*).

Equation 2 – Condition of dynamic equilibrium

$$V(S;t) < V^*(S;t) \qquad or \qquad V(S;t)/V^*(S;t) < 1$$

In dynamic equilibrium every individual strategy $S(i;t)$ is in interaction with the space of the game in the sense that individual strategies of different players mutually shape one another. Modalities of action $MA(i;t)$ are imperfectly heterogeneous among players. A common reference level $R^*(t)$ may be defined at the moment t for the aggregate results $R(i;t)$ of every given player i. All strategies $S(i;t)$ that bear results $R(i;t)$ lower than the reference level $R^*(t)$ are unsatisfactory for players. On the other hand strategies $S(i;t)$ with results $R(i;t) > R^*(t)$ are satisfactory. The set of players is fundamentally divided into two subsets:

a)   subset $\{R(i;t) > R^*(t)\}$ of those players, whose strategies bring satisfactory results;

b)   subset $\{R(i;t) < R^*(t)\}$ of players with unsatisfactory results;

Players that belong to $\{R(i;t) > R^*(t)\}$ are motivated to carry on the current game in the sense of Harsanyi's theory and they do so, tending to keep their modalities of actions unchanged. Those belonging to $\{R(i;t) < R^*(t)\}$ have interest to change the rules of the game and to pass to another game, and they correspondingly modify their modalities of action. In the absence of dynamic equilibrium no typical modalities of action $M^*(x;t)$ as well as no common reference level $R^*(t)$ for results can arise as uncertainty is too high. Players define their relative satisfaction on the grounds of risk moderation, not results $R(i;t)$ as such. They seek to reduce uncertainty first and only then to optimize their results. As for modalities of action, high uncertainty makes them change so quickly that types have no time to form. Such a situation is self – propelling mechanism until some players reach the state described in *Equation 2*, which can become the core of new dynamic equilibrium.

The state of each game played in the given social system is described by four variables: $V(S;t)$, $V^*(S;t)$, $M^*(x;t)$, $R^*(t)$ and by two ratios: $V(S;t)/V^*(S;t)$ and $M^*(x;t)/R^*(t)$. The ratio $V(S;t)/V^*(S;t)$ is the relative consistence of strategies played and $M^*(x;t)/R^*(t)$ is the relative efficiency of typical modalities of action. Dynamic equilibrium can emerge on the grounds of strategies of any level of efficiency.

One of the games played in a social system is the capital market. The specificity of this game consists in its high degree of legal regulation and a correspondingly developed system of institutions, with a chief goal to manage the risk resulting from uncertainty $V(S;t)$. This institutional framework generates important transaction costs, and, in fact, the whole principle of risk management in capital markets consists in a trade – off: less risk at the price of more transaction costs. This general principle is put into life by the legal mechanism of certification: state authorities being in general charge of capital markets commission, through a system of certificates and licences, a certain number of private agents to guarantee for risk. Also, some of these agents can further commission other private agents to play the same role. As a result, transaction costs generated in capital markets are, in the same time, the revenues of those agents, which are such entities as: brokerage houses, banks, insurance firms, rating agencies, consulting firms etc.

As a result of uncertainty $V(S)$ and proportionally to it every individual strategy $S(i;t)$ in the capital market bears transaction costs $TC(i;t)$ which diminish the aggregate results $R(i;t)$ and alter the ratio of efficiency $R(i;t)/MA(i;t)$. The degree of this alteration is measured by the ratio $TC(i;t)/R(i;t)$. At any given moment there is a common reference value $TC^*(t)$ for individual transaction costs $TC(i;t)$ and thus there is a common reference value for the ratio $TC(i;t)/R(i;t)$, namely $TC^*(t)/R^*(t)$.

Players willing to enter the game of capital market have to fulfil the conditions necessary for entry, and, among others, they have to incur transaction costs $TC(i;t) > TC^*(t)$, because they have to pay "the entrance ticket", namely to pay banks for securing their IPO and consulting firms for preparing the proper disclosure of information. In this context a specific case in that of a firm too small or too young to enter the main capital market. Such a firm has two basic ways to reach the size and age sufficient for entry: a) to wait until its own organic growth leads to it or b) to merge with other, older firms. In the case (a) the firm incurs important opportunity costs due to the fact that the impossibility to go public makes it a weaker player in other markets, notably the product markets. Those opportunity costs are proportional to the pace of growth of the

corresponding product markets. Faster these product markets grow, greater are the opportunity costs incurred by those who cannot fully use their potential fault of not being listed in public capital market. In the case (b) the owners of the firm have to do a trade – off: opportunities for control. If the inconveniences implied by both paths, (a) and (b), are perceived as too high, such a firm may look for possibilities to enter another capital markets, with lower barriers to entry.

It is also possible that some players in the main capital market reach such a level of transaction costs $TC(i;t)$ in their individual strategies that even in presence of dynamic equilibrium, with $V(S;t) < V^*(S;t)$, their strategies are inefficient, i.e. $TC(i;t)/R(i;t) > TC^*(t)/R^*(t)$. These players look for ways of reducing their individual transaction costs. They can test two basic solutions. One is building market power within the existing institutions, to appropriate more economic rent from transactions and thus to provide for relatively high transaction costs. Another is to create a new set of institutions with expected transaction costs $TC(i;t)/R(i;t) < TC^*(t)/R^*(t)$ and a still acceptable level of uncertainty $V'(S;t) < V^*(S;t)$. The first solution is basically viable for all players, its actual application leading to the deepening of the problem $TC(i;t)/R(i;t) > TC^*(t)/R^*(t)$ and $V(S;t) < V^*(S;t)$ for those who do not succeed in this path. The second solution is particularly good for the players with relatively big intangible assets, namely knowledge, experience and human resources allowing to reduce transaction costs.

The factors named above can lead to the actual creation of alternative capital markets, besides the main ones, when the two conditions are fulfilled: a) there are quickly growing product markets is the given economy, with the efficiency of operational strategies composing a Nash's dynamic equilibrium b) there is a main capital market in the given economy, with the players' investment strategies not composing a Nash's dynamic equilibrium. Both conditions require a further development.

As for the product markets, firms aim there at maximizing a complex set of results $R(i;t;)$, composed of: the scale of activity $AS(i;t)$, profitability $PR(i;t)$, short – term accumulation of capital $SCA(i;t)$ and the long – term ability to accumulate capital $LCA(i;t)$. In order to maximize these results firms use twofold modalities of action $MA(i;t)$: a) projects related to investment in and exploitation specific technologies $tech(i;t)$ and b) investments in non – specific financial assets $fa(i;t)$, as a compensation of risks incurred in $tech(i;t;)$ projects. Modalities of action are twofold in kind but multiple in practical application: a firm can lead many investment projects in the same time in each of the two categories. In presence of dynamic equilibrium the components of the set of results are causally linked: scale of activity $AS(i;t)$ and profitability $PR(i;t)$ generate short – term accumulation of capital $SCA(i;t)$, which is the same as the long – term ability to accumulate capital $LCA(i;t)$. The latter finds its outcome in the ability of the firm to bring to its shareholders the rate of return expected on the grounds of the risk observed, estimated in the same way that in the capital markets game, with Tobin's q. This causality assumed, the set of modalities of action is composed essentially of the $tech(i;t)$ projects, the $fa(i;t)$ investments playing a marginal role, as maximizing investment in adequate $tech(i;t)$ projects allows the maximization of results $R(i;t)$. Without dynamic equilibrium in the product markets the risk related to $tech(i;t)$ projects is so high that they remain under-invested, an over – important part of capital being placed in $fa(i;t)$ investments, no obvious causality linking the components of the set of results $R(i;t)$.

In the capital market each player (i) in the capital market game plays a real mixed strategy $S(i;t)$ with modalities of action $MA(i;t)$ composed of a set of investments made $Iv(i;t)$ and liabilities contracted $Lb(i;t)$, the set of results (expected pay – offs) consisting of a rate of return on capital invested in presence of the given level of risk. It is assumed, following the Tobin's q theory (Tobin 1961, 1969; Tobin, Brainard 1968, 1977) that there is a theoretical, empirically unobservable, though expected by market participants, free – of - risk rate of return on capital invested (IR^*). The real rate of return IR is compared with IR* by market participants and according to the current level of market volatility they expect a given real rate of return IR. In presence of dynamic equilibrium in the capital market game the ratio of IR/IR* is equal to the Tobin's q coefficient, computed with the formula: $q = [(n^*p + a – eq)/a]$ (Tobin, Brainard 1968, 1977) where n is the number of outstanding shares listed, p is the average price of shares, a is the book value of assets and eq is the value of equity. In other words, in presence of dynamic equilibrium in the capital market the overall market value of assets, in which the given investor had invested, including the debt possible to raise with the backing of these assets, all this measured with the Tobin's q coefficient is enough for investors to compensate their subjectively observable risk. Without dynamic equilibrium the subjectively observable risk is so high

that the overall market value of assets possessed is not enough to compensate it. Therefore the expected rate of return IR, given the risk incurred, is so high that no realistically possible capital gains from investments in productive assets can satisfy it. Consequently, players focus on risk management through hedging and diversification of investments, instead of maximizing the overall rate of return IR. The ratio of efficiency $M^*(x;t)/R^*(t)$ is impossible to compute then. Players divide into two groups: those minimizing volatility and those trying to maximize it.

Conclusions and final remarks

There are two crucial factors of emergence of alternative capital markets: the behaviour of the main capital market's participants and the pace of growth of some particular product markets as well as the opportunities for firms to implement rational, even if suboptimal strategies in the same product markets.

The institutions of the main capital markets, notably the system of commissioned private agents in charge of risk management and state authorities being the ultimate guarantor of safe trade, remain the cornerstone of the alternative capital markets. It is to stress very strongly that only in presence of well – developed main capital markets with their institutional framework, the assessment of uncertainty and transaction costs, by the market players, can be precise enough to push some of those players to search new institutional solutions. What's more, the players' essential rationale remains the same, they look for the possibility to implement rational, reasonably predictable investment and borrowing strategies. Thus, from the point of view of the old institutionalism, even if alternative capital markets are run on a different normative basis, the essential downwards reconstitutive causation remains the same. Consequently, the institutional change is but partial.

The most realistic way to achieve a reduction of transaction costs is to reduce the number of commissioned agents responsible for risk management in the capital market, or, to create such a set of institutions in which the player(s) that had migrated from the main capital market is (are) the most powerful and thus can appropriate the lion's part of economic rent from transactions. Thus, the part that changes in the institutional framework is essentially the scope and scale of contracts allowed in the capital market, not their essence. From the point of view of the new institutional school the change is more technical than fundamental.

The overall institutional change underpinning the emergence of alternative capital markets is not of a breakthrough nature. It is more of an incremental adaptation to exogenous technological changes. What's theoretically interesting in the process is the way that both public regulators and private agents actually cooperate to find the best ways do adapt. Learning within the current institutional framework seems to be very important for proper cooperation in this field.

Technological progress and the related growth of product markets seem to be, therefore, the trigger of the change. Firms tend to innovate when they earn some kind of innovation premium due to market novelty or to the increase of productivity (Arrow 1962; Barzel 1968; Kamien and Schwartz 1982; Scherer 1967; Loury 1979). This premium tends to diminish as more and more firms innovate in the same markets. Innovation brings, among others, a greater diversity of goods offered to consumers. There might exist a contradiction, however, between the optimal diversity of products from the point of view of the consumer, on one hand and the same kind of diversity considered from the producer's point of view (Spence 1976; Dixit – Stiglitz 1977). Some economist point out, right in the lines of the Schumpeterian tradition, that innovative activity is essentially a reaction to external pressures and an act of absorption of some exogenous scientific input rather than autonomous creation. Both reaction and absorption are greatly influenced by the imperative to imitate other market players (Katz, Shapiro 1985; Farrel, Saloner 1985; Abrahamson, Rosenkopf 1990, 1993). From this point of view strategies of firms vis a vis innovation may be rational though suboptimal, as imitation plays a more and more important role. Besides, it is possible that once set on its tracks with an initial input of capital, the R&D function plays its own games and although internal to business organizations becomes autonomous in terms of goals and development paths (Phelps 1964; Barzel 1968). Besides, any kind of

outlays of factors of production have to be considered in the context of alternative cost, should the latter be the simplest benchmark in the form of purely financial investment (Jensen 1993). The financial peer is even more justified as firms can enter into possession of results of research or even of ongoing research projects through mergers and acquisitions (Sudarsanam 2003). All this taken into consideration, most of innovative activity seems to take place in markets apparently hostile to innovation, i.e. giving back negative marginal value added on innovation. Firms frequently innovate because they have to, under the pressure of product markets as well as their broad social environment, as well as they innovate simply because they can, because the R&D sector, that have been developing for decades, is now quite autonomous and generates a constant input of scientific discoveries, impossible to ignore. Nevertheless, this pattern of technological progress seems to be pretty durable. The main condition to its stability seems to be the development of financial markets, as well as their stability to recover after crises. As long as financial placements assure decent payoffs, accumulation of capital is likely to keep on going, particularly in firms with highly efficient R&D activity even if at the aggregate level marginal value added on innovation is negative (Waśniewski 2010).

Alternative capital markets are a viable solution for speeding up the economic growth of developing countries when at least one of the two following conditions is fulfilled. Firstly, there should be the proper product markets in the given economy, 'proper' meaning innovation, quick growth and Nash's dynamic equilibrium. Secondly, there must exist sufficiently developed main capital markets, providing the necessary institutional foundation along with the flow of market players migrating from them. Those two conditions can operate jointly or separately, and, for the developing countries the first one seems to be crucial in practice. If they already have or can create strong technological hubs in their territories, alternative capital markets can spur technological progress and economic growth, even if the main capital markets, being the benchmark for those, are in other countries.

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